INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI

A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor MI 48106-1346 USA
313/761-4700 800/521-0600

UNIVERSITY OF CALIFORNIA

Los Angeles

Pottery and Power:
Feasting, Gifting, and Displaying Wealth
Among the Late and Terminal Classic Lowland Maya

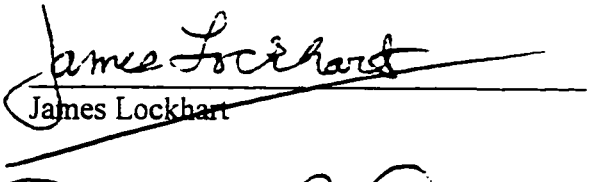
A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Anthropology

by

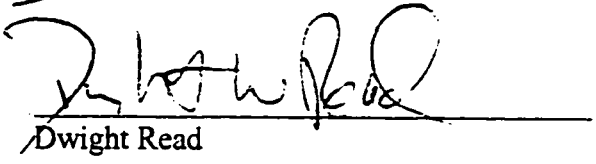
Lisa Jeanne LeCount

1996

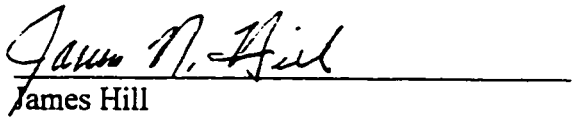
The dissertation of Lisa Jeanne LeCount is approved.



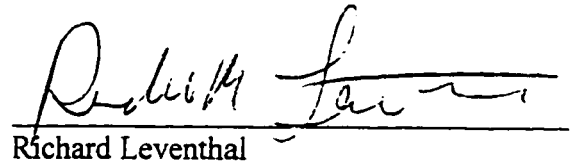
James Lockhart



Dwight Read



James Hill



Richard Leventhal

Timothy Earle, Committee Chair

University of California, Los Angeles

1996

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGMENTS

I cannot overstate the importance of my chairman, Tim Earle, in the completion of this dream. In 1982, I showed up on his doorstep in Jauja, Peru, and he gave me a chance to become an anthropologist. It has been a long, hard road but he always has been there to stimulate my interest, introduce rigor to my arguments, and urge me to continue working on my ideas. Along the way, I have benefited from a number of excellent female role models -- Peggy Nelson, Martha Graham, Chris Hastorf, Melissa Hagstrum, and Wendy Ashmore -- whose hard work and determination to succeed have provided a framework for my academic career. My committee members -- Tim Earle, Richard Leventhal, James Hill, Dwight Read, and James Lockhart -- all provided excellent suggestions on research, methodology, statistics, and writing. Dwight Read was especially helpful early-on, reviewing reams of computer print-outs and confirming patterns I saw in the data. Richard Leventhal deserves special thanks for inviting me to participate in the Xunantunich Archaeological Project. He has been a staunch supporter of my dissertation research, a friend, and a much needed advisor on the ancient Maya. To all of them, I owe an intellectual debt of gratitude.

I am fortunate to have conducted my research as part of the Xunantunich Archaeological Project (XAP). I would like to thank all the XAP members over the past five years who have made invaluable contributions to my research, whether in the form of excavation data or intellectual dialogue. I owe a special thanks to the directors of the XAP project, Richard Leventhal and Wendy Ashmore, for permitting me to

conduct my research in the Belize Valley. From the very beginning, Richard's unwavering support helped me overcome previous hardships and academic disillusionment. Wendy's down-to-earth approach to research renewed my faith in the importance of doing good archaeology. Her invaluable comments on grant proposals made the last year of field research possible. I also would like to thank Jason Yaeger, Sabrina Chase, and Jennifer Braswell whose mutual desire to do household archaeology pushed forward domestic excavations at XAP and provided the raw material for my analyses. Jason Yaeger deserves special mention. His enthusiasm and his desire to discuss archaeology stimulated my own almost dead and buried interest.

Extensive laboratory work is the foundation of my dissertation and I wish to thank all those people who spent long, hot, thankless hours in the lab with me. Most prominently, I am gratefully to my excellent laboratory workers from San Jose de Succotz -- Hilda Can, Marisol Sanchez, Miguel Itza, Selmita Magana, Placido Cunil, Jorge Manzanero, Ruthilla Mai, Marta Mai, Lucita Rosado, and Johnny Comal -- for flawless work on the tedious yet fundamental tasks of washing, sorting, labeling, and inventorying collections. Marta Mai desires special mention because she alone returned each year for more back-breaking work and endless hours of computer data entry. During my initiation into the vagaries of Belize Valley ceramic types, Jaime Awe was always willing to look at sherds, whether it be in the glaring sun of mid-day or the dim of night. Later, Angela Keller and Jason Yaeger were eager to discuss pottery and kept me honest in my classifications. In the lab, I was aided in the initial cataloguing of thousands of excavation lots by Ellen Bell, Lori Pacheco, Jennifer Ehert, and Amme

Bloome Preziosi. From the very beginning, Lady Harrington made herself available for a myriad of lab chores; later, in the States, she was there with words of encouragement. Delia Consentino, Vickie Liddiard, and Sydney Cosselman drew the most challenging sherds. Without their help, I'd still be sitting in the lab counting sherds and listening to the same 30 music tapes.

Florentino Penados, our foreman, deserves my thanks for his help and support in numerous sticky situations involving personnel, finances, and camp management. He and his family defined and consolidated our relationship with the community of Succotz. Life at XAP camp was never dull or dreary thanks to Rudy and Margaret Juan who owned and developed Nabitunich Hotel and their land along the Mopan river. I already miss the jungle lodge and camp, an assortment of thatched and white-washed huts with an archaeological camp tacked onto the rear of the property, where I spent numerous happy hours working, swimming, dancing, and thinking.

XAP research was carried out under a permit from the Belize Department of Archaeology, represented by Harriet Topsey, Allan Moore, and John Morris. Mr. Moore and Mr. Morris were especially helpful in the exportation of limited ceramic collections to UCLA in 1992 and 1995. Funding for laboratory work was provided by numerous UCLA departments and institutions, including the Department of Anthropology, the Latin American Study program, and the Friends of Archaeology. The final field analyses were funded with grants from Fulbright II-E and Sigma Xi Grant-in-Aid of Research. I also wish to thank the UCLA Department of Anthropology for continued support throughout my graduate career, and especially for providing financial support to

write my dissertation. Without the support of the Department, this dissertation might still be in my head rather than on paper.

Many people have been there when I needed them and have instilled in me the importance of friends and family. My sanity would not be intact today without long-term friends and colleagues -- Genevieve Head, Courtney White, James Snead, and Monica Smith -- whose unwavering support and good humor have made even the hard times, the best of times. Genevieve must be praised for initially and continually ingraining in me the structure of the English language. However, my continued and, apparently, immutable capacity to mangle syntax and abuse the written word is not her fault nor is it for a lack of effort on her part. Glenn Russell has provided constant support throughout my time at UCLA, from a roof-over-my head, to computer advice, to jobs. Roger Colten discussed lab work, methodologies, and typologies. Liz DeMarrais initiated me into the workings of Corel Draw; Angie Keller and Sam Connell attempted to teach me Generic Cadd. Shiela Egan did a wonderful job editing the main chapters of this dissertation. The appendices, however, did not benefit from her help. Ann Walters, Department of Anthropology Graduate Advisor, must be thanked for her repeated help in maneuvering UCLA rules, regulations, and paperwork. Twice, Ann tracked down forms and got signatures in the nick of time to file my dissertation year fellowship application and my dissertation. Sometimes I wonder how far, or fast, I would have gotten in the program without her. Finally, I thank my parents for enduring the many years it took to complete this dissertation. Never once did they question my decisions, no matter how poorly conceived some of them appeared at the time.

My work in Belize benefits greatly from personal experiences and knowledge gained while working in South America. The Upper Mantaro Archaeological Research Project (UMARP) provided a comprehensive framework for developing, instigating, and conducting systematic research on critical anthropological questions. Tim Earle, Chris Hastorf, Terry D'Altroy, Cathrine Scott-LeBlanc, Cathy Costin, Glenn Russell, Bruce Owen, and Elsie Sandefur openly shared ideas and methodologies concerning field research, computer analyses, and fund raising. It was an invaluable experience to have watched them produce powerful data bases capable of effectively addressing their questions. I use that knowledge everyday. I would also like to thank Dona Faustina, the wife of UMARP's foreman, for allowing me into her kitchen. I will always remember her preparing cuye con picante de maní in ceramic pots. It was in her kitchen and in the streets of Jauja during market day that I formulated most of the ideas concerning cooking and cookware discussed in my M.A. and Ph.D. After finishing my M.A., I spent two field seasons on the north coast of Peru and in the highlands of Ecuador looking to regain what the Sendero Luminoso took away in 1988. I wish to thank Steven Athens and Izumi Shimada for providing opportunities to do research on their digs. Although these projects ultimately did not work out, I gained valuable insights into modern and prehistoric Latin American society, food, feasting, and, of course, pottery. I also tasted some excellent food and drank some great *chicha*.

Lastly, I want to acknowledge my debt to southwestern archaeology and archaeologists. My love of the field initially stemmed from hiking the Bandelier Plateau and finding pueblos and pot sherds near my house in Pojoaque, New Mexico. The

people of San Ildefonso pueblo tolerated my wanderings across their land and welcomed my presence at early morning religious ceremonies. One of the most memorable experiences of my life was when my mother and I were invited to feast in a clan house during a corn dance at San Felipe pueblo. Inside the room, the floor was crowded with bowls full of food: the ceramic pot nearest us was filled with stewed deer and posole. Around us, kids, women, men and boys in costume, and some Navajos scooped-up food with tortillas while a few wide-eyed tourists looked on. Feasting and pottery has been at the center of my research ever since. During my all-to-brief life in New Mexico, Texas and Arizona, I met some of the finest archaeologists I know -- Lewis Binford, Cathy Cameron, Glen DeGarmo, Pat Gilman, Martha Graham, Robert Hard, Steve Lekson, Peggy Nelson, Raymond Mauldin, Peter McKenna, Barbara Mills, Bob Powers, and Alexa Roberts. I owe them a debt of gratitude for stimulating and maintaining my love of archaeology.

VITA

26 August 1955	Born, Pekin, Illinois
1977	B. A., Sociology Eastern Illinois University, Charleston, Illinois
1981	Archaeological Field School University of New Mexico, Ladder Ranch, New Mexico
1983	Field and research assistant, Upper Mantaro Archaeological Research Project, Jauja, Peru.
1984-5	Field assistant, Environmental Protection Office, Fort Bliss, Texas and Wupaki National Park, Santa Fe, N.M. Regional Office.
1985-6	Research assistant, UCLA Dept. of Anthropology and the Museum of Cultural History.
1986	Field assistant and principal ceramicist, Upper Mantaro Archaeological Research Project, Jauja, Peru.
1986-1994	UCLA Graduate Research Fellowships
1987	M.A., Anthropology University of California, Los Angeles
1987	Field assistant, Bandelier National Park, Santa Fe, N.M. Regional Office.
1987-1990	Teaching assistant/associate, UCLA Department of Anthropology
1989	Field research, La Chimba, Otavalo, Ecuador.
1990	Field research, Huaca Arena, La Leche Valley, Peru.
1991	Field director, Chambers Environmental Group, Inc. Santa Ana, CA., and assistant, Natural Resources Office, NAS North Island, San Diego, CA.
1992	Lecturer, CSULB Department of Anthropology
1992-1994	Teaching Fellow, UCLA Department of Anthropology

1992-5	Principal ceramicist and laboratory director, Xunantunich Archaeological Project, Belize, Central America.
1994	UCLA Latin American Center Grant
1994-5	Fulbright II-E Fellowship, Belize, Central America
1994-5	Sigma Xi Grant-in-Aid of Research
1995-6	UCLA Dissertation Year Fellowship
1996	Lecturer, CSULB Department of Anthropology

PUBLICATIONS AND PRESENTATIONS:

LeCount, Lisa J.

1988 Social and Economic Causes for the Increased Functional Variability in Sausa Ceramics from the Early Intermediate Period to the Late Horizon in the Upper Mantaro Valley of Peru. In Symposium *Long Term Change and Continuity in the Sausa Culture: Results from Recent Research on Central Andean Adaptation and Social Mediation*, 52nd Annual Meeting, Society for American Archaeology, Phoenix, AZ.

1988 Feasts and Famines: The Interpretative Potential of Ceramics for Viewing Prehispanic Food-related Activities. Paper presented at the 29th Annual Meeting, Institute of Andean Studies, Berkeley, CA.

1991 Tradition and Transformation in Highland Peruvian Cuisine. In the Symposium *Thinking About Food*, 90th Annual Meeting, Association of American Anthropologists, Chicago, IL.

1992 Xunantunich Ceramics-1992. In *Xunantunich Archaeological Project: The 1992 Field Report*, edited by R. Leventhal. Institute of Archaeology, UCLA, Los Angeles, CA. and Belmopan, Belize, C.A.

1993 Initial Investigations into Assemblage Variation. In *Xunantunich Archaeological Project: The 1993 Field Report*, edited by R. Leventhal. Institute of Archaeology, UCLA, Los Angeles, CA. and Belmopan, Belize, C.A.

1994 Notes on Chronology: A Progress Report on Xunantunich Ceramic Research. In *The Xunantunich Archaeological Project: the 1994 Field Season*, edited by R. Leventhal. Institute of Archaeology, UCLA, Los Angeles, CA. and Belmopan, Belize, C.A.

1996 The Role of Pottery and Feasting in Classic Maya Social and Political Organization. Paper presented at the 61st Annual Meeting of the Society for American Archaeology, New Orleans, LA.

1996 Pottery Types, Household Assemblages, and Ceramic Complexes: Redefining the Late and Terminal Classic Pottery Sequence at Xunantunich, Belize. In *Papers from the First Annual Belize Maya Conference*, edited by Juan-Louis Bonor, Department of Archaeology, Belmopan, Belize, C.A.

LeCount, L. and M. Hagstrum
1990 Cuisine, Cooking and Cookware: Toward Reconstructing Food-Related Activities in the Archaeological Past. In the Symposium *Thinking About Food*, 55th Annual Meeting, Society of American Archaeologists, Las Vegas, NV.

Hastorf, C.A., S. Johannessen, and L. LeCount
1989 Cultural Transformations of Andean Maize over One Thousand Years. In the Symposium *Bread and Beer: The Transformation of Starches from Nature to Culture*, 88th Annual Meeting, Association of American Anthropologists, Washington, D.C.

Hastorf, C.A., T. K. Earle, H E Wright Jr., L. LeCount, G. Russell and E. Sandefur
1991 Arqueologia De Jauja, Peru: Del Intermedio Temprano Al Intermedio Tardio. *Revista Arqueologia Y Sociedad 11*. Universidad Nacional Major De San Marcos, Centro de Documentacion del Museo de Arqueologia y Etnologia, Lima
1989 Settlement archaeology in the Jauja region of Peru. *Andean Past* 2:81-130.

Leventhal, R., W. Ashmore, L. LeCount, V. Hetrick and T. Jamison
1992 Xunantunich and the Terminal Classic Maya. In the Symposium *Mesoamerican Archaeology*, 91st Annual Meeting, Association of American Anthropologists, San Francisco, CA.

Leventhal, R., T. Jamison, L. LeCount, J. McGovern, and J. B. Braswell
1993 Xunantunich: A Late and Terminal Classic Center in the Belize River Valley. Paper presented at Palenque Mesa Redonda, Palenque, Mexico.

Leventhal, R, T. Jamison and L. LeCount
1993 Xunantunich: The Terminal Late Classic in the Belize River Valley. Paper presented at the 58th Annual Meeting, Society of American Archaeology, Saint Louis, MI.

Yaeger, J. and L. LeCount
1995 Social Heterogeneity and Political Integration in a Terminal Classic Maya Community: Ongoing Research at San Lorenzo, Belize. Paper presented at the 60th Annual Meeting, Society for American Archaeology, Minneapolis, MN.

ABSTRACT OF THE DISSERTATION

Pottery and Power:
Feasting, Gifting, and Displaying Wealth
Among the Late and Terminal Classic Lowland Maya

by

Lisa Jeanne LeCount
Doctor of Philosophy in Anthropology
University of California, Los Angeles, 1996
Professor Timothy Earle, Chair

Mechanisms to create, maintain, and expand social relations are examined in this study of social power among the Late and Terminal Classic lowland Maya. Feasting, gift exchange, and status displays are studied as strategies used by competing groups to consolidate alliances and wage political contests. Among the Late Classic Maya, fierce competition is especially evident between elites as they compete for political office and between commoners as they struggle for access to land. In this dissertation I explore the changing pattern of socio-political strategies from the Late Classic to the Terminal Classic period when central lowland polities ultimately collapsed. The processes leading up to dissolutionment are examined using data from the site of Xunantunich, a small, peripheral polity in Belize, Central America.

Pottery, a widely bestowed wealth item and common domestic utensil, is a robust

indicator of changing socio-political strategies. Pottery from Xunantunich is analyzed from elite contexts in the site center and commoner households located less than 1 km from the main civic core. Pottery collections are derived from two separate phases: the Late Classic II (700 to 850 A.D.) and Terminal Classic (850 to 1000 A.D.). These phases represent a refinement of the Belize Valley ceramic sequence and are critical in documenting shifts in political organization at Xunantunich. To determine whether differences exist between household assemblages the distributions of pottery types, forms, and styles are compared across residential groups.

Analyses demonstrate political strategies shifted from political contests among rival elites to efforts at community consolidation. During the Late Classic II, minimal differences among elaborately painted pottery types within elite assemblages indicate considerable competition in gaining access to and displaying luxury pottery. In contrast, commoners had little access to highly decorated pots. This pattern suggests elite power and competition required relatively little validation or support from commoners. The power base of the elites was founded on ideological constructs and political maneuvering, rather than on economic relationships. During the Terminal Classic, however, wealth differentials equalized and luxury pottery consumption dropped indicating a reduction in elite rivalry and an increased concern with community consolidation. This consolidation was achieved by increased gift exchanges and feasting.

Chapter 1: Social Power, Status, and Primitive Wealth: An Introduction

> "And they [the Yucatecan Maya] have two ways of celebrating these feasts; the first, which is that of the nobles and of the principal people, obliges each one of the invited guests to give another similar feast. And to each guest they give a roasted fowl, bread and drink of cacao in abundance; and at the end of the repast, they were accustomed to give a *manta* to each to wear, and a little stand and vessel, as beautiful as possible. And if one of the guests should die, his household or his relations are obliged to repay the invitation. The second way of giving feasts was used among kinsfolk when they marry their children or celebrate the memory of the deeds of their ancestors, and this does not oblige the guests to give a feast in return...They have strong friendship and they remember for a long time these invitations, although they are far apart from one another" (Tozzer 1941:92).

As vividly portrayed in Bishop Diego de Landa's sixteenth-century narrative, feasting and gift-giving were critical components of Maya rituals. Leaders, both elites and commoners alike, sponsored public events to consolidate lineage ties and celebrate life-cycle events. Maya elites, however, were also locked into a system of competitive exchanges centered around food and wealth items. The exchange of gifts -- roasted fowl, bread, cacao, *mantas* [cloth], and vessels "as beautiful as possible" -- maintained relations, attracted new allies, and elevated personal prestige. Gifting, as a social strategy, invokes a system of exchanges which tie individuals into mediated relations (Mauss 1950; Weiner 1992). Favors must be repaid to uphold honor, and, if they are not, bonds of alliance are broken. With each exchange, the giver's social status is publicly announced, political position negotiated, and personal prestige gained or lost. Gifting of wealth, in the form of luxury goods and food, therefore, is a competitive mechanism used to display status, form alliances, and wage political contests. The study of wealth and its role as a medium of exchange in prehistoric societies leads to an

understanding of how groups and the individuals who led them created, maintained, and expanded their social power.

Social power is maintained and expanded through constructing coalitions of support and participating in political contests (Brumfiel 1994). Central to the creation of coalitions is feasting and gift exchanges which cement ties between individuals and groups (Kristiansen 1981:257). Exchanges become the means for political contests when advances in political rank and social prestige are greatly rewarded (Anderson 1994). Competition is most fierce among groups within a social faction -- clusters of individuals which are structurally and functionally similar -- since benefits and power are often socially restricted. Interfactional groups are subsumed into the contest as much needed allies and sources of economic goods and services. The focus on social factions in the study of wealth draws attention to the inner dynamics of socio-political relations by studying how groups utilize luxury goods and feasting as mechanisms to be manipulated in the quest for social power.

Pottery, as a domestic utensil and widely bestowed luxury good, is a robust archaeological indicator of feasting and gift-giving -- major mechanisms for creating, maintaining, and expanding social power. As listed by Landa, four of the five items gifted by the Maya are directly associated with pottery either as a luxury good or as a container; therefore, ceramics are especially powerful in viewing how wealth was used as a political resource among Late and Terminal Classic Maya. The distribution of both luxury vessels for display and domestic vessels for cooking, preparation and serving of public feasts can be utilized to identify social ties and competition between individuals,

groups, factions, and polities.

Pottery, however, is also an important marker of social status which obfuscates the political role it plays in prehistoric societies. As a wealth item, pottery is a commonly displayed luxury good and archaeologists conventionally use it as a index of social status (Brumfiel and Earle 1987). It has long been recognized that there is a difference between the material possessions of elite and those of less privileged social groups. The basis for this assumption rests upon on the recognition that elites are a small group of rich and powerful individuals who control or greatly influence major social institutions within a society (G. Marcus 1983). Given their position at the apex of economic, political and religious power, they have access to limited, high-value goods that other members of society cannot attain (Drennan 1976; Chase and Chase 1992; Costin and Earle 1989; Pires-Ferreira 1975; Rathje 1970; Tourtellot and Sabloff 1972). Since elites control the production and distribution of luxury goods, their households are expected to exhibit significantly greater quantities of wealth than less privileged groups.

Using this model, Mesoamerican archaeologists have defined prehistoric elites by the presence of wealth items including jade (Leventhal, Demarest, and Willey 1987), greenstone (Grove 1984), pyrite mirrors (Flannery 1968), imported and local decorated pottery (Ashmore and Sharer 1978; M. Coe 1975; Coggins 1975; Leventhal, Demarest and Willey 1987; Sharer 1978), sea shells (Andrews IV 1969) and stingray spines (J. Marcus 1978). Unfortunately, archaeologists assign social status based on a fixed set of wealth items without a clear understanding of how elites control their distribution nor how less privileged groups can gain access to these items (see critiques by Chase and

Chase 1992; Henderson 1992; Hirth 1992; G. Marcus 1983; Rice 1987; C. Smith 1976). This uncritical methodology has led archaeologists to inflate the number of powerful individuals within a society, as well as limit our view of the complexity of prehistoric social organization (see critiques by Becker 1979; Blanton 1978; Flannery 1983; Haviland 1970; Sanders 1981; Spores 1983; Webster 1985, 1992).

The problem stems from the assumption that all wealth goods can be used to assign social rank (Hirth 1992). Hirth suggests a contrary view -- that there are important socio-political differences between wealth items. He separates wealth into two classes: exclusive status markers and luxury goods. In this dissertation, I elaborate on the production, distribution, and function of these goods. Those luxury items redistributed by elites for the purpose of labor payments and establishing vertical ties with subordinates (Blanton and Feinman 1984; Flannery and Schoenwetter 1970; G. Marcus 1983; Wolf 1966) are called disposable wealth. Disposable wealth should be distinguished from unique status symbols used exclusively to proclaim the social position or political position, such as the god head jade crown of Classic period Maya royalty (Freidel and Schele 1988) or the feathered cape of Hawaiian chiefs (Earle 1987). These items are extremely rare and do not circulate outside a small group of individuals. In general, few primitive valuables are actually intended to indicate political rank in stateless societies (Hirth 1992), especially within those which have ascribed social structures. Within ascribed societies, political position and social status are not **created** by amassing disposable wealth, nor can disposable wealth be used as an independent means for advancement. Primitive wealth is best conceived as a symbol used to

legitimize social position and a currency to fund political contests (Brumfiel and Earle 1987).

Recently, Mesoamerican archaeologists have begun to recognize the dynamic role of wealth by documenting luxury pottery in association within a wide range of household and funerary remains (Brumfiel 1987; A. Chase 1985; Hansen, Bishop and Fahsen 1991; R. E. Fry 1979). In the Maya area, intricately decorated "codex-style" vessels -- distinctive vessels types with hieroglyphic bands, historical events, and mythological scenes -- are considered preeminent markers of noble status used to document decent from the gods, register important life events, or establish birth right within royal lineages (Reents-Budet 1994; A. Chase 1985; Coggins 1975; Coe 1973; Adams 1977). If codex-style vessels were, indeed, exclusive status symbols, they should show limited distribution in the archaeological record. Contrary to these expectations, however, glyph and figural vessels have been found in moderate-sized plazuela groups (Hansen, Bishop, and Fahsen 1991) and in within non-royal tombs (A. Chase 1985), as well as unceremoniously dumped in domestic trash piles (Fry 1979). Clearly, these powerful symbols were not exclusive indicators of noble status, but were disposable wealth items circulated for social and political means.

Imported pottery is also used by archaeologists to define socio-economic status in prehistoric societies, based on the assumption that access to these items were in limited supply due to both the high cost of transport and the restricted nature of long distance exchange (Adams 1971, 1977; Rands and Bishop 1980; Fry 1979, 1980). Desire for exotic items is assumed to have been especially great among royalty who

celebrated foreign connections and cultivated ethnic distinctiveness (Coggins 1975). At the Maya center of Copan, imported Ulua polychromes which portray glyphs and richly attired figures have long been considered one of the best marker of foreign connections (Beaudry 1987). Their labor-intensive production and high transportation costs made them more expensive than locally produced polychromes, and thus cost should have limited their distribution to elite households. Like "codex-style" vessels, however, Ulua polychromes are more wide-spread than anticipated; in fact, they appear in almost one third of all suboperations or excavation units (Beaudry 1987:238). Production and distribution costs, therefore, are not the sole factors which condition their distribution. Beaudry argues that Ulua polychromes were broadly consumed as visible symbols of participation in the greater west-central Honduran Maya society.

This discussion illustrates that although wealth is theoretically the best indicator of social status, the division between elite and commoners in terms of wealth accumulation is often blurred in the archaeological record. More often than not archaeologists are confronted by a continuous distribution of wealth across households rather than a well-defined dichotomy (Sharer 1993:94). Sharer suggests that this continuum reflects the internal gradations within the ranked elite stratum. Like many archaeologists, Sharer seeks to correlate wealth and social status while neglecting how it is used by elites to fund political activities. In this study, primitive wealth is viewed **not** as a static indicator of social status, but rather, as a dynamic symbol of vertical and horizontal social relations. Chapter 2 seeks to examine the social mechanisms which promoted the spread of luxury pottery and build a model of the multi-faceted roles of

wealth. Feasting, as a mediated social exchange of food, is also included in the discussion as a perishable form of wealth involved in the creation, maintenance, and expansion of social bonds.

The pottery used in this study is from the Late to Terminal Classic lowland Maya site of Xunantunich, Belize, Central America (Figure 1.1). Xunantunich, a mid-sized center, sits atop a ridge over-looking the western end of the large and extremely fertile Belize River Valley (Fedick 1988, 1992; Fedick and Ford 1990). Not surprisingly, the area exhibits very high population densities in relation to other areas -- even when compared to the central Peten (Rice and Culbert 1990; Fry 1990). The polity also has the dubious honor to be located between Tikal and Caracol -- two of the largest, Classic period states. During the Late Classic II (Table 1.1), Xunantunich was an important administrative outpost for the weakening Naranjo polity (Ashmore and Leventhal 1993). More interesting however, is the fact that during the Terminal Classic period Xunantunich survived the collapse of the lowland states, and the site became an autochthonous regional polity in the Upper Belize Valley. Given its position as both a provincial and indigenous regional center, Xunantunich is an excellent site through which to study the mechanisms for the rise and fall of social power in the Maya area.

Current models of Maya political organization emphasize the variable nature of centralization and integration within Classic period polities (de Montmollin 1989; Marcus 1992, 1993). Polities ranged in regional scale and political centralization from relatively large, centrally controlled states such as Tikal to comparatively small, loosely

Figure 1.1: Archaeological sites mentioned in text.

integrated kingdoms such as Xunantunich. No matter what the scale, political offices were linked to ascribed noble status. At the top of the hierarchy, the hereditary ruler assigned administrative offices to members within ranked lineages (Sanders 1989). Subordinate elite, in turn, replicated the kingly model and formed loyal factions of their own. Often, elite groups were self-sufficient and had their own political agendas which ran contrary to those of the paramount rulers or the local noble *ahau*. Leaders at all levels secured loyalty of their supporters by performing rituals, giving gifts, assigning titles, and providing access to land. Political integration, therefore, was relatively weak both horizontally, between factions of the same political rank and social standing, and vertically, among ruling nobility, subordinate elite and their supporting populace. Given these weak alliances, Maya kingdoms had the propensity to "collapse" or change internally under stress. The political history of Xunantunich is a microcosm of these greater processes and changes. Models of social and political organization are reviewed in Chapter 3 in order to place this small polity into a specific regional context.

Chapter 4 describes Xunantunich and its nearby hamlet, San Lorenzo, and places the polity into the greater lowland Late Classic political landscape. In order to view how wealth was used as a political resource, households are socially ranked by their proximity to the civic core of Xunantunich and the complexity of residential components and architectural layout. Three major social groups are used in the preceding analyses: the royal service area at Xunantunich; a non-royal elite corporate group at Xunantunich; and a community of plazuelas and small mounds located less than 1 km from the main

Ceramic Sequences for the Upper Belize River Valley

Period		Time	Barton Ramie*	Benque Viejo**
POST CLASSIC	Late	1400	New Town	
		1300		
		1200		
	Early	1100		
		1000		
		900		
CLASSIC	Terminal		Spanish Lookout	BV IV
	Late	800		BV IIIb
		700	Tiger Run	BV IIIa
		600	Hermitage	BV II
	Early	500		
		400		
		300		
PRECLASSIC	Proto-Classic	200	Floral Park	
		100		
		A.D./B.C.		
	Late	100	Mount Hope	BV Ib
		200	Barton Creek	
		300		
	Middle	400	Jenny Creek	
		500		
		600		
		700		BV Ia
		800		
		900		
		1000		

* J.C.Gifford 1976
** J.E.S. Thompson 1940

Table 1.1: Belize Valley ceramic phase sequences.

civic center in at the site of San Lorenzo. Thus two groups of elites and two groups of commoners are distinguished for analyses to determine how wealth served as a marker of social status, a means for political activities, and an indicators of social linkages between and among social factions.

Pottery assemblages are derived from trash deposits containing extensive sherd collections from two phases: Late Classic II period (LCII) dating between 700 and 830 A.D. and Terminal Classic period (TC) dating between 830 and 1000 AD. The phases are a refinement of the traditional Belize Valley ceramic sequence (LeCount 1992, 1994, 1995). A brief description of these temporal assemblages and a detailed discussion of how they were separated are presented in Chapter 5. This detailed chronology is critical for identifying deposits that document Xunantunich's political shift from provincial capital to regional center. Control of these temporal factors allows me to view the distribution of pottery, as wealth item and as domestic goods, across corporate groups and individual households.

Interpreting differences in pottery assemblages requires assigning meaning to statistical patterns. Chapters 6 and 7 build models of human behavior in order to understand how pottery manifests value and functions as an indicators of feasting, gift exchange, and status displays. The distribution of significant styles and forms are then viewed across households ranked by social status.

Chapter 6 investigates the manner in which individuals create and maintain wealth by controlling the production or distribution of luxury goods. I argue that pottery

wealth, in general, is difficult to regulate and maintain value because it is a common, relatively simple item to manufacture and distribute. Analyses attempt to understand what aspects of pottery production and distribution were amenable to monopolization by Maya elite and how these aspects were manipulated for political ends.

Chapter 7 investigates how social relations are mediated through feasting. Ethnohistoric and ethnographic data indicate that Maya feasting was a critical component of all public and private ritual events and was especially competitive among elites (Redfield and Villa Rojas 1934; Wisdom 1940; Bunzel; Vogt 1976; Tozzer 1941). Archaeological evidence for feasting among the Classic Maya derives primarily from functional ceramic types associated with the serving of festival foods --chocolate and tamales -- and from censers used for the burning of incense in rituals associated with ancestor worship. The presentation of tamales, chocolate, and incense are linked to specific forms which can be traced by comparing household assemblages. As Xunantunich shifted from a provincial capital in the Late Classic II to an indigenous regional center in the Terminal Classic period, reorganization of the site layout (Keller 1995), equalization of wealth (Yaeger and LeCount 1995), and changes in iconography (LeCount 1994) suggest rulership changed hands or was severely weakened. Like other Maya centers throughout the lowlands, Xunantunich suffered a dramatic population decline and profound social changes. Outlying populations around Xunantunich dropped by at least half. This is evident in the site of San Lorenzo where small residences were abandoned and building at larger plazuelas was severely curtailed (LeCount 1994, 1995; Yaeger and LeCount 1995). Xunantunich itself underwent

significant re-orientation. The famous plaster frieze dedicated to ancestors was plastered over, entryways blocked, and stairs funneled the public to the center by way of ritual monuments. Access to the royal residence and to the rear of the main ritual temple was blocked off (Leventhal 1994; Keller 1995), a tactic Leventhal (1995) suggests reinforced ideological control while physically securing the rulers "backsides." Subordinate elite, however, aggressively expanded and reoriented their corporate residence toward the civic center and produced hollow bodied figures displaying kingly regalia. These developments show that subordinate elites were directly competing for social power with the nobility (Braswell 1995).

Concomitant with these major political changes, ceramic analyses presented in this dissertation indicate a significant reduction in the control and display of wealth during the Terminal Classic. In a recent paper, Jason Yaeger and myself suggest that political interests shifted from competitive displays of luxury goods and elaborate architecture to a greater interest in community security and alliance building (Yaeger and LeCount 1995). The equalization of wealth between commoners and subordinate elite suggests that resources were diverted from conspicuous consumption of luxury pottery and feasting toward consolidating and integrating the remaining populace.

Ultimately, this dissertation addresses three major anthropological questions outside the greater Maya context. First, it questions the conventional use of wealth, especially pottery, as an exclusive indicator of socio-political standing within prehistoric societies, especially those based on ascribed status. Distribution of luxury pottery must always be placed in a temporal and social context and viewed comparatively before

meaning is constructed. I find that the distribution of wealth speaks more pointedly about changes in political strategies than illuminating differences in social structure. Second, by examining the distribution of a single class of wealth -- such as polychrome pottery -- this study investigates how and to what degree elites controlled raw resources, labor, and iconography in loosely integrated polities. Because pottery aptly represents each aspect, multi-dimensional analysis can lead to a better understanding of the overlapping sources of social power in mechanically organized societies where economic independence, political redundancy, and limited exchange make for equally powerful, competitive polities. Lastly, this study further investigates how wealth is used as a means for constructing social alliances and waging political contests. By using formal and stylistic pottery types, this study will investigate how feasting, gifting, and displaying wealth are mechanisms for manifesting, maintaining, and expanding social power.

Chapter 2: Theories of Social Power, Competition, and Wealth

> **"People know what they do; they frequently know why they do what they do; but what they don't know is what what they do does" (Foucault in Dreyfus and Rabinow 1982:187).**

2.1 Theories of Social Power

At the heart of most current theories concerning social power are individual actors motivated by personal goals (Ortner 1984:151). What motivates individuals or what their goals are is a source of contention among anthropologists. Archaeologists forward two prevailing and conflicting approaches: Marxism and cultural ecology (see Brumfiel 1994 for summary). Marxists believe individuals are motivated by self-maximizing interests to control the means of production and establish class domination. They negate the cooperating, reciprocating, and alliance building side of human nature which cultural ecologists argue is critical in the creation and maintenance of social power.

Like Ortner and Brumfiel, I see the two approaches characterizing the flip sides of human nature; both motivate action but rarely to the exclusion of the other. Agent-centered (Marxist theory) and system-centered (adaptationalist) theories should be combined into a single framework in which human motivations are viewed through a practice-oriented model which seeks to explain the relationship between individual action and the operation of the collective group. Both Ortner and Brumfiel view human behavior as goal oriented but individuals are placed in a social context which defines and shapes lives and mediates access to social power.

Definitions of social power

Power is a transformative capacity and refers to the ability to reach intended outcomes (Giddens 1979:88). As a personal characteristic it enables an individual operating within a set of social relations to be in a position to carry out his/her goals despite resistance (Weber 1968). To Weber, individual knowledge, charisma, and ambition provide an overt capacity to control someone(s) or something(s). To Parsons (1960), group cooperation enhances and builds upon personal power to create a greater collective authority. Collective power is covert and institutionalized and bias toward certain individuals or groups is built into the social structure.

Mann (1986:4) suggests the relationship between personal and collective power is a dialectic; both aspects overlap and operate simultaneously. Personal power, in the form of leadership, is critical in implementing collective goals since through effective organization group resources are coordinated and mobilized. Group success, to a large degree, depends on a division of labor where leaders oversee and coordinate workers to attain goals. This hierarchical structure lays the foundation for social inequality and the institutionalized power structure which maintains it. By creating a hierarchical structure of superiority, those at the top set in motion mechanisms for implementing group goals which may or may not be in the best interest of all within the group. Power, therefore, can be manifested in two ways: authoritative -- the overt, coercive form which ignores the interests of others while pursuing group or personal interests -- and diffuse -- the collective, subversive form which manipulates social institutions and ideology so that control is naturalized and moralized within society to the point that it is uncontested

(Mann 1986:8). Power, either personal or collective, is exercised through the asymmetrical control of resources (Giddens 1979). Mann defines four resources -- ideological, economic, militaristic, and political relations. Each resource is centered on a different means of organization or institution. Authority over these resources mediates access to social power.

Ideological power

As Weber argued (c.f. Mann 1986:23-24), ideological power is based upon the assumption that humans can not understand the world merely by direct sense perception. Rather, we require concepts, categories and principles to understand the meanings of things and to organize social life. Power, therefore, can be exercised by individuals who, or institutions which, manipulate meaning, regulate norms (shared understandings of how people should act), or monopolize ritual practices (Mann 1986:23-4).

Archaeologists most often view ideological power as a resource to legitimize socio-political position and economic arrangements (Claessen and Skalnik 1978; Earle 1991; Friedman and Rowlands 1978; Hodder 1982). Monopolizing ideology permits individuals to create, maintain, or strengthen their socio-political or economic positions by justifying their superior positions (or statuses) with references to inaccessible sources of power such as divine ancestors or foreign authority. Controlling production of symbolic objects, sponsoring ceremonial events, constructing public monuments, and manipulating history through written documents all promote specific ideologies, validate status, and are attempts to regulate social relations (DeMarrais et al. 1996; Earle 1991). Recently, post-processual archaeologists have broadened the role of ideology in power

relations and social transformation by articulating its importance in the production, reproduction, and transformation of social roles, rituals, hierarchies -- in other words how we construct meaning and reality (Miller and Tilley 1984; Demarest 1992; Freidel 1981). Although post-processualists place greater emphasis on ideology as a dynamic force in social change, wealth goods and symbols are still viewed as sources of status legitimatization and as means for reproducing social hierarchies (Freidel 1992).

Economic power

Economic power is derived by the control over social relations involved in the extraction, transformation, distribution, and consumption of material goods (Mann 1986:24). The necessity of transforming raw resources into usable goods and circulating them within societies gives rise to opportunities to monopolize and control people's subsistence (Earle 1991).

Archaeologists focus on the strategies individuals use in their attempt to seize control over the economic livelihood of others, especially those directed toward the domination of water (Wittfogel 1955; Earle 1978; Gilman 1991), land (Earle 1991), or distribution networks (Rathje 1971; C. Smith 1976). Of special interest to this dissertation is the regulation of production and exchange of wealth goods. Control over raw materials used in production of wealth, labor invested in its production, or distribution networks allows individuals to monopolize resources and command social relations. Through the regulation of wealth, individuals fund political contests, support craft personnel, and reward allies and honored clients. By doing so they directly enhance their economic and political power (Brumfiel and Earle 1987).

Military power

The creation of a military force arises from the essentiality of physical defense but once organized it has the potential to be manipulated for political means. The organization of a military force requires the mobilization of men and the supply of goods for warfare or raids. Those who can coerce men to fight can gain power. Archaeologists emphasize that warfare enables individuals to extend their power basis beyond kinship-defined systems and is a critical aspect in the development of states and empires (Carneiro 1970; Cowgill 1979; Webster 1975).

Political power

Mann defines political power in relation to centralized, institutionalized, and territorialized states (Mann 1986:26). Political power is seen as concentrated at the very center of a bureaucracy and vested in the hands of a small group of elites. By limiting his discussion to state bureaucrats, Mann overlooks the vast majority of individuals within the social hierarchy who wield political power, albeit in a smaller scale. Local leaders -- heads of kin organizations, town councilmen, provincial governors, or subordinate leaders -- who mobilize men and resources for state activities wield considerable power within their constituencies.

Archaeologists, like political scientists, prefer to perceive political power in terms of an interest group whose goals are promoted or denied by individuals at a number of organizational levels (Wolf 1982:10). This definition is congruent with that of de Montmollin (1989:254), who defines political structure as referring to norms, principles, or institutions for arranging and regulating social relations between societal

actors and groups. Political power, therefore, is derived by manipulating institutions, rules, and laws in an attempt to address personal and/or group interests.

The question becomes how to study power. Since power is manifested by goal-oriented individuals intervening into social relations in the pursuit of limited resources, the best method lies in understanding the dynamics of social relations (Giddens 1987:93). Social relations are negotiated by leaders, therefore, this dissertations looks at how leaders create social alliances within a group or between groups, how they strengthen existing relations, and how they manipulate institutions in order to gain access to the four sources of power. Societies, however, are composed of many competing individuals and groups. Each group differs in size, capacity to organize, and degree of authority over other segments of society. Mann correctly emphasizes that the study of power and social transformation, therefore, must examine first the overlapping and intersecting networks of social interactions, and second the organizational mechanisms each group uses to create, maintain or expand its access to sources of power (1988:2).

In the following sections of this chapter, I utilize Mann's two major tenets as a framework with which to study prehistoric power. Factions are viewed as the most important social units for understanding how individuals within the greater society arrange themselves as they compete for power. Alliance building and participation in contests are proposed as competitive processes through which social relations are negotiated. Individuals use specific strategies -- gift-exchange, feasting, and display of wealth -- to create and maintain alliances and wage political contests. The production

and distribution of wealth are, therefore, critical components in the competitive process. Archaeologically, the most common physical evidence of wealth is pottery. Ceramics, therefore, are discussed as robust indicators of strategies used by ambitious individuals as they negotiate social relations to gain power.

2.2 Factions and Social Competition

A faction is composed of structurally and functionally similar groups which compete for resources and positions of power or prestige (Brumfiel 1994:4). Competition is considered more prevalent among groups within factions than across them because benefits are often socially restricted (Bujura 1973). Elite families or individuals, for example, compete for the right to royal accession after the death of a ruler. Since kingship is often inherited through particular elite lineages, commoners rarely compete. Commoners, however, struggle for land, raw resources, and wealth, or for access to elite favors through patron-client relationships.

At first look, the dynamics of factional competition as factor in social transformations appears to be directly opposite those processes espoused by Marxist and adaptationalist models. Classic Marxist theory assumes that competition within factions is irrelevant to social change, since it is solidarity within classes and conflict between them that lead to social transformation. Recent Marxist models, however, have examined how internal competition within the ruling class creates an unstable economic and political situation -- a process which often precedes more encompassing societal change (Spriggs 1984). Conflict among groups within a faction often amplifies struggles between factions, and both contribute to the course of social change (Brumfiel

1994:8). In terms of adaptationalist models, change derives from the interaction between populations and the environment, not from the inter-dynamics of group interaction. Adaptionalists argue that cooperation and alliance building are critical in the development of complexity (Flannery 1972); therefore, a model which emphasizes how leaders attract followers and maintain solidarity should strengthen theories concerning the rise of states.

2.3 The Competitive Process

Factional competition involves two complementary and often coinciding processes: the construction of coalitions of support and participation in political contests for social power (Brumfiel 1994:10-11). Competition necessitates the forging of alliances in order to garner support for a desired goal. The forging of ties can be both horizontal -- as among allies and kin -- or vertical -- as between social strata. Alliances often are formally ratified by the gifting of wealth. Competition may lead to political contests in which leaders evaluate the strength of their coalitions in relation to others in an attempt to determine the degree of control over disputed resources. These contests are generally conceived of as warfare (actual or symbolic); however, contests can take the form of conspicuous consumption of luxury goods; a process which displays control of wealth and knowledge.

Alliances

Social relations must be negotiated through the building of bonds that further common interests. Although alliances are generally thought of as forged in the regional arena of state politics, alliances operate at every level of society and are critical in

sustaining group integration and consolidation. Without alliances humans cease to be social animals.

Within kin-based groups, alliances between individuals are more than an exchange of services. Bonds are based on kinship ties and ritual obligations (Bailey 1969:47). Lives are interwoven across economic, social, political, and ideological concerns which tightly integrate communities and lend strength to bonds. When alliances are built between non-kin, obligations and commitments require formal acts of ratification, written documents, and political vigilance to ensure success. Exchange of gifts and food help cement ties and act to consolidate members. Gifts, such as locally made fancy pottery, are durable, portable symbols of ties that bind the two groups or individuals. Portable wealth items, like pottery, can be displayed publicly or privately thus can be powerful symbols of alliances used in two different contexts. Through their unique, indigenous styling -- may it be form, decoration, or surface colors -- pottery communicates association with outside groups. Feasting is also a way of defining and differentiating social groups (Feeley-Harnik 1994). The act of eating and drinking together is a confirmation of fellowship and mutual obligations. "Those who do no eat together are aliens to one another, without fellowship in religion and without reciprocal social duties" (Robertson Smith 1885:251). Feasting, therefore, publicly demonstrates ties between individuals and groups.

Within all societies, alliances are negotiated by group leaders. Successful leaders gain access to resources and use this access to increase group and individual prosperity. Initially, success is achieved through alliance building within the group in order to

influence, direct, and mobilize internal actions and resources. To gain influence and establish honor, leaders attempt to integrate existing group members and recruit new allies. To do so, the "faithful must be fed, both literally and spiritually" (Bailey 1969:37). During times of stress, leaders are expected to redistribute surplus food in order to sustain the group (Service 1962). During times of prosperity, exemplary service is rewarded by giving gifts usually in the form of political titles, land, or wealth. The supreme hallmark of a leader is the ability to give generously to his supporters. Sumptuous feasts are at the center of is activity since food affirms the link between politico-religious and economic well-being (Richards 1939). Within the wider political arena, leaders compete for access to political favors. In their maneuvers, leaders attempt to form alliances across groups or upward through the socio-political hierarchy. Success is often dependent on the ability to provide economic support, needed materials, or manpower. Alliances are cemented by gifts of wealth -- precious jewelry, cloth, or luxury pottery, and copious amounts of food and drink symbolizing acceptance into the family or group.

Alliances create, maintain, and enhance a leader's prestige and social power. Resources netted from alliances allow leaders to garner goods to fund socio-political activities, to recruit followers in order to maintain a military presence, and to perform ritual ceremonies which sustain their ideological power bases. As competition escalates, rival leaders are further inclined to elevate themselves from their nearest opponents by stepping up the flows of goods to their followers (Brumfiel 1987:112) and by increasing the kinds of activities designed to reinforce and legitimize their positions (Anderson

1994:76). Ritual performances, gift exchanges, and feasts, which once were used to consolidate alliances, now become political contests to evaluate and elevate social position.

Political contests

Contests are actions which evaluate the strength of coalitions and determine control of limited resources or benefits (Brumfiel 1994:10). Bailey contends that political contests come in two forms: encounters and confrontations (1969:94).

Encounters are contests performed to determine relative strength of rivals. Generally, they are public arguments that are challenged and counter-challenged until a consensus is reached. If a verbal agreement can not be achieved, physical force may resolve the contest. The most aggressive strategy is warfare or raids which often entail costly consequences measured in losses of life, property, and resources. Presumably, the expense of warfare makes it the last option used by leaders in their quests for power. Less costly contests involve symbolic warfare, such as the Maya "shell-star" event (Pohl and Pohl 1994:145) or the Mesoamerican ball-game, in which actors or athletes rather than warriors compete. The most common forms of political contests, however, involve neither symbolic nor actual warfare; rather, they consist of a myriad of regularized social interactions and physical statements which communicate social power.

Confrontations are verbal and visual claims, such as impressive residential architecture, public works, elaborate rituals, civic monuments, or pretentious displays of wealth, which testify to the source and command of economic, social, and ideological resources. Unlike encounters, confrontations are static, one-sided, displays of power

through which individuals proclaim to be persons of consequence. The resources expended in the creation demonstrate ideological command of rituals, economic wealth, and the support of followers. As the most pervasive form of political contest, rivalries involving the conspicuous consumption of wealth can easily escalate. This process is illustrated by the potlatches of coastal chiefs from the American Northwest where competitive destruction of wealth was the primary means for gaining prestige and power (Johnson and Earle 1987; Weiner 1992).

Intensification of competition

Factional competition requires a disposable surplus of food or goods to fund political activities. Surplus can be physically generated only in areas where stable or intensifiable subsistence goods are available or where access to exotic goods through trade routes is possible (Hayden and Gargett 1990). In such situations, leaders attempt to stimulate production and stipulate social obligations in order to create surpluses -- in the form of land, labor, and wealth -- which can be used for forming alliances and participating in political contests.

Factional competition is most overt when material rewards or social prestige are greatest (Anderson 1994). It is especially striking in elite groups as they struggle for political office and regional power in complex societies.

Within polities, factional competition for political office and tribute paying populations is manifested in elite conflict. African ethnographies are filled with accounts of struggles over kingly succession (Goody 1966, Lloyd 1965, Fallers 1965). As Goody suggests, the problem lies in the division of the realm by a "plurality of

royals" (1966:7). In most cases, political unity depends on subordinate siblings either accepting inferior status relative to their brother the king or carving out new kingdoms close by. Often times, political harmony is not achieved and sibling rivalry is continues throughout a generation's lifetime, resulting in constant wars and court intrigue.

Elite competition is not restricted to royalty. Within the Aztec political arena, subordinate elite -- consisting of old *calpulli* leaders, their sons and daughters -- received the bulk of their resources from political alliances rather than from goods generated from their limited private estates (Rounds 1979). As Rounds notes (1979:80), although the *calpulli* leaders did not abandon their traditional roles, they increasingly turned to competing for the ruler's favor in an effort to keep pace with rising standards of living.

Within lineage based societies, such as the African Bantu kingdoms (Fortes and Evans-Pritchard 1948; Fallers 1965; Salhins 1961), commoner lineages were also linked to inherited properties and social obligations. Although ascribed status mediated access to these resources, achieved status among family members and across lineages ultimately determined authority over land and rights. Rivals achieved status by participating in family economic activities, and political relations, or by participating in patron-client relationships. Most notable among the rewards bestowed by patrons were titles, gifts, and land. Elite competition creates spiraling political costs and wealth inflation, which produce a chronically under-funded elite faction (Brumfiel 1994:9). Elite competition can benefit commoners who are offered agricultural land (Earle 1978), reduced tribute burdens (Pohl and Pohl 1994), or gifts as inducements to join the political party. In other

situations, it can result in an ever-widening sphere of competition for limited resources. Regionally, factional competition is manifested through the same strategies as those within polities. Regional alliances are achieved through elite gift exchange which can be used to enhance the security of local populations (Flannery 1968) or as attempts to extend political power (Brumfiel and Earle 1987). Often, competition takes the form of regional warfare as elites vie for greater access to raw resources, land, people, or prestige.

The context of competition

Alliances and contests are set within institutional frameworks, played out in the public realm, and their consequences require formal validation (Geertz 1980). In all societies, access to economic resources, validation of socio-political status, and command ideological power are embedded in ritual. In 19th-century Bali, for example, alliances were formally validated through a series of written treaties, religious observances, and elaborate exchanges of heirlooms, trade goods, and artistic performances (Geertz 1980:40). Political contests are also conducted against a backdrop of national symbols and ritualized behavior (Kertzer 1988). Among the ancient Maya and Aztec, warfare was deeply embedded in ritual and religious institutions (Demarest and Conrad 1992).

The ritual context of alliances and contests are important for three reasons. First, it helps build socio-political integration by indicating group membership, defining loyalties, and stipulating social obligations. Incorporation into a social group generally is marked by rites of induction in which individuals are transformed into members or

leaders. Group identity is further marked by annual rituals and symbolic statements such as festivals, gift-giving, or temple construction. The second reason that ritual context of competition are important is that rituals are potent means for social legitimization. They dramatically display the ideological relationship between individuals (Durkheim 1974). Legitimization empowers leaders and molds followers beliefs concerning authority and social obligations. Third and finally, rituals are tools for those who compete for power. Rituals are performed in dramatic contexts that glorify social position, promote social agendas, and elevate prestige (Geertz 1980). Since they are standardized and repetitive, rituals crystallizes meanings and social relations (Kertzer 1988:8). Actions and objects used in ceremonies gain meaning through their association with rituals.

2.4 Political Strategies for Building Alliances and Waging Contests

Alliances are built and contests are waged through physical means. Alliances must be ratified and periodically reinforced. The giving of luxury goods cements the bonds of association and creates reciprocal social obligations. Their public display announces political ties and social connections. Feasting accompanies almost all public events, especially those associated with consolidating social relations, since the giving of food is a metaphor for sustaining life and friendship (Douglas 1984:12). Feasting is also a display of economic prosperity through which individuals consolidate alliances and attract allies. In the process of giving, however, the competitive nature of exchange is manifested. Exchange of goods formalizes economic, social, and ideological distinctions between individuals. Because of its value, wealth -- in the form of luxury items and food -- comes to serve as a primitive currency used as a means for funding

political activities. Wealth production and distribution is thus an important strategy for creating, maintaining, or expanding social relations.

Gift exchange

Alliance building is frequently achieved through exchange of gifts and food (Brumfiel 1994; Kristiansen 1981). These exchanges signal the completion or consummation of negotiations and often are performed at the end of ritual ceremonies (Vogt 1976; Robertson-Smith 1889). As symbols of the bonds between individuals, exchanges are public statements of social relations (Mauss 1950). That gift exchange is an acknowledgment of social relations may partly explain their competitive nature.

Mauss (1950) proposed that gift exchange engages an individual in a permanent social contract. In reality, what transpires is not solely the swapping of goods or services but of two essential elements: *mana* (honor, prestige, or power) and the absolute obligation to reciprocate (Mauss 1950:8). Failure to return an obligation means losing prestige. According to Maori legend, refusal to reciprocate is equivalent to declaring war (cf. Mauss 1950:92). Essentially, it symbolizes the breaking of alliances and compels the would-be recipient to act to restore his/her honor. Given the symbolic power of exchange, it is important that the gift is something which reflects the status and power of the giver. By giving back items of greater value, the reciprocation increases prestige of the giver and redefines social relations.

Exchanges between social equals are as lavish as possible (Hicks 1991:207). Regionally, paramount leaders exchange exotic luxury items to be used within the local prestation economy or status-reinforcing goods important for royal clothing, insignias

and ritual paraphernalia (Brumfiel 1987:111; Hirth 1992:22; also see C. Smith 1976). Exclusive status symbols are highly valued for their foreign origin, labor investment, and/or symbolic significance; and thus their circulation is tightly controlled and ritually prescribed (Drennan 1976:357, Earle 1982). Subordinate leaders exchange locally produced luxury items. During pre-Aztec times, local leaders gifted disposable wealth items, including obsidian, jade, and shell. Later, during Aztec times, wealth inflation allowed subordinate leaders to exchange elite craft goods given to them by paramount rulers. These non-specific disposable wealth items were not directly associated with particular status statuses (Brumfiel 1987).

Exchange between social unequals is assumed to involve unbalanced reciprocity (Brumfiel 1994:10). Leaders use rituals, gifts, and food to integrate the group and attract followers; in return, followers become indebted and must reciprocate by giving tribute (Salhins 1968). Subordinate leaders mobilize tribute as payment to paramounts and, in turn, are rewarded with prestige goods. The exchange is considered unbalanced since the quantity of goods moving upward far exceeds those goods that move downward. From the perspective of subordinate leaders, however, the overall nature of the exchange may not appear so unbalanced. In exchange for mobilizing tribute, subordinate elite garner titles and sumptuary goods from paramount rulers while at the same time gaining local prestige by acting as middle men. Although the amount of materials gained may be less than that given, the quality of goods, services, or titles recieved may far exceed the quantity of goods given. Some subordinate elite may gain considerable wealth in exchange for their loyalty to paramount rulers. How they manipulate the social relations

between themselves and their overseers can determine relative group success and autonomy within the larger polity.

The success and prosperity of subordinate leaders and groups depend to a great extent on the degree of political centralization. As Tambiah (1977:83-4) explains, in Southeast Asia segmentary states, what trickles into the king's hands is often a minuscule part of the gross produce and profits extracted from the populace by local leaders. In these de-centralized political systems, the chain of command by which tribute moves upward is so lengthy and the subordinate leaders involved so empowered, that at each consecutive level, goods or corvee labor owed to the king are creamed off for local projects. Within centralized, hierarchical states, such as the Inka, provincial control and tribute was more exacting (Hyslop 1990; D'Altroy 1992). Control of the production and distribution of goods and movement of tributes was highly regulated. However, indigenous kings of certain powerful states subsumed within the empire, such as the Ica elite, appear to have retained command over their ethnic groups and continued to wield considerable power. They produced luxury pottery in a new Ica-Inca style, which incorporated recognize Inca elements but was a new style distinct from both Cuzco ceramics and previous indigenous types (Morris 1988). The regulation of wealth, distributed as gifts or produced as tribute, is therefore paramount to individuals who compete for social power.

Feasting

Feasting as a form of wealth exchange is used to create and maintain social relations (Goody 1982, Douglas 1984, Mintz 1985, Weismantel 1988). Food and drink

is the first thing offered to a friend, visitor, or stranger. Often, the gift of food is the initial act in the creation of social bonds. Its primary position is based on the fact that food is as fundamental to life as clothing and shelter, but is easier to give away since it is more readily available. Radcliff-Brown emphasized that feasting is the most important social activity among the Andaman Islanders because it is around food that social sentiments are most frequently called into action (1922:227). Food and drink enliven guests by filling stomachs and loosening tongues, causing a feeling of well-being and stimulating social interaction. Given these socializing qualities, private and public rituals almost always include food and drink. Feasting at political functions is essential if leaders are to integrate members and gain followers (Richards 1939; Fortes and Evans-Pritchard 1940; Hocart 1970; Earle 1978; Salhins 1972). Fortes and Evans-Pritchard note that the lack of food and drink at Bantu festivals is "publicly ridiculed by young men, who ... climb the roofs of the huts and shout remarks of abuse or who sing songs of mockery and ... [perform] dances which quickly spread through the country "(1940:208).

Feasting, as an essential component of public ritual, becomes a medium or a field of action, in which social reality is manifested (Douglas 1984:30). Invitations to feasts signal inclusion within a select social circle and the number and caliber of diners reveal the sponsors' social position (Douglas 1984). Because food is essentially an unrestricted and relatively abundant "wealth" good, no other item is so conspicuously consumed during festivals. At the enthronement of archbishop Nevill at York in A.D. 1465, a feast of 1000 sheep, 2000 pigs, 2000 geese, 4000 rabbits, and 12 porpoises and seals were

devoured (Mennell 1985:22). Among the Kwakiutl Indians of British Columbia, the most prestigious potlaches were those involving grease in which tub after tub of valuable oulachen oil was poured on bonfires. The fires flamed up, singeing the blankets worn by the participants and often setting roofs on fire. Recipients were obligated to give a potlatch of their own in return, distributing and destroying still greater quantities of goods to reassert their own rank and prestige. As Mennell suggests (1985:32), it is the sheer volume and the apparent waste of food that is inherent in, and necessary to, the assertion of social power.

The importance of food at rituals and its conspicuous consumption by elite may have something to do with value of food. Anthropologists and archaeologists note that there exist real differences in what people of different social strata eat (Goody 1982; Costin and Earle 1989; Feeley-Harnik 1985; Lewis 1951; Mennell 1985; Mintz 1985; Super 1988; Weisental 1988). Generally, elites consume more meat and rare or exotic items than commoners, whose diet consists predominately of grains and vegetables. Commoners experience real excitement in anticipation of elite-sponsored feasts because these feasts represent such a contrast to the monotony of the typical fare (Mead 1931). Commoners rather than elites, also experience frequent food stress due to harvest failure and lack of stored surplus (Mennell 1985:25). In such situations, the redistribution of food is a statement regarding stored economic wealth or political connections used to gain access to regional food supplies.

Feasting is often assumed to be an active force in social relations, but rarely is it identifiable in the archaeological record. Within many societies, there is little

differentiation between the types of daily and ritual foods, the way they are prepared, and how they are consumed. Often, differences are a matter of quantity rather than quality (Mennell 1985). Feasting simply means more food cooked in relatively the same manner rather than specially prepared, ritual dishes. In these situations, festival foods require no specialized vessels or cooking techniques, and thus they are archaeologically invisible. Often, festival food is donated by kin and community members, further reducing the signs of mass preparation. Serving vessels remain the best markers of feasting (Smith 1987). However, if they are unceremoniously dumped in the same locations as everyday debris their diagnostic value is greatly reduced. Feasting, therefore, is best identified in societies which have specialty festival foods, designated serving or drinking vessels, and distinct feasting locations. In these societies, competing groups can be singled out from the myriad of large households which make up sites. This is especially important in Classic Maya society where there is a lack of correlation between dwelling size and status (Tourtellot 1988).

2.5 Wealth and Its Role in Creating, Maintaining, and Expanding Power

The importance of wealth is derived from its capacity to validate social status, a concept first developed by Mary Douglas (1967). All goods, no matter how simple, have cultural value and communicate socially significant messages. Some highly visible objects materialize dominant ideologies through the display of political or religious symbols (DeMarrais et al. 1996). But the vast majority of wealth items and material goods express group inclusion through subtle characteristics of shape, color, and design. Goods, especially those imbued with culturally meaningful symbols, reinforce existing social

boundaries (Douglas and Isherwood 1979). Among the Lozi of western Zambia, elite status is signaled by wealth items such as double clapperless bells. These items were awarded by the king and queen to statesmen, royal hunters and others of high rank (1979:448). Among social groups in the Baringo district, political incorporation is signaled by similarities in dress, jewelry, and domestic pottery by elites and commoners alike. Thus material culture signals social cohesion.

The role of wealth in society is multi-faceted and overlapping (Brumfiel and Earle 1987:3). A small portion of wealth items are unique status items or insignias used to proclaim social or political position. They are rare, highly regulated objects that circulate within a very limited social circle. They proclaim status through the prominent display of symbols that are imbued with specific meanings. A larger and more diverse class of wealth objects, what I call disposal wealth, are less precise in the manner in which they define group inclusion. Meaning is derived from a variety of aspects including overt or subtle aspects of decorative style, labor invested in production, the nature of their distribution, and historical or mythical associations. Through their significant social meaning, they possess exchange value which can be used for overtly political means. Elites accumulate wealth to display status, pay labor, support specialists, establish ties with allies, and wage competitive contests, thus disposable wealth circulate more freely in society. The accumulation of disposable wealth is less a marker of social status than a symbol of social relations.

Given its role in validating status, Earle and Brumfiel focus on wealth as a currency to legitimize status and fund political ambitions (1987:3). Through displaying sacred

symbols. wealth can establish superior social rank or monopolize ideology through displaying sacred symbols of foreign or already established elites. In these circumstances, objects of wealth function as exclusive status symbols which have circulate in specific socio-political spheres. As a primitive currency, disposable wealth is used to attract clients and allies, link regional leaders into prestige networks, consolidate internal power through vertically nested hierarchies, and provide a means of supporting specialists. Wealth circulates in society, becoming a dynamic indicator of social linkages rather than an absolute marker of social status. Since both disposable wealth and exclusive status symbols are openly displayed and distributed by elites, their values are easily undermined and their meanings manipulated. This inflationary aspect of wealth means production and/or distribution of items must be regulated in order to retain value. If the social relations involved in manufacturing and circulating wealth can not be tightly maintained, categories of wealth must be rapidly changing (S. Shennan 1982).

Brumfiel and Earle propose two models of how wealth maintains social hierarchies through the control of the production and distribution of luxury goods. I suggest that both can operate in stratified societies depending and their function depends on how a particular wealth item was produced, its role, and the level at which it circulates within the society.

The first model is proposed to account for the wide-spread production and use of disposable wealth within a society. The example used by Brumfiel and Earle is *raffia* cloth, a fabric exchanged in patron-client relationships among the Lele of Kasai, central Africa (Douglas 1967). Kasai social hierarchy hinges upon men subordinating themselves to seniors in order to gain dominance over age-grade rivals. To gain social prestige, men

compete for *raffia* cloth by establishing vertical social alliances with older men who, through time, accumulate cloth. The social hierarchy is maintained not by controlling the production of wealth, but rather by its distribution through hierarchical social relations. Since *raffia* is manufactured by numerous individuals within the general populace, it is abundant in domestic refuse and wide spread in burial contexts. In ancient complex societies, many types of disposable wealth may have been produced and circulated in this manner. Leaders, both elite and commoners, received wealth items as tribute from local craftsmen and then redistributed them in return for political favors or obligations. At Maya sites, the frequency and distribution of polychrome pottery, chert eccentrics, and shell jewelry indicates just such a process.

The second model represents a fundamentally different process of translating wealth into prestige and social power. Certain classes of wealth are controlled by a small segment of the population. Production is partly or entirely in the hands of attached craft specialists and the circulation of wealth is highly restricted. In many cases, wealth produced by attached specialists includes are exclusive status symbols. Among the Aztecs, elites attempted to reserve the right to use and display wealth items through sumptuary laws (Sahagun 1950-69[1577], Bk. 9, p. 91; Anawalt 1980; Rowlands 1987). The archaeological distribution of this type of wealth is found in specific contexts, since elites tried to monopolize long-distance trade and craft production and distribution within society.

A model of wealth and its role in factional competition

Wealth acts as the physical means by which competitive strategies -- alliance

building and political contests -- are played out within and between social factions. In most cases, factional competition is structured along the lines of socio-political hierarchies. Paramount rulers compete for the control of polities, subordinate elites vie for offices, and commoners struggle for land and political favors. Although competition is most prevalent within these factions, strategies used to achieve goals require overlapping and intertwining social relations.

The multiple roles of wealth -- as status display and as a currency to fund political activities -- makes modeling the archaeological distributions of wealth extremely difficult. At the top of the hierarchy, paramount leaders display and exchange exclusive status symbols and disposable wealth items as a means of consolidating alliances and competing in political contests. They accumulate local luxury goods as tribute and attempt to monopolize the production and distribution of elite goods which act as exclusive status symbols and disposable wealth. Tribute is often mediated by subordinate leaders who stimulate wealth production, mobilize tribute, and organize its shipment. They compete for titles and disposable wealth bestowed by paramount rulers and for local luxury goods garnered from their own constituents. Elites use wealth to fund political activities, including the formation of alliances -- both horizontally within the elite strata and vertically with commoner groups -- and to legitimate social status through conspicuous display. Typically, commoners have limited access to disposable wealth unless they develop relations with elites.

As factional competition increases, status displays are extremely important for marking group inclusion, and elite groups attempt to internally distinguish themselves.

The proliferation of status symbols signaling political rank becomes especially pronounced during times of increased factional competition. At the same time, disposable wealth is broadly circulated in order to garner allies and is consumed in political contests. Its conspicuous consumption fuels rivalries and deflates the value of wealth. Commoners, at this point, are embroiled in both intra- and inter-factional competition. They receive wealth from elites and use it fund their own political ambitions and to signal group identity or allegiance to particular patrons who sponsor their group.

Archaeologically, the distribution of wealth within factions may tend to merge during times of increased factional competition. The situation between factions is more difficult to model because of the variety of strategies elites implement as they vie for power. Under-funded elites may attempt to increase resources by: 1) confiscating land from commoners, 2) waging war on near-by neighbors, 3) demanding increased tribute, or 4) attempting to attract new followers or allies. As an overall trend, I suggest the downward circulation of disposable wealth into the hands of commoners is more common when populations are seen as an important scarce resource. When they are considered dispensable, wealth remains entrenched within the elite faction.

Identifying variation among and between factions is dependent on the strategies used by elites to promote themselves and their groups. Generally, royalty are always easy to identify since exclusive status symbols should be concentrated at the top of the political hierarchy and easily spotted because of their rare, unique nature. However, within the elite faction, group identity and social rank may be more difficult to

understand and may take the form of stylistic variation within disposable wealth categories and the ranking of exclusive status symbols. Pottery, as one of the most variable wealth items may help clarify the roles of wealth and identify social groups

2.6 Pottery as Indicators of Social Competition

Pottery is one of the most ubiquitous items in the archaeological record. In rare circumstances, they are exclusive status symbols. But more often, they are disposable luxury goods used to fund political activities, communicate social inclusion, and display status. The vast majority of pottery, however, are simple tools used to perform domestic and ritual tasks. As an assemblage of tools, they can be used to identify social activities, especially the preparation and serving of feasts, if particular foods and pottery forms were ritually consumed and used. The overlapping roles of pottery -- as display items, primitive currency, and domestic tools -- often confound interpretations of their distribution. The study of pottery complexes with a large range of styles and forms, such as Classic Maya complexes, may facilitate a greater understanding of how these roles are manifested in the archaeological record and how certain types of wealth were used as a political resource by different social factions.

Maya pottery is especially useful as indicators of social relations and political competition. Ritual acts and genealogical histories of Maya nobility can be found written and illustrated on "Codex-style" vessels. As disposable wealth and possibly exclusive status symbols, these vessels displayed elite social status and were gifted to regional allies (A. Chase 1985). Highly decorated import pottery, found throughout the lowlands Belize, Mexico, and Guatemala, signals cultural affiliation or trade among regional elite (Sabloff

1986). Many local styles are labor intensive making them perfect examples of disposable wealth gifted or awarded to honored allies or kin. Lastly, fine ware types were produced with crushed volcanic ash, which is limited in distribution and could have been controlled by elites. The variation in raw materials, labor investment, design styles, and distribution networks makes Classic ceramic assemblages perfect for studying how pottery wealth was controlled and manipulated as a political resource.

By using ceramic data, I will address factional competition and the struggle for social power within the Late and Terminal Classic polity centered at Xunantunich, Belize, Central America. Factional competition was especially rampant among lowland Maya groups at this time (see Pohl and Pohl 1994). Maya researchers view the Late Classic round of elite competition as a particularly virulent one given its dramatic consequences in the "collapse" of lowland Maya civilization (Marcus 1983; Demarest 1992). Grube (1995) contends the collapse was caused by a breakdown in regional alliances and increased political contests (Grube 1995). As documented in hieroglyphic text alliance building and marriages between paramount families increased through the Classic period until around A.D. 750, at which time, political balkanization and warfare erupted. Large states, such as Tikal, show their first signs of political breakdown when smaller polities, such as Xunantunich, make their first appearance. It is within the microcosm of Xunantunich that I will view the competitive processes occurring within and amongs the elite and commoner factions.

Chapter 3: Social and Political Models of the Classic Maya

> "It perhaps destroys much of the interest that hangs over these ruins to assign to them a modern date; but we live in an age whose spirit is to discard phantasms and arrive at truth, and the interest lost in one particular is supplied in another scarcely inferior; for the nearer we can bring the builders of these cities to our own times, the greater is our chance of knowing all" (John Lloyd Stephens as quoted in Ackerman 1993:263).

3.1 Introduction

Current models of the socio-political organization of the Classic Maya will be reviewed in order to pin-point sources of social power and factional competition during the Late and Terminal Classic periods. Models of Classic Maya political organization view polities as especially variable in size and centralization. They ranged from relatively large, centrally controlled states to comparatively small, loosely integrated kingdoms. Integration is considered relatively weak both horizontally, between factions of the same political rank and social standing, and vertically, among ruling nobility, subordinate elites, and their supporting populations. In such unstable situations, exchange and conspicuous consumption of wealth as well as public feasting become critical strategies in creating, maintaining, and expanding power within both elite and commoner factions. Specific strategies and the role of pottery in identifying them will be discussed in terms of how the Maya promoted themselves and their agendas. Ultimately, this chapter seeks to place Xunantunich into a model of socio-political organization which shows how the ancient Maya negotiated social power within small, loosely integrated polities during the Late and Terminal Classic periods.

A cautionary note

In his attempt to reconstruct a model of Classic lowland Maya social organization, Sharer (1993) notes that archaeologists confront two major issues. First, there is the tenuous connection between data sets. Archaeologists are endowed with a wealth of information stemming from epigraphic monuments, ethnohistoric documents, and ethnographic studies. Recent advances in the decipherment of Maya hieroglyphs have produced a wave of new information encoded on civic monuments and luxury goods, especially pottery (see for instance Schele and Freidel 1990, Mathews 1991, Houston 1992, and Grube 1991). Texts and iconography deal specifically with politics, ritual, and genealogy, but their message is narrowly focused on the uppermost echelons of Maya society; the vast majority of the population - the non-elite - are not mentioned. Ethnohistoric sources provide a more compete picture of Maya socio-political organization, but these may be more relevant to the investigation of Postclassic populations, since the 16th-century Maya were far removed in time and societal organization from their Classic ancestors (Sharer 1993:92). The Classic Maya are even further removed from the modern, ethnographic populations whose ancestors were decimated by European forces (Wilk 1983, 1984, 1988; Weeks 1988; Hopkins 1988). Some modern Mayan groups, such as the Belizean Kekchi, are more aptly compared to pioneering populations of the Formative period rather than the settled, complex societies of the Classic Maya (Wilk 1983, 1984, 1988). Sharer admonished Mayanists to be critical when applying ethnohistoric and ethnographic sources to the Classic Maya, due to the profound and undocumented change which occurred though the intervening

centuries. For purposes of modeling social and political organization, the Classic Maya exhibited greater complexity and variability than are found in later societies.

The second issue confronting archaeologists is one of social diversity. Currently, many Mayanists use a single, monolithic model for characterizing Classic Maya socio-political organization. Variation rather than uniformity characterizes the Maya's environment, social organization, and political structure. Rice (1993) details the substantial variation which exists in geology, climate, and vegetation across eastern Mexico, northern Guatemala, Belize and northern Honduras where the Classic lowland Maya populations resided. Concomitant with this environmental diversity, variation is widely recognized in the structure and organization of Classic period polities (de Montmollin 1989), social life (Sharer 1993), settlement (Willey and Leventhal 1979), and households (Tourtellot 1988; Webster and Gonlin 1988). Like their counterparts today, prehistoric Maya groups must be viewed both particularistically - taking into account variation in environment, economy, and socio-political forces - as well as from an overarching model which emphasizes the mosaic nature of Maya society.

3.2 Models of Classic Maya Social Organization

Classes

Social stratification was initiated in the late Pre-Classic and solidified in Classic period states (Freidel and Schele 1988, Schele 1985, Freidel 1986). According to Freidel and Schele (1988), the institution of divine rulership, *ahau*, was invented to legitimize the inequalities brought on by successful trade and interactions between Maya leaders and more complexly organized groups such as the Olmec. Stratification first becomes evident

during the late Preclassic, in the form of major ceremonial centers, elite burials, monumental architecture, and early hieroglyphic inscriptions. By the Classic period, kingship was built upon ritual practices and ideological constructs that defined the ruler as a conduit of supernatural power and divine inspiration. Monuments which portrayed and described nobility as the incarnation of semi-divine gods and important dead ancestors legitimized political authority and social rights (Schele and Miller 1986). Elites effectively established a royal dynasty by specifying ancestors and their genealogical connections to them, as well as, their place within the regional political hierarchy (Schele 1985).

The divine nature of Maya nobility effectively separated Classic period society into two classes - elites and non-elites (Sharer 1993:93). During the Late Classic, elites appear to have been composed of internally ranked groups (Schele and Miller 1986; Stuart 1989; Houston 1989). Based on an inventory of political titles (Schele and Miller 1986; Stuart 1989; Houston 1989), there were at least three ranks within the ruling hierarchy: *Kul Ahau* (paramount ruler), *Ahau* (ruler), and *Cahal* (governor). Titles were associated with leaders within a large regional state where lesser rulers were often subordinated local nobility, but some where blood relatives of the highest-ranking elites. In smaller polities, the elite faction was smaller and confined to a single royal lineage.

The royal lineage was composed of the noble ruler, his family and a court of hereditary elite (Marcus 1983:470). Royal family members were placed in political positions within the regional hierarchy or left the region to found new centers of their own (Mathews 1986). Priests were chosen from among members of the nobility who did not inherit positions. Royal women often were married to distant allies in order to extend political influence and

control (Marcus 1983). Clearly, though, not all royal lineage members could have been placed in active political roles. McAnany (1995:25-6) contends that there was significant internal ranking within elite lineages. She states that during Postclassic times the Xiu lineage of Maní ranked family lines as either elite (*hidalgo*) or non-elite. This formal partitioning of noble lineages illustrates the "principle of sinking status" where a lowered status is ascribed to any individual (and thus an entire family line) who does not inherit rulership (Geertz and Geertz 1975:124). In such systems, closeness to the present ruling family determines status, and through default, lessens competition for rulership. Contrary to McAnany, I suggest that the Classic Maya did not have this dampening device to deal with the plurality of royals. Given the amount of internal conflict between elite families (Pohl and Pohl 1994:148), such a mechanism does not appear to have been in place in the Late Classic.

The majority of society was composed of the commoner class. Whether internal ranking characterized commoner lineages is a source of debate. Marcus (1983) emphatically denies any organizational similarity, especially lineage ranking, between the two classes. Haviland (1985), on the other hand, notes differences in life expectancy, physical characteristics, and wealth differentials within both classes during the Classic period at Tikal. Since lineages are the original building block of Maya social organization, an understanding of their structures and organization should lead to a greater understanding if lineages were ranked, and if so, what criteria were used.

Lineage organization

In the 16th-century, Yucatecan Maya society was divided into classes and "was also

divided vertically into (*Ch'ibal*) lineage groups"(Roys 1943:35). Founding lineages, *yax ch'ibal*, held dominant positions and inherited land and social authority (Roys 1957:12). Lists of first lineages and the names of their founding ancestors were recorded in Maya fold out books such as the *Chilam Balam of Chumayel*. These have led McAnany to suggest that lineages were ranked according to the antiquity of their ancestors with the highest positions accorded to those lineages which first colonized particular areas (McAnany 1995:116).

The principle of first occupancy strongly affected the nature of authority among the lineages (McAnany 1995:97). Following Salhins (1961), McAnany views the Maya as composed of expansionistic and predatory segmentary lineages who colonized the lowlands during the Middle Formative period. Founding lineages who controlled access to land and raw resources established early on social inequalities based on economic power. After colonization, internal fissioning of founding lineages and the influx of migrating lineages continued to fuel predatory competition for land. In an attempt to institutionalize rights to land and raw resources, founding lineages politicized their economic position into permanent leadership and capitalized on trade with more complexly organized neighbors. As Freidel and Schele (1988) argue, early leaders not only profited economically from long-distance trade relations, but also sanctified their claims to power. In doing this, they laid the ideological foundations for divine rulership and class divisions. Documenting lineage membership is therefore critical understanding in the transmission of social power.

Lineage structure

Most researchers describe the prehispanic Maya as structured into totemic, exogamous,

patrilineal clans based upon data gleaned from Bishop Landa's account of the Yucatan Maya of the 16th-century (Sharer 1993). Sharer considers the prehistoric Maya to have been geographically dispersed and lacking in corporate characteristics, thus, closely fitting the definition of a sib (1993:98). Since important socio-political characteristics are implied by the application of these kinship terms (Table 3.1), a review of kin structure and the implications concerning the sources of Maya social power is discussed.

Table 3.1: Cognate forms of kinship structure*

Structure	Organization	Residence	Integrative mechanism
Lineage	corporate	localized	trace actual links to common ancestor
Clan	corporate	localized	claims common descent
Sib	non-corporate	dispersed	merely postulates common ancestor

* adapted from Murdock 1949, 1960

The term lineage is generally applied to all consanguineal groups resulting from unilineal descent (Murdock 1960). Technically, lineages are separated into minor, major, and maximal lineages according to their increasing generational depth from a common ancestor. Murdock (1949, 1960) names these forms as lineage, clan, and sib, respectively. Lineages are generally small, well-defined, localized groups with a relatively shallow time depth which can trace their ancestry to a particular individual. Clan and sibs, on the other hand, are larger groups with longer time depth. Clan members reside in close proximity to one another and generally intermarry, which promotes corporate control over community owned land. Sib members, on the other hand, are dispersed across a large region and have lost their corporate nature and, importantly, their access to land. By reconstructing Maya social structure as sibs, Sharer disenfranchises Maya lineages from the control of land and

raw resources -- in other words from their access to economic power.

An evolutionary model of Maya lineage organization is forwarded by Haviland (1968), who documents the shift from patriclans to sib social organization at Tikal. He suggests that during the late Preclassic, members of Tikal's elite patriclans intermarried and formed an endogamous ruling patrilineage. They documented their elite genealogies through ancestor veneration, dynastic temple construction, and public monuments describing historic events -- a strategy seen at other centers at this time. Copan tomb construction and murals on Altar Q illustrate a continuous 400 year dynasty of sixteen rulers founded by *Yax kuk mo* (Sharer 1993:98; 1995). At Palenque, however, monument inscriptions at the Cross group indicate royal ancestors who lived in the distant past and were not connected to later rulers by specific genealogical statements (Hopkins 1988:116). The ability to trace actual linkages, therefore, does not appear to be the critical factor for access to political power; rather, power is derived from the capacity to construct history and form links to semi-divine ancestors or gods (Marcus 1992). Since Classic period elites placed kin members at the heads of regional polities elite clans gradually became dispersed, but this apparently did not diminish claims to political power.

Among commoners, the breakup of patriclans into sibs might have occurred by the end of the Early Classic through economic diversification and land scarcities (Haviland 1968:112). Evidence for economic specialization and population growth appeared in the Classic period when individuals seeking alternatives to farming migrated to Tikal in search of work. The urban migration disenfranchised members from property and families, thereby creating descent groups whose members held no claim to corporate land.

Since kin organization is conditioned by economic variables - access to land and degree of craft-specialization -- then it should vary, not only though time, but across space. Haviland suggests that in "culturally marginal areas" traditional clan kinship structure is evident (1968:114). In areas such as Belize, patriclans -- among both commoners and elites -- may have survived through the Classic period. With the exception of Caracol, the eastern lowlands outside of the central Peten lacked large cities capable of supporting full-time craft-specialists. Clan organization would have been further reinforced by the loosely integrated, non-centralized nature of political organization outside the Peten states. The economic and political situation in the Belize Valley therefore argues for the continuation of clan kin structure among both elite and common lineages.

Descent and succession

Rules of descent are major factors for determining access to political office and economic resources. Kingly succession from father to son is documented by hieroglyphic texts at Tikal (Haviland 1977) and Copan (Stuart and Schele 1986). Matrilineal with patrilineal descent, however, is described at Palenque in hieroglyphic inscriptions and is supported by prominent portraits of women rulers at Naranjo, Piedras Negras, Coba, Yaxchilan, and Calakmul (Mathews and Schele 1974; Sharer 1993:98). Given this ambiguous data, Marcus (1983:470) contends that elites practiced bilateral descent or used whichever line assured them the highest status. Marcus' position has also been put forth by Roys (1943), Coe (1965), Joyce (1981) and Fox and Justeson (1986). Hopkins suggests (1988:99) queenly rulership can be accounted for within a patrilineal descent system. When women ruled, they were the daughters of kings; if their husbands ruled,

they would not have violate patrilineal succession if they were adopted into the royal lineage -- a strategy used by modern Maya groups. Whichever descent system the Classic Maya used, the numerous exceptions to the rules reflect the degree of competition among candidates.

Among commoners, archaeological evidence for the existence of descent is indirect. Patrilineal descent, patrilocal residence, and patriline inheritance is inferred from Postclassic ethnohistoric documents (Tozzer 1941, Roys 1943) and modern ethnographic studies (Wilks 1988, Weeks 1988, Hopkins 1988). It is presumed that commoner organization is conservative and has changed little through time.

Property and inheritance

Among the Chorti Indians of Guatemala, the chief household of a corporate group owns land, domestic animals, houses, furnishing, implements, and ceremonial objects (Wisdom 1940:276; also see Hopkins 1988:100). The head man possesses all corporate family houses since they were built by co-operative family labor. Additionally, he parcels land out to dependents as he sees fit. As leader of rituals, he owns all sacred objects such as effigies of saints, altars, incense burners, drums, and other ceremonial objects (1940:279). The economic power of corporate leaders is also evident in the past.

Ethnohistorically, a corporate leader inherited property and owned improvements to it including the house, the near fields, the orchards, rights to salt beds (Roys 1972[1943]:37) and far fields or forests (McAnany 1995:99). According to Farriss (1984:272), all Postclassic families inherited rights to community owned land. Allocation of rights was the responsibly of community leaders. In theory, when land was plentiful every farmer had

access to land, however, founding lineages would have the best land based on long established rights. In the Late Classic period, however, many families may have depended on patron-client relationships with elites, or have developed fictive kin ties with long established lineages in order to gain access to land and housing.

Residence

Today, as in the past, Maya communities are composed of exogamous, patrilineages bound by marriage alliances (Tozzer 1941; Hopkins 1988; Weeks 1988). Weeks (1988: 90) emphasizes that Maya communities are strongly integrated by close agnatic kinship, as well as multiple affinal ties. Recent arrivals within the community are related by distance or fictive kinship. When local women are not available for marriage, men turn to nearby communities in search of wives. Regionally, this marriage pattern creates communities weakly linked by agnatic kinship.

Archaeologically, this residence pattern is manifested in households made up of two to five houses arranged around the edges of a small central plaza (Haviland 1988). Haviland suggests that variation in the number of houses and in the orientation of the plazuela reflect stages in the developmental cycle. This model is strengthened by the close correlation between residential size and family structure among the Kekchi Maya today (Wilk 1988). Settlement surveys at Tikal (Haviland 1968), Barton Ramie (Willey et al. 1965), and the northeastern Peten (Bullard 1960), as well as observations by Vogt (1983) in the Chiapas highlands, record concentrations of plazuela groups within dispersed community settlements. These are interpreted as localized lineage clusters.

Patrilocal clustering is essential in the face of low crop productivity and unstable

farming conditions in the lowland tropics (Weeks 1988:90). Related men are the most effective group in performing shifting agricultural strategies which utilize a number of far-flung fields and a patchwork of land-holdings. McAnany contends (1995:79) that this dispersed pattern of land-holdings favors kin-based power structures over a more centralized power base of divine kingship, since corporate head men sustain both economic and political power within small, dispersed communities.

Lineage membership was critical for access to political office and inherited economic resources among the Maya. Classic period Maya royalty carefully documented genealogies in hieroglyphic texts, civic architecture, and public art. Here they linked themselves to venerated ancestors and divine rulers in an attempt to maintain and expand their ideological power over land, wealth, and social rights. Like elites, ancestor veneration among commoners stabilized transmission of land and property and also conferred political power within small communities. Since political power is linked to ascribed social status, models of Classic period political organization will be discussed in order to better understand competition within social factions.

3.3 Classic Maya Political Organization

Recent models characterize Classic period Maya polities as either large regional states with centralized, hierarchical political organization (Marcus 1993, Culbert 1988, Martin and Grube n.d.) or smaller polities - either segmentary states or galactic polities - with relatively loose control over people and territory (Fox 1987, Demarest 1992, Sabloff 1986, Leventhal and Dunham 1989). The current debate reflects two central characteristics of Maya political organization. First, large Maya states were relatively unstable entities

inclined to repeat cycles of regional expansion and contraction (Marcus 1993, Demarest 1992). Regional states had a propensity to collapse under economic stress, internal elite competition, or endemic regional warfare. They disintegrated into more smaller, more stable polities. Second, the existence of two diametrically opposing models suggest the Maya lowlands were not politically homogenous; rather, they were a mosaic of polities organized at different scales and degrees of centralization. The melding of the two opposing models permits a greater understanding of the political processes and dynamics which shaped Classic period polities. It also allows this dissertation to place Xunantunich into a regional political landscape. From this vantage point, I will view the role of wealth in maintaining and expanding power within regionally overlapping, heterogeneous political organizations.

A comprehensive model of Classic political organization

The most overarching model of Classic lowland Maya political organization is Marcus's (1993) archaic state model. Marcus attempts to construct a dynamic model which seeks to explain the cyclic build-up and breakdown of Maya polities through time and to account for the synchronic variation in polity scale and political centralization across the lowlands. In her model Marcus identifies the "province" as the basic, most stable political unit. Three types of provinces are identified and modeled after Roys' study of 16th-century Yucatan political organization (Roys 1943, 1957, 1965). Marcus describes the types as follows:

Type A:

> A centralized polity with a territorial ruler, *halach uinic*, who in addition to ruling the entire polity was the local ruler, *batab*, of the city, *hol cah*, where he lived. The *halach uinic* ruled a series of dependencies, *batabil*, administered by related *batab*.

The site hierarchy consisted of three levels: head town, town, and small town - *hol cah*, *cah*, and *chan cah* respectively. The *halach uinic* had right to exact tribute from all towns of his polity. Marcus suggests Type A polities correspond to maximal chiefdoms.

Type B:

Type B provinces had no overall territorial ruler. Rather, they were co-administrated by related *batabob* who were usually members of the same lineage. A web of kin ties linked the towns and provided cohesion. Presence of *cah* and *chan cah* represented a two tiered settlement hierarchy. Type B polities correspond to minimal chiefdoms.

Type C:

This type of province was administered by a loose affiliation of towns headed by unrelated *batabob*, each of whom controlled a set of smaller towns. These affiliated towns were independent because they were able to avoid incorporation into more powerful polities by being on the geographical outskirts. Type C provinces have too little hierarchy even to qualify as chiefdoms.

Marcus suggests that regional states were formed as a result of the unification of a number of A, B, and C type provinces. A four-tiered hierarchy of sites replaces a three-tiered settlement system and includes capitals - *noh cah* - such as the Postclassic site of Mayapan and Late Classic sites of Copan, Tikal, Calamul, Palenque, and, later, Yaxchilan. Capitals are identified based on size, site hierarchies, and emblem glyphs (Marcus 1983:466-468). Regional states lasted no more than 200 years until they broke down along provincial boundaries.

Archaeologically, Maya provinces are identified through settlement patterns. Cities provided services for a wide sustaining area while smaller sites were provincial centers. Using Central Place Theory Marcus found that secondary centers form hexagonal lattices of equidistantly spaced sites roughly 30 kilometers apart around cities. She produced a schematic of the political organization and used hexagons to denote the shape of each dependency or *batabil*. She contends that such a close match to the ideal model indicates

proof of the administrative hierarchy of Maya states.

Regional states and their hierarchical structure are evident in political titles (Table 3.2). Martin and Grube (n.d.) suggest the Classic glyph *yukom kun* translates as "unifier of seats/stations." This generic title was used for the kings of Calakmul, the capital of the largest and most aggressive Classic state. Martin and Grube propose this title de-personalized the office of kingship - *halach uinic* (Postclassic title) or *ahau* (Classic period glyph for king) - and

was a step toward creating an stable, bureaucratic position. Only one title, *cahal*, represents state rule at the provincial level (Houston 1993). This title, however, is found only in the western Peten states. C*ahals* were directly related to the paramount ruler and the position was inherited from father to son (Stuart 1989). Below provincial governor, there are no specific titles for state officials at the dependency level. It can be postulated *cahals* were the sole link between the state apparatus and the local power structure. If local *halach uinic* or *batab* were not deposed and replaced by a *cahal*, they would have taken a secondary role in provincial government. In either case, *cahal*s or local nobility

Table 3.2: Political titles

Title	Socio-political position
yukom kun	unifier of seats or stations, *kul ahau* (?)
halach uinic	king, emperor, great lord, *ahau* (noble lord)
batabob	lessor lords, appointed village chiefs, hereditary war captains
cahal	regional governor
ah cuch cabob	councilors or leaders of town or town segment, "they who bear the burden of the community"
ah holpopob	heads of important lineages or governors of independent towns
ah chun cahil	head of household

the suffix "ob" indicates a plural in Mayan

commanded considerable economic and political power, and, in time, either one was a source of support for the paramount rulers or a potential competitor for rulership.

The hierarchical bureaucracy of large Classic Maya states is also evident in the diversity of structures at prehistoric sites (de Montmollin 1989). De Montmollin found the political hierarchy most evident architecturally at capitals where political offices were clearly differentiated and had specific functions. Below state government, however, lower sections or provinces appear to have had a more pyramidal political structure suggested by a redundancy of civic architecture at large sites (1989:223).

Hierarchical verses pyramidal structure

Large states, such as those centered around Tikal or Calakmul, were hierarchical structured at the every top of the organization. Capitals are the seats of bureaucratic power. However, there is no evidence to suggest the Classic Maya paramount rulers reorganized provincial governments. Outside of the existence of a provincial governors in the western Peten and the four-tiered site hierarchy around large cities such as Tikal, Calakmul, Palenque and Copan, there appears to have been no specialized features or political offices indicative of region-wide hierarchical organization. At the provincial level, no administrative centers, store houses, or state religious centers can be found like those in the Inka empire (Hyslop 1990). Large volumes of tribute do not appear to have been stock-piled at provincial centers for state consumption or maintenance. Nor does their appear to have been a highly organized spread of state dogma, far-flung merchants, or economic prosperity indicative of political hegemony like the Aztec (Conrad and Demarest 1984). Rather, rulers of Maya state appears to have vested heavily in their capitals, the

ideological bases of their power, and in their home province. They appear not to have fundamentally changed the structure of subordinate governments. Like Houston (1992) and Freidel (1983), this dissertation suggests the Maya state bureaucracy utilized existing provincial power structures and attempted to integrate rulers of powerful provinces into the state by means of political favors and gifts much like the Inka (D'Altroy 1994, 1992; D'Altroy and Bishop 1990) and the Aztec (Carrasco 1982:33; Calnek 1982, Conrad and Demarest 1984) empires.

Marcus herself envisions Classic Maya provincial governments organized as a set of nested structures. The authority of *halach uinic* was the same as that of *batab*. The difference was that the *halach uinic* succeed in imposing control over a wider area. Outside the central Peten, much of the area was organized as galactic polities (Demarest 1992) or segmentary states (Ringle and Bey 1992). The organization of small polities is especially important to this dissertation since Xunantunich existed on the fringe of Peten and was not the center of a large, centrally organized state.

Provincial organization

The organization of segmentary states and galactic polities are based on information from African and Southeast Asian ethnohistories and ethnologies (Southall 1988, 1991; Tambiah 1976, 1977). Segmentary polities are organized along ideological lines with internal replication of socio-political offices rather than a bureaucratic hierarchy. Attempts to enhance centralization are made along personal lines. Ties between lords are forged by marriage alliances and the hereditary succession of provincial rulers. Because of the relatively decentralized nature of political control and authority, perennial struggles

between overlord and subordinates result in extreme fluidity of polity boundaries.

Political offices reoccurred across centers and towns within each dependency where nobles - *batabob* - claimed inherited social rights and status (Roys 1943, 1957, 1965). At every hierarchical level, *batabob* exercised their ideological power by controlling local manpower and tribute. Within regional polities, power was centered around the rule of a paramount *batab* or *halach uinic*. It was their social right, as semi-divine kings or *ahau*, to exact tribute from all the towns of their provinces. Territorial rulers used personal ties rather than a formal bureaucracy to administer their authority (Schele and Freidel 1990; Houston 1993). Below the *halach uinic* were local nobles, *batabob*, who mediated interaction between commoners and the *halach uinic*. The subordinate *batab* replicated the kingly model and formed loyal groups of their own within a province. Like *halach uinic*, the *batab* secured the loyalty of his supporters by giving gifts, assigning titles and providing access to land. As head of town government, the main duties of the *batab* was to see "that the houses were kept in repair and that agricultural operations were carried on properly; he judged criminal and civil cases; and he was the nominal head of the local warriors" (Roys 1957:6-7). As local leader, the *batab* determined the degree of political autonomy or confederation between towns (Roys 1957:7). Often, related *batabob* linked towns together and provided political cohesion; whereas unrelated *batabob* attempted to remain independent. In small provinces, *batabob* did not exact tribute and lacked real power in the ideological, political, or economic arenas.

Batabob presided over local councils composed of *ah cuch cabob* who were the heads

of wards or the elders from each patrilineages - much like the modern Maya town councils (Hopkins 1988; Bunzel 1952). McAnany states that *ah cuch cabob* were powerful, rich men who had access to land community labor because they were the heads of first founding lineages (1995:92). As lineage leaders, *ah cuch cabob* had their own power bases and acted as the *batabobs'* chief executive officers (Coe 1965:103) responsible for amassing tribute from lineage members (McAnany 1995:117). *Ah cuch cab* promoted their lineages by organizing members for public service, banquets, festivals and war. Their designated leader was the *holpop*, "head of the mat", who oversaw political and ritual activities in the council house and was responsible for sponsoring the four principle New Year ceremonies -- *Uayeb* (Roys 1957). According to Roys, a local council could limit the power of the *batabob* by influencing and altering his decisions. In less politically centralized provinces, *batabob* lacked real control over economic and many socio-political activities, which were actually organized at a lineage level by *ah cuch cabob*.

Spread-out across the landscape were settlements much smaller than towns. Small towns - *chan cah* -, very small towns - *chanchan cah* -, and hamlets - *pet cah* - consisted of localized, intermarrying patrilineages clustered together for social and economic benefits and security. Small town authority was likely delegated to a council of *ah cuch cabob*. The council and *ah chun cahil*, heads of households, organized and supervised agrarian and commodity production at the community level (McAnany 1995:118). Their integration into the larger political group was most likely along kin-lines as members of a patriclan.

Integration

Integration, in general, between Maya groups is considered more mechanical than organic (de Montmollin 1989:205). De Montmollin suggests that Maya groups were essentially economically independent with limited exchange and not much craft specialization. Extensive research on lithic and ceramic craft-specialization suggest Maya economies were integrated on the local rather than regional or interregional level (Rice 1987a). Large civic-ceremonial centers were not the location of craft production, storage, or markets. Instead, craft-specialization is characterized as non-urban and geographically dispersed -- the pattern of village specialization found in highland Maya groups today (C. Smith 1976). Rice concludes that the Classic Maya had neither a hierarchically organized market system nor an economy based on centrally administered production and exchange of utilitarian goods (1987a:77). In conjunction with mechanical solidarity, Adams (1977) suggests integration based primarily upon low-level commodity exchange and redistributive mechanisms regulated by kin relations.

Maya archaeologists suggest fluctuations in political scale, centralization, integration are anchored in the tropical environment which creates a dispersed population and relatively unstable political landscape (Blanton et al. 1981; Kowalewski and Finsten 1983; Feinman et al. 1984; Feinman 1986). The brittleness of segmentary lineages also tends to create unstable group relations (de Montmollin 1989; Fox 1987). Gift-giving and feasting by charismatic political leaders at all governmental levels were important political strategies for consolidating group members and attracting new allies.

Factional competition

The redundancy of Maya social organization and the impressive rewards of political

power fueled factional competition during the Classic period. The most obvious evidence of the struggle for social power at the state level is the build up of regional polities and their propensity to change or "collapse" under political and economic stress. Neighboring polities and competing elite lineages provided both external and internal sources of competition. As Marcus's model suggests, provinces were the most stable political units and their borders formed the "cleavage planes" along which kingdoms or regional states were likely to split (1993:121). Elite competition, therefore, is best viewed at the provincial level where alliances and political contests were played out.

Early in the Late Classic, alliance building was common between regional and provincial centers and usually was reflected in royal marriages (Grube 1995). After A.D. 712, however, public inscriptions indicate a rise in warfare which peaked between A.D. 790 and 810. Most archaeologists confirm that warfare was endemic between centers at this time (Conrad and Demarest 1984; Freidel 1986; Pohl and Pohl 1994). In most instances, victors did not assume rulership of the defeated center; rather, they attempted to siphon off labor, prestige goods, and sacrificial victims in order to reinforce their own prestige and maintain their political position at home. In addition, the victorious lords attempted to destroy the ideological power of a defeated ruler by desecrating sacred monuments, idols, and ancestral tombs (Pohl and Pohl 1994:147). Only rarely did victorious rulers assume direct authority over a defeated center and consolidate its provinces. Territorial expansion was limited to conquest states such as Tikal, Dos Pilas, and Caracol (Demarest 1992:144).

Internal rather than external conflict was the most common cause of state collapse

(Marcus 1993:134). Power struggles between competing royal families can be seen in the rapid succession of rulers who erected monuments documenting their genealogies and political achievements at sites such as Tikal and Yaxchilan (Pohl and Pohl 1994:149). Elite competition for rulership was fueled by the proliferation of royals from polygynous kings and frequent political marriages with distance allies. Polygynous marriages would have produced many offspring, each laying their claim to rulership. Rulers, such as Bird Jaguar at Yaxchilan, attempted to stabilize their power by placing blood relates as *cahals* at head towns within the state (Pohl and Pohl 1994:149). After solidifying their own constituencies, however, *cahals* often challenged paramount rulers for the control of the kingdoms.

As the Classic period came to a close, internal violence and external warfare resulted in the elimination of elite families (Grube 1995). The political vacuum left by these weakened dynasties encouraged subordinate elites to bid for power and break away from states. According to Grube (1995), after A.D. 810, smaller polities gained independence from larger states and political balkanization characterized the central Peten. In turn, these smaller polities, like Xunantunich, began erecting monuments proclaiming their political positions and began waging war or building alliances with other secondary centers. After A.D. 909, no new dynastic monuments were erected and the distribution of elaborate ritual goods all but ceased, signaling the final breakdown of Classic period, central lowland polities (Sharer 1994).

Among commoners, factional competition is presumed to have been less disruptive but no less present. Lineages and their members competed for rights to land, local

political authority, and favors from elites. As McAnany (1995) argues, by the Late Classic, quality agricultural land had become scarce, as evidenced by intensification techniques such as terracing and raised fields. Land scarcity existed not only because of population growth and dispersal among commoner lineages, but also because elites claimed larger and larger portions as their own (Pohl and Pohl 1994:154). Elites monopolization of the best lands aggravated existing land shortages and caused conflicts within families, lineages, and polities.

During the Terminal Classic, the loss of elite superstructure would have destabilized political relations and the power of the authorities needed to mediate conflicts. Commoner concerns over community security and personal safety would have been heightened. Archaeologists document that those groups living in dispersed or isolated locations abandoned large areas and moved closer to regional centers (Sabloff 1973; Tourtellot 1988; Ashmore et al. 1994). The remaining elite would have attempted to consolidate the populace through feasting, gift-giving, and providing increased security against land grabs and raiding.

3.4 The Role of Wealth in Classic Maya Society

Maya elite and commoner leaders alike, performed rituals, exchanged gifts and sponsored feasts to integrate group members, attract allies, and promote their political agendas. Public displays of food and gifts were an integral part of these strategies. The following section will focus on how wealth, measured by pottery, was used as a political resource for Maya leaders.

Displays of status

Among the Classic Maya, political office and social status were tied to lineage rank and connection to deified ancestors. Ritual and public art documented ties to deities, venerated ancestors. Specific lineages thus legitimized social authority and rights of the leaders or head men. Tate (1992:31) suggests that public displays generated obedience and loyalty to leaders who, as the representatives of deities, assumed their identities and performed rituals for good the group. The ability to invoke and communicate with ancestors or gods assured the continuity of the Maya cosmos and maintained the necessities of life. Ritual and public art were, in fact, petitions to the gods for success. As public statements of social relations they were an education in history and ideology, reinforcing common knowledge concerning social status and power. Competition for power escalated ritual, especially those tied to ancestor worship, and public displays of status which became political contests in their own right.

Recent analyses indicate that ancestor worship was the fundamental basis of Maya state religion during the Late and Post Classic periods (Leventhal 1983, McAnany 1995). Leventhal contends that ancestor worship - the practices and rituals surrounding apical lineage ancestors - is the center point of Maya state religion (1983). He suggests that ancestors of the ruling families gradually were deified and became the center of polity worship. Ceremonies dedicated to deified ancestors were performed atop temple structures which were the elaborated residential complex of the original first family. The remodeling of old temples and the construction of new ones for each ruler within the noble dynasty was a constant activity within the core of civic centers. These

monuments shaped and defined large Maya sites. Patron deities were worshipped not only by the royal lineage but by other lineages who also worshipped their own specific ancestors. Through time, ancestor worship led to the proliferation of deities which had specific regional and temporal importance.

Ancestor worship assumes political importance since authority, property and wealth are passed down from generation to generation along specific family lines (McAnany 1995). Documentation of personal links to these ancestors were therefore critical in the transference of social power. Rituals associated with ancestors and ancestral places were the traditional method of establishing a genealogy and of transferring of social rights. Rituals thus shaped competition within, and the unity of, lineage members (McAnany 1995).

For each patrilineage, important individuals, along with ceremonial caches, were entombed within residential platform, under adjacent patio spaces, or within shrine platforms that acted as domestic mausoleums. Ancestral shrines, small 2 - 3 meter high pyramidal platforms, found in many large, corporate residences were the central focus of ancestor rituals (Leventhal 1983). Ancestral shrines are better furnished burials than those located in small platforms and are a clear signs of social status (Welsh 1988).

Protracted ceremonies and burial rites were performed when particularly important and influential members of a lineage died; subsequent commemorations are also well documented ethnohistorically (Tozzer 1941) and archaeologically (McAnany 1995:12). Feasting, gift-giving, processionals, and dedicatory rituals sponsored by lineage

members honored the dead.

Bishop Diego de Landa stated that all households gave feasts when they "celebrated the memory of the deeds of their ancestors" (Tozzer 1941:91). McAnany contends that Maya leaders amassed vessels during festivals which were later buried with them as a chronicle of rituals attended and their prestige (1995:32). This accumulation not only marked the status of owner but documented the linkages between groups. The wide spread distribution of polychromes in both elite and non-elite burials indicates that most sectors of society participated in such competitive accumulations.

Feeding of the ancestors was the responsibly of women. Landa (1941:128) states that women were very devoted and practiced many acts of veneration before idols of their ancestors, including burning incense and giving gifts of cotton, food, and drink. Incensarios modeled in the likeness of specific deities (Tozzer 1941:110), *katun* lords (D. Chase 1985), or deified ancestors (Welsh 1988; McAnany 1995) created direct connections between individuals and the bases of their ideological power and authority. Recurrent commemorative events established long-term, public ties to ancestors and are evident archaeologically by disturbed burials. Burial items and bones were removed and new bodies and gifts were added (McAnany 1995). After the ceremonies, burials were resealed and often the overlying architecture was modified and elaborated (Haviland 1988:123).

Dedicatory and termination rituals celebrating pyramids as sacred lineage places or "mountains" originated in the Preclassic (Freidel and Schele 1989:242). Caches -- containing whole pottery vessels and lithic eccentrics -- were placed in pyramids, often

under axial staircases as dedicatory offerings to the gods. In the Classic period, royal temples also connected descendants to divine ancestors or places and caches were placed within these structures. Pottery vessels which were cached in temples were often lip to lip bowls holding offering or codex-style vessels (Schele 1990). According to Freidel and Schele, termination rituals did not involve the careful placement of whole vessels within the building, instead, ritual acts were destructive. Facades of buried buildings are often systematically and deliberately defaced, and large quantities of whole vessels are smashed, burnt and buried (Freidel and Schele 1989:239). Evidently, the transmission of power and authority which accompanied these events destroyed links with past ancestors or possible royal lineages. Pottery, associated with ritual contexts, used to prepare and serve ritual feasts, and as public displays of social status, can help identify leaders who perform such activities and clarify linkages between them and their supporters.

Exchange of wealth

The Classic Maya used a relatively small collection of durable items as exclusive status symbols and disposable wealth. Costumes worn by elites were covered with symbols reflecting the supernatural basis of their power (Sharer 1995, Anawalt 1980). The most critical display of status was the headdress shaped in the form of a composite animal representing an important supernatural being. The headdress was covered with jaguar skins, feathers, and carved jade and was surmounted by a panache of plumes which indicated the rank and social class of the wearer (Sharer 1995:481). Iridescent tail feathers of the Quetzal bird were reserved for the panache of the ruler (Sharer 1995:481) and the

carved jade Jester God head band symbolized divine kingship (Freidel and Schele 1988). Other dangling personal adornments such as nose, ear, and lip plugs, waist belts adorned with *ahau* jade masks, jade plaques and pectorals, also displayed status and privilege. These exclusive status symbols were exchanged by elites across long distance trade networks and were critical in the legitimization of their status (Sabloff 1986). Webb, however, indicates that evidence of these wealth items is scanty since they were perishable or exchanged in relatively small quantities (Webb 1973:392). Luxury ceramics, however, are a more durable, ubiquitous, and portable wealth item capable of documenting long-distance, regional, and local exchange networks. Pottery, therefore, is a more reliable indicator of the role wealth plays in elite gift-exchange and is also useful in examining wealth exchange among less privileged groups.

Elaborately painted or carved ceramics, especially "codex-style" vessels were symbols of social status and widely gifted between elites (A. Chase 1985). Figural scenes and hieroglyphic text on ceramics focused on a select group of topics: natural environment, historical scenes, and supernatural beings and events (Reents-Budet 1995). As portable, public art, figural scenes display sacred rituals or contexts often linked to a specific god, ancestor, or event - either historic or mythical. Recent analysis suggest that some of vessels may have been painted for a specific ceremony and used by an individual during his/her lifetime (A. Chase 1985). Figural vessels were important vehicles for carrying information concerning individual achievements and genealogical pedigree. Display of these vessels documented ties with historical events, divine gods, or important ancestors. The Primary Standard Sequences (PSS) along the rim of some vessels are especially

powerful dedicatory statements which provide vessel name, function, owner, and sometimes artist or scribe, thus explicitly stating the relationship of the owner to the events illustrated (Mathews 1979:79). Figural ceramics were mechanisms for documenting history and status and critical in maintaining and expanding political and ideological power among the Classic Maya.

Figural vessels were produced in a limited number of centers and probably regionally exchanged by paramount elites. Compositional analyses have located the general production loci for three major luxury wares: the Usumacinta river basin, the northwest corner of Guatemala, and the Holmul area of Guatemala (Bishop et al. 1983; Bishop 1992; Bishop, Harbottle and Sayre 1982; Bishop and Rands 1982; Bishop, Rands and Holley 1982). Their presence outside central Guatemala thus indicates long-distance exchange and social connections with Peten states.

Tourtellot and Sabloff (1972) have shown that the bulk of these figural or glyphic polychromes occur in burials usually found in elite structures such as temples and palaces. Adams (1968, 1977) suggests that regional elites gifted vessels as funeral commemoration for their kinsmen. It has also been shown that royal families obtained pictorial ceramics through intermarriage between regional elite (Marcus 1973, 1976, 1983). However, their presence within a wide range of household and funerary contexts (Brumfiel 1987, A. Chase 1985, Hansen, Bishop and Fahsen 1991, R E Fry 1979) indicates that these items were also used as disposable wealth and circulated as gifts or rewards from elites.

Trade and exchange of locally produced pottery is much less studied. Distributional analyses have shown that local luxury styles were produced by part-time specialists

residing in villages (Fry 1979; Fry and Cox 1974; Rice 1987a). At large centers such as Tikal and Palenque, serving plates and vases do exhibit, somewhat, distribution fall-off curves interpreted as typical of exchange within a complex market system (Fry 1980, Fry and Cox 1974) or elite redistribution (Rice 1987a). Luxury pottery production was restricted to censers, lip to lip vessels, simple polychrome vessels, whistles, and figurines. Their production was found to be scattered across the sites (Becker 1973, Fry 1980). Rice suggests luxury pottery was redistributed locally through kin relations (1987a:77). Initially, luxury pottery was given to the heads of kin groups as tribute or payment; they, in turn, circulated them for still other goods and services. The exchange of local luxury pottery reinforced lineage members or loyalty of elite clients. Their distribution can be used to interpret patterns of interaction between, and among, local elite and commoner factions.

Feasting

In the 16th-century, Landa (Tozzer 1941:151-169) observed that all festivals involved gifts of sacred good to the gods and large-scale celebratory feasting and drinking (Table 3.3). The Maya had two ways of celebrating feasts: non-reciprocating family-based feasts that celebrated life-cycle passages and competitive events sponsored by nobles and principal people where gifts of cloth and polychrome pottery accompanied lavish feasts of roasted fowl, bread and cacao" (Tozzer 1941:91). Non-reciprocating household rituals centered around three personal aspects. First, there were ceremonies to gods that controlled rain, bees, plants, or animals which provided the economic livelihood of the group, such as those sponsored by cacao growers or hunters. The Maya

had feasts to appease the gods on account of the blood which they had spilled during their hunts or for the honey they reaped from bees. Second, there were ceremonies directed toward gods or ancestors specifically associated with lineages or families. *Yolob u dzab kam yax* celebrated specific gods and conducted rituals that make children

Table 3.3: Yucatec Maya rituals and food-related activities in the 16-century*

Ritual	Purpose	Sponsor	Pottery related activities
Uayeb	New Year	Holpop	**Offerings of food and drink**
"New year"	New Year	Everyone	**Disposition of vessels**
Pocam	For the god Itzamna	Lord or priest	**Offerings of food and drink**
Ihcil Ix Chel	For goddess Ix Chel	Hunters/fishermen including lords	**Offerings of food and drink**
possibly U Hanli Cab	For bee gods	Lords?	**Making and drinking balche Feasts**
Chic Kaban	Related to departure of Kukulcan	Lords and priests	**Feasts Gift giving Offerings of food and drink**
Yolob u dzab kam yax	In honor of all gods		**Feasts Food offerings**
	For bee gods	Bee keepers	**Food offerings**
	Consecration of idols		**Feasting**
Oc Na	For Chacs	Agriculturists	**Renovation of temple Renew clay idols**
	Appease animal gods	Hunters	**Feasts**
Tonalamatl	Every 260 or 65 days		**Movable feast**
Tupp Kak	Festival to Chacs, god of grains, Itzamna		**Feasts**
	To Ek Chuah, Chac & Hobnil	Cacao growers	**Offerings of food and drink**
Pacum Chac	Recompense the rain god - Chac	Lords	**Offerings of food and drink Gift giving Great feasts**
Sabacil Than	Recompense the rain god - Chac	Lesser lords	**Offerings of foods and drink Gift giving Great feasts**
	Katun endings		**Offerings and sacrifices to idols**

* compiled from Tozzer (1941)

"become skillful workmen in the professions of their fathers and mothers" (Tozzer 1941:159). Many of these rituals made specific lineage affiliations which publicly demonstrated ties to family rights and land. Third, there were public and private rituals for important life passages and to ensure personal health. Landa observed public rituals - *Pocam* and *Ihcil Ix Chel* - that were intended to drive away evil spirits and recommend remedies for ills. Conventionally, at the end of these rituals, participants "all ate the gifts and the food, which they had brought, and drank until they were sacks of wine" (Tozzer 1941:154).

The competitive nature of large-scale feasting in Postclassic society indicates that lavish displays of food and copious amounts of alcoholic beverages also were used by leaders to gain prestige, recruit followers, and influence allies. According to Landa, in the month of Pax, the Maya celebrated a festival called *Pacum Chac*, during which lords and priests of lesser villages joined those of more important towns to glorify the local *Nacom* - a title generally interpreted as war captain or natural lord (Tozzer 1941:164-5). Lesser lords bore the copal perfumed *Nacom* on a litter decorated with plumes in great pomp to a temple where they seated him and burned incense to him like he was an idol. For five days they danced, ate and drank, and sacrificed animals. When the ceremonies ended, they had a final great feast in the house of the paramount lord. When the lesser lords departed, the *Nacom* distributed quantities of incense and instructed them to honor the gods in their villages by sponsoring similar festivals which were called *Sabacil Than*. Feasting, therefore, was yet one more strategy for maintaining and strengthening the

political and ideological power of Classic period Maya elite.

After almost 500 years, Vogt, working in the modern district around Zinancantan, Chiapas, Mexico, documented Maya ceremonies with analogous rituals and activities (1976). Drinking, eating, processions, and food offerings are the "focal symbolic action" at modern, highland rituals (1976:34). For modern Maya, maize based gruels are sacred ritual food offered to the gods (Redfield and Villa Rojas 1934:38; Wisdom 1940:87). Chocolate, tamales, and tortillas are central to public feasts and are widely served to guests and honored officials (Bunzel 1952:44; Wisdom 1940:60). These foods presumably were sacred to the Classic Maya as well.

Hieroglyphic texts and illustrations on Classic period pottery vases indicate plates and dishes were used to serve tamales, vases were reserved for cacao, and small bowls held maize gruels and drinks (Houston, Stuart, and Taube 1989). Feasts centered around ancestor worship were located near shrines or burials (Redfield and Rojas 1934). Competitive elite feasting presumably was held near royal and subordinate elite residences. Public, community wide feasting associated with yearly festivals and patron deities would have been performed in the civic center. Since feasting is best identified in societies which have specialty foods, designated serving or drinking vessels, and distinct feasting locations. Feasting among Classic period Maya should be recognizable in the archaeological record.

Conclusion

Archaeological evidence of conspicuous consumption, exchange, and use of pottery is

indicative of the strategies used by social groups in their attempt to gain, maintain, and expand social power. Among Classic Maya groups, political integration is considered to have been relatively weak both horizontally, between factions of the same political rank and social standing, and vertically, among elite and their supporting populace. Social power rested in the worship of divine ancestors, an action which legitimized land holdings, authority, and social rights. In order to maintain and expand this power, wealth exchanges, feasting, and status displays were critical strategies. They legitimized socio-political status and aided in the formation of alliances and the enhancement of prestige. Pottery, such as modeled incensarios, figural vases, and service wares are robust indicators of these strategies in the Late and Terminal Classic.

The next chapter describes Xunantunich and its immediate hamlet, San Lorenzo, in order to places them within the model of Classic period socio-political organization. Xunantunich was a small, loosely integrated polity located on the eastern periphery of the central Peten states. The site was a provincial center probably aligned with the nearby state of Naranjo during the Late Classic period. As a survivor of the collapse the of Peten states, Xunantunich became an autochthonous regional center in the Upper Belize Valley. Subsequent chapters address the mechanisms involved in the competitive bids for power and the restructuring of Maya social and political organizations during the Terminal Classic.

Chapter 4: The Archaeological Setting: Xunantunich and the Nearby Hamlet, San Lorenzo

> "The site was first reported in literature by T. W. F. Gann under the name Mount Maloney, but Gann subsequently used the name Benque Viejo, and T. Maler published his account of the ruins under that name. Gann has also called the site Xunan Tunich. This, the Maya name used by the natives of Socotz, means "stone lady"" (J. E. S. Thompson 1940:1).

4.1 A Regional Perspective

Xunantunich sits atop a ridge above the Mopan river just east of the Guatemala - Belize border (Figure 4.1). From its ridge top vantage point, Xunantunich overlooks the nexus of political and geographical boundaries. Situated at the eastern edge of the karst plateau of the central Peten, it is less than 20 km away from the Classic Maya state of Naranjo. Xunantunich guards the western end of the Upper Belize Valley where the Mopan river falls onto the coastal plain and acts as a gateway to a mosaic of smaller polities. To the north and south are mountains. Caracol, one of largest Classic Maya states, is located 40 km to the south in the Maya mountains and the Rio Bravo polities lie the same distance across the Yalbac hills. This strategic location was a critical factor in the fluorescence of Xunantunich, its rise to regional power in the Late Classic II, and its survival into the Terminal Classic.

The rise of secondary polities such as Xunantunich in the latter part of the Late Classic reflects the fragmentation of archaic states and the balkanization of the political landscape (Grube 1995). The history of the site, therefore, is intertwined with the political affairs of the Peten states of Tikal, Naranjo, and Caracol. Based on archaeological and epigraphic data, Ashmore and Leventhal (1993) have pieced together

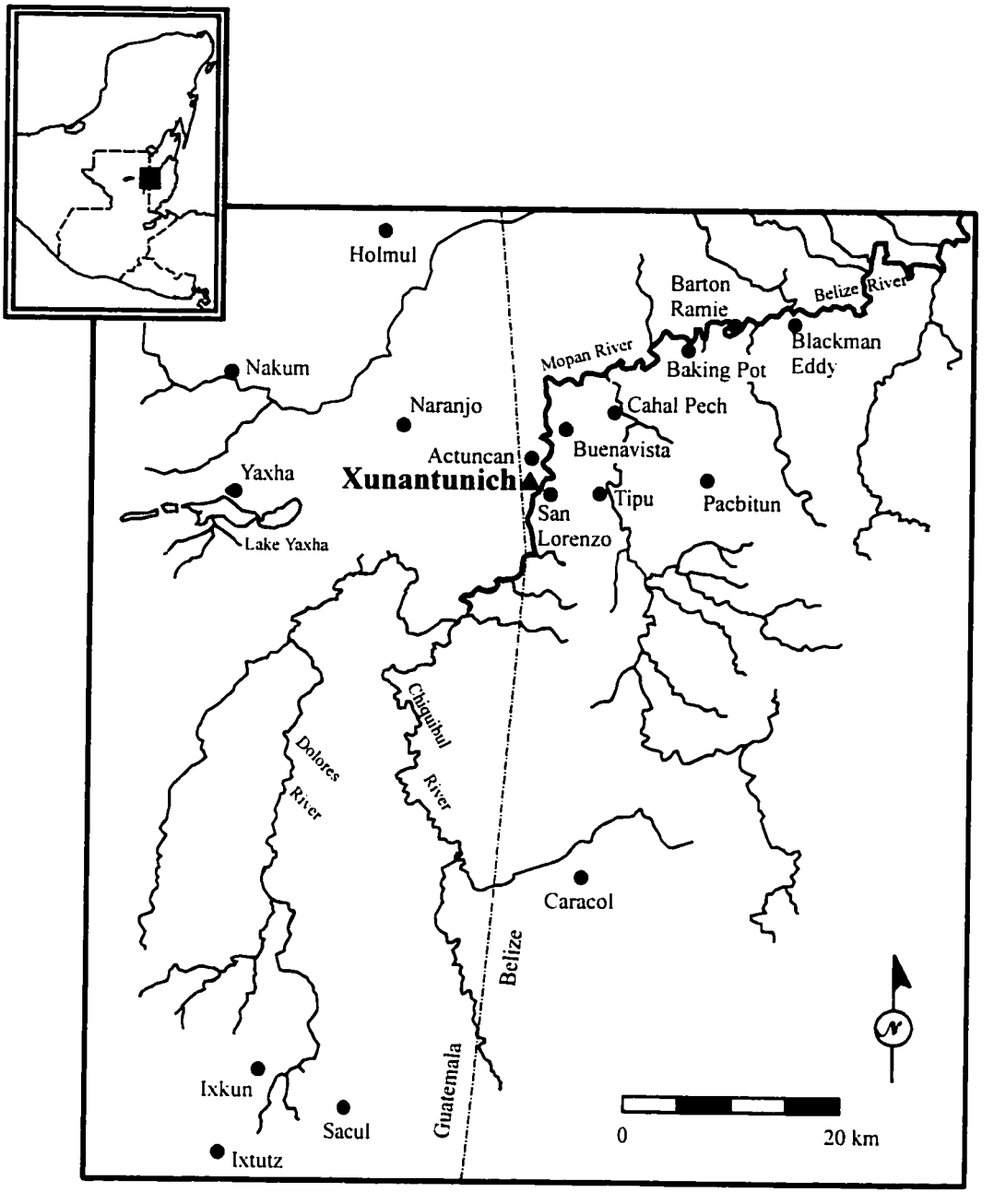


Figure 4.1: Large sites in the Upper Belize Valley.

a regional scenario which places Xunantunich within this larger political landscape.

The political history of Xunantunich

Throughout the Early and Late Classic periods, the Peten states of Tikal, Calakmul, and Caracol were involved in protracted political activities aimed at gaining influence and control of secondary provinces across the lowlands. Caracol defeated Tikal sometime around A.D. 557 to 562 and in the wake of a political vacuum, Naranjo began a building regime until A.D. 631 or 636, when Caracol conquered Naranjo as well. Calakmul, in the mean time, was involved in a series of far-flung alliances with polities surrounding Tikal, its primary rival. One such polity, Dos Pilas, was especially ambitious and in 682, its king, Ruler 1, conducted a series of local military campaigns and cultivated distant alliances in an attempt to challenge the re-structured state of Tikal. To consolidate his power, Ruler 1 arranged marriages between his daughters and local allies: one daughter, Lady *Wac Chanil Ahau*, was sent to Naranjo to marry an unnamed local lord. Six years later, *Butz'Tiliw* - Smoking Squirrel - was born, and his birth was celebrated as the revival of the royal lineage of Naranjo. At the age of 5, under the guidance of his mother and the tutelage of the Calakmul king, he succeeded to the throne and immediately began successful military campaigns against neighboring polities. The emblem glyph of the Naranjo state was revived - an action which marked its political independence from Caracol (Martin and Grube n.d). It was during his reign that the subordinate center, Buenavista del Cayo in the Upper Belize Valley, apparently peaked in development as a provincial center of Naranjo during the Late Classic I period. After the death of Smoking Squirrel in the mid 8th-century, no new monuments were erected

at Naranjo and construction at Buenavista ceased. Up valley, Xunantunich was most likely a small burgeoning town at this time.

By A.D. 780, Caracol's rulers had failed to erect stelae for nearly a century, and Tikal's ruling dynasty was increasingly in disarray. The power vacuum left by Tikal and Caracol allowed Naranjo to consolidate its resources and once again it began erecting stelae, adding 40 over the next 40 years. In A.D. 820, however, Naranjo halted civic construction for the last time. Ten years later, Xunantunich's earliest sculptured monument, Stela 8, was erected. Stela 8 has been interpreted as making an explicit textual reference to Naranjo (Ashmore and Leventhal 1993). All three of Xunantunich's sculptured stelae are stylistically linked to those at Naranjo, and the site layout has strong parallels with that of Naranjo (Ashmore 1995). Specifically, Ashmore notes similarity between the arrangement of Xunantunich's civic core and Naranjo's Group B, especially in regards to the strategic placement of stelae in front of massive, centrally located pyramids.

Ashmore and Leventhal (1993) propose that Xunantunich's florescence occurred in the period shortly after the decline of Naranjo and was directly stimulated by it. The site is interpreted as the head of an autochthonous polity with political and social ties to the weakened state of Naranjo. During the Late Classic II, Xunantunich was the last of a series of relatively small provincial capitals located in the Upper Belize Valley (Leventhal et al. 1992; Ashmore and Leventhal 1993; Willey, Bullard, Glass, and Gifford 1965). Ashmore and Leventhal construct three possible scenarios concerning who ruled Xunantunich. Kingship could have been vested in Naranjo royalty who fled

the former site and eradicated the local town *batab*. Alternatively, a collaborative, yet highly factional, government could have been constructed between local and Naranjo nobility. It is also possible that a suppressed local lineage independently created an autonomous polity after the fall of the Naranjo state. The distribution of wealth items, especially imported and locally produced luxury pottery, and patterns of ritual feasting should help clarify his question.

4.2 The site of Xunantunich

Architectural layout

Xunantunich is an architecturally impressive, yet relatively uncluttered, site (Figure 4.2). It is dominated visually by Structure A-6, also known as El Castillo, the main pyramid that rises 126 feet above the site and is a regional landmark visible throughout the Upper Belize Valley. The structure is composed of two flat-topped platforms, one on top the other, that form a terraced base. Atop this sub-structure, is a two story building consisting of a lower fourteen to eighteen room block, A-6 2nd, that acts as a base for an upper six room building, designed A-6 1st (Sanchez 1993). Around the top of A-6 2nd, the famous Late Classic plaster frieze adorns its walls and roof. The eastern frieze denotes acts of creation by displaying lunar signs, skybands, skybearer, and Venus/star symbols; in contrast, the epigraphy of the western frieze is associated with death, warfare, and ancestor worship (Fields 1994). Laterally, off either side of A-6 2nd, wing structures, A-5 and A-20, were built on the east and west portions of the sub-structure. This multi-platformed, multi-structured construction anchors the center point of the civic core.

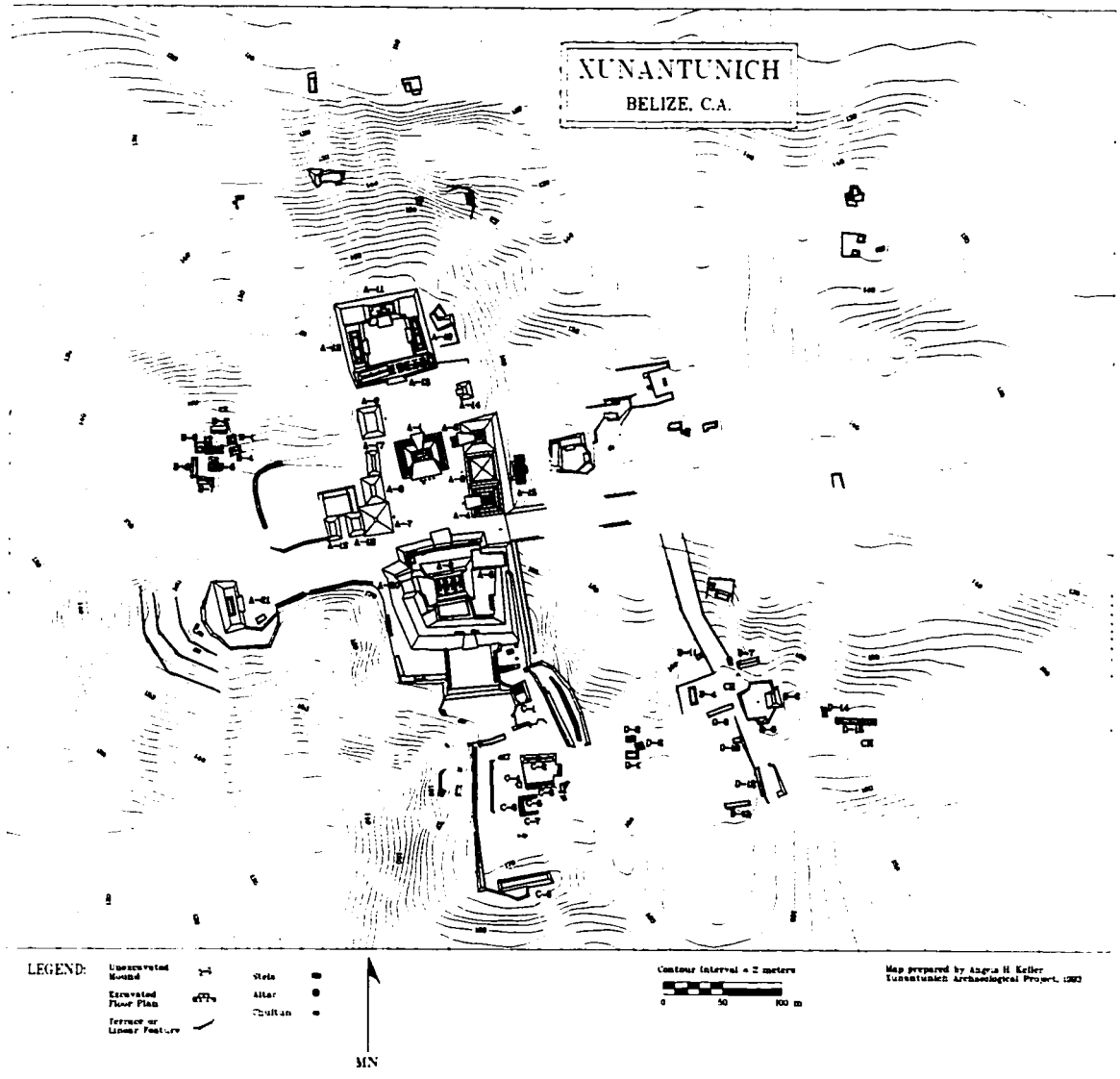


Figure 4.2: The site of Xunantunich

Defining the southern edge of the site is Group C - a terraced area containing non-residential linear platforms, low walls, and enclosed structures. Its proximity to Structure A-6 suggests that the district was a semi-public zone which may have functioned as a special events area. Attached to the southern face of the Castillo is a terraced courtyard possibly used as a staging area for ceremonies held atop El Castillo. To the north of Structure A-6, lies the heart of the ritual architecture. At the far northern edge of the ridge top, a semi-enclosed residential compound, is interpreted as the royal residence because of its northern location and architectural configuration. Between the royal residence and the Castillo lies Structure A-1, a late addition which separates the central zone into two plazas - Plazas A-I and A-II - surrounded by civic architecture. Along the eastern and western flanks of the plazas, range structures (A-2, 3, and 4, A-7 and A-8) and ball courts (A-17, 18, and 19) form the central axis of the cross-shaped civic center. Bisecting the central core are two sacbes or internal walkways. The western, parapeted sacbe links Structure A-21, a relatively isolated pyramid, to the civic center. Beyond Structure A-21, the ridge top falls sharply down slope to the Mopan river. The eastern sacbe links Group D, an elite residential corporate group and the Northeast district to the civic center. The Northeast district is an open area with low platforms, architectural features, and walls that functions to channel people into the architectural core by way of the royal residence (Keller 1995). Keller suggests that this public area may also have been the focus of intra-community activities such as markets.

Residential structures are not common. Other than the royal residence, there appear to be only two other zones of domestic architecture. To the southeast is the sprawling

Group D complex, an elite corporate group, linked to the site by way of a parapeted sacbe (Braswell 1993, 1994, 1995). To the northwest is Group B - a residential complex of 2 to 3 compounds situated around small plazas. The tight clustering of house mounds and the relative nearness to the royal residence, suggest that Group B may have been home to a group attached to the royal lineage in some social, military, or economic manner. There is, surprisingly, little else. The obvious lack of outlying low platforms and plazuela groups associated with the Late Classic occupation of the ridge top indicates the site developed rapidly and very late in the Classic period. However, approximately 800 meters down slope and east of Xunantunich's architecture core is a zone of large architecture consisting of two pyramids, a group of small platforms, and a single, very large low platform (Robin, Neff, Ehret, Walkey, and Gifford 1994). Given the predominance of Middle Preclassic sherds at this locale, this site may represent the architectural core of an earlier occupation.

Previous research

Previous archaeological research indicates Xunantunich rose rapidly to prominence between A.D. 700 to 950 from rather humble origins (MacKie 1961, 1985; Pendergast and Graham 1981; Satterthwaite 1951; Thompson 1940; Leventhal et al. 1992, 1993; LeCount 1994, 1995). Although the site has had a long history of investigations by a numerous researchers (see review by Pendergast and Graham 1981), very few have published reports supplying detailed information concerning building sequences and dates. The most systematic and best published are those excavations by Thompson (1940) and MacKie (1961, 1985). Their finds will be reviewed in order to establish the

diachronic development of the site.

Stratigraphic excavations conducted by J. E. S. Thompson began at the site in the late 1930's. Thompson's excavations focused on residential structures at Group B and resulted in a ceramic typology, seriation, and initial chronology for the site, then known as Benque Viejo (Table 1.1). His precise excavation methods, excellent analytical techniques, and fine publication gave subsequent researchers a framework for interpreting their data. In the 1970's, Gifford correlated Thompson's temporal diagnostics with his ceramic assemblages from Barton Ramie, and, with a series of C14 samples firmly established a chronology for the Upper Belize Valley (Gifford 1976; Willey et al. 1965).

Thompson apparently had problems locating ceramic assemblages earlier than the Benque Viejo III phase or the Late Classic period with which to correlate his already established San Jose sequence (1939). The earliest evidence of occupation came from samples he collected from somewhere in Group A and from previously collected samples stored at the Peabody Museum from A.M. Tozzer and R. E. Merwin's 1909 excavations in "Mound 1, southwest of Benque Viejo" (1940:8). These collections contained predominately Benque Viejo I (Middle Preclassic) sherds but were mixed with significant quantities of late diagnostics. An Early Classic component for the site was, in Thompson's own words, "precariously established" on the strength of three basal-flanged bowls sherds from the Peabody collection and four flanges from mixed late deposits in Group B (1940:9). The bulk of the collections was assigned to the Benque Viejo III and IV phases, now associated with the Late and Terminal Classic periods.

McKie's 1959-60 excavations focused on three areas, A-11 (the northern palace structure of the royal compound), A-15 (a palace structure to the east of Structure A-3), and a "hut mound" in the Northeast District (1960, 1985). Like Thompson, McKie also failed to find evidence of *in situ* architecture or substantial frequencies of pre-Late Classic ceramics in his excavations. Structure A-11 proved to be a four-roomed, vaulted masonry palace building standing on a similar building, which had been filled in and used as a base for the superseding structure. The upper building was erected and occupied in the Late Classic II period and contained pottery and fallen masonry on the floor. MacKie tested the lower building but did not date the construction, presumably because it lacked ceramics (1985:48). Structure A-15 proved to be a five room, vaulted masonry palace structure constructed and occupied in the Late Classic II, with later reoccupation in Terminal Classic period (1985:84). The "hut mound" appeared to be composed of trash and a compact surface with possible postholes (1985:50). MacKie interpreted the surface as a commoner residence; however, Keller suggested it may actually have been a public midden since it does not resemble other commoner residences found throughout the valley (Keller pers. communication 1995). The trash deposit associated with the "hut mound" was completely lacking in Terminal Classic pottery and is securely dated to the Late Classic II period.

Pendergast and Graham conducted limited investigations at Xunantunich in the early 1980's as part of a salvage excavation after Structure B-5 was found to have been damaged by looting (1981). Their investigations revealed Structure B-5 to be a simple stone-faced platform with a front staircase and unusual low extensions at its sides. Since

there was no evidence of standing architecture, the platform probably supported a perishable wood and thatch structure. The presence of a considerable quantity of sherds at the rear and south side of the platform, suggested that the building was a domestic structure. Ceramics from the building fill indicates it was built sometime in the Late Classic II period and occupied into the Terminal Classic.

Other excavations have been conducted on Structure A-13 (the front range structure of the royal compound), Structures A-2, A-4, A-7, and A-14 (pyramids), and Structure A-5 (palace structure) but no reports are available to added to our information concerning the development of the site.

The Xunantunich Archaeological Project

The Xunantunich Archaeological Project (XAP) began in 1991 as a collaborative project between Richard Leventhal (UCLA) and the Belize Department of Archaeology, under the direction of the Ministry of Tourism and Environment. Its purpose was to conduct systematic archaeological research at Xunantunich and to prepare and protect the site for tourism. Dr. Wendy Ashmore (University of Pennsylvania) joined the project in order to expand the research scope to include a regional perspective. The large, multi-faceted research program is currently undertaking numerous, wide-ranging investigations.

The site of Xunantunich is receiving the bulk of attention. Consolidation projects focus on the stabilization of civic pyramids (Zeleznik 1993; Leventhal 1994, 1995) and the preservation of the famous plaster frieze (Demas 1993; Fields 1993, 1994). Site mapping (Keller 1993; Walkey 1994), testing and excavation in the civic core (Jamison

1992; Sanchez 1993; Keller 1994, 1995; Robin 1994; Jamison and Wolff 1994; Lewis 1995; L. Neff 1995; Ethridge 1995) and residential Groups B and D (Braswell 1992, 1993, 1994; Chase 1992; Lewis 1995), and testing of immediate off-site areas (Robin, Neff, Ehert, Walkey, Gifford 1994) are being undertaken to understand the development of the site. Around the periphery of Xunantunich, the Xunantunich Settlement Survey (XSS) is conducting a local settlement survey and testing of select sites along transects (Yaeger 1992; Yaeger and Connell 1993; Ashmore, Connell, Ehert, Gifford, Neff, and VandenBosch 1994; VandenBosch 1992, 1993; Ashmore 1995; Ehert 1995). Extensive horizontal excavations at the communities of San Lorenzo (Chase 1992, 1993; Yaeger 1994, 1995) and Chaa Creek (Connell 1993, 1994, 1995) are aimed at understanding how surrounding sites were integrated into the Xunantunich polity. Lastly, mapping and excavation at the adjacent Preclassic center, Actuncan, has provided insights into the diachronic development of the Upper Belize Valley (McGovern 1992,1993, 1994).

This dissertation utilizes the collective data and knowledge of these projects which has supplied a wealth of accumulated information concerning the development and synchronic variation at Xunantunich and its immediate surroundings. The following sections briefly summarize our understanding, to date, of Xunantunich and its immediate neighboring site of San Lorenzo. After the descriptions, I will present a set of hypotheses concerning the role of pottery in elucidating strategies used by social factions as they competed for power in the Late and Terminal Classic.

The diachronic development of Xunantunich

Early occupation

Ceramic evidence points to an initial Middle Preclassic occupation and more limited utilization of the hilltop from the Late Preclassic through the Early Classic periods. Extensive testing and architectural clearing has yet to recover *in situ* architecture pre-dating A.D. 700. However, we do have hints as to where earlier constructions might have been located.

A clean Middle Preclassic deposit was located to the north of El Castillo (Op13D) where remains of a Middle Preclassic wall were found underneath the floor of Plaza A-I. The sheer quantity and general ubiquity of Middle Preclassic sherds in the fill of civic architecture (Structure A-1, Plaza A-I and A-II, and A-17) does argue for the presence of a moderately sized site occupying the hilltop during this time. Apparently, the Middle Preclassic architecture, however, was either totally razed for large construction projects beginning in the Late Classic I or buried beneath the massive Late Classic II buildings.

Late Preclassic through Early Classic sherds are even more scarce. Sierra Red, Flor Cream, medial flanged bowls, and other diagnostics associated with the Late Preclassic period are infrequently but, nonetheless, consistently recovered. Keller (1995) encountered the largest clean deposit of possible Proto-Classic sherds located in a chultun (underground storage pit) in the Northeast Complex. Likewise, basal flanges indicative of Early Classic occupation occurred systematically in the fill of sacbe I east of Group A (Op 97, 122), in Group D's central platform (D-8) and ancestor shrine D-6 (Operation 22 and 23), and within terrace fill to the east of El Castillo (Op 18A). The location of the Early Classic diagnostics may indicate an eastern focus for the location of early architecture, especially in regards to Structures A-2,3,4 and 6, and Group D. The

overall paucity of sherds dating to between 100 B C and A.D. 600 signals a reduced use of the hilltop between its initial founding and later florescence. The apparent hiatus of hilltop occupation at Xunantunich, as well as throughout the Valley, however, may indicate a lack of assemblage recognition rather than a real absence of settlement. Pottery diagnostics from the lengthy period between the Late Preclassic and Late Classic are poorly understood. Markers used to signal this period are based on a limited number of elite forms, such as basal flange bowls or styles, rather than the numerous widely recognized pastes, types, and forms of the Middle Preclassic and Late Classic assemblages.

Late Classic I

From A.D. 600 to 700, Buenavista (Ball and Taschik 1989) and other down-valley sites prospered. At Xunantunich, a total revamping of the civic center was initiated. Although single component Late Classic I (LCI) collections are extremely rare, the frequency of Late Classic I diagnostics increase sharply over Early Classic types. High frequencies of Late Classic I diagnostics are found within Group D's ancestor shrine (Op 23) and in the fill of the retaining wall east of A-6 (Op 18 A-F). Single component deposits are consistently found in a thin layer located below Late Classic II constructions, especially those east of the royal residence (Op 116F). Late Classic I diagnostics are also the latest sherds found in Plaza A-I and A-II floors and the lowest foundation of El Castillo suggesting an A.D. 600 to 700 date for the initial construction of the civic center. The ubiquity of Late Classic I diagnostics located in fill deposits directly above the sterile bedrock indicates substantial preparation of the natural surface

before civic construction occurred. In general, there is less than a half meter of fill between the modified bedrock and the plaza floor. Along the eastern edges, where the plaza was extended, the fill is slightly deeper but no more than 1 meter in depth. In general, the stratigraphy is shallow both in physical and temporal aspects. Unfortunately, the limited nature of primary Late Classic I deposits effectively constrains our knowledge of this transitional time and the assemblage associated with it.

Late Classic II

During the Late Classic II (LCII) period, major construction projects, both residential and civic, covered over, and most likely partially destroyed, all building associated with the early ridge top settlement. Although many buildings have not received substantial axial trenching, wall clearing and substructure testing indicate Late Classic II to have been a time of rapid building and frequent modification. Some buildings, such as Structure A-1, appear to have been constructed in a single construction episode.

Within the civic core, construction of A-6 2nd and its plaster frieze was completed sometime around A.D. 800 (Schmidt 1974; Sanchez 1993; Robin 1994; L. Neff 1995). Likewise, Structure A-1 appears to have been constructed at this time, effectively splitting the plaza into two distinct districts. Atop this pyramid, the superstructure platform received at least five episodes of modification during the 130 to 150 year span of the Late Classic II period (Zeleznik 1993). On the northwest corner of A-1, a third ballcourt composed of Structures A-17 and A-22 was partially subsumed by pyramid construction (Jamison and Wolff 1994). Ceramic analysis indicates the ballcourt pre-dates the pyramid and may have been constructed sometime shortly after A.D. 700.

Other public or administrative structures built at this time include the sacbes, grand stairways into the civic center, Structure A-15 (the entryway palace structure), the Northeast Complex (a public staging zone), and Group C (the semi-public district to the south of the Castillo). The large stepped pyramids, Structures A-3 and 4, which form part of the eastern boundary of central plazas, were cleared of overburden to define their facades but no substructure testing to date their construction (Jamison 1992; Jamison and Wolff 1994; Lewis 1995).

Terminal Classic

Shortly before A.D. 900, El Castillo underwent substantial modification. In the process of constructing A-6 1st, most rooms of A-6 2nd were filled to make this lower structure more stable for the addition of a new building (Schmidt 1974; Sanchez 1993; Robin 1994). On the north side, however, the bottom rooms were left open giving the top a two story appearance from the central plazas. Terminal Classic (TC) construction covered over the east, west, and northern plaster friezes, signaling a monumental break with the past and possibly the ruling lineage whose ancestors it exalted. Sometime after A. D. 900, the last architectural modification of A-20 was completed (L. Neff 1995). Columns graced the east-facing front of A-20 which faces toward the Castillo rather than outward toward the viewing public. On Structure A-1, the substructure platform received at least one replastering event (Zeleznik 1993).

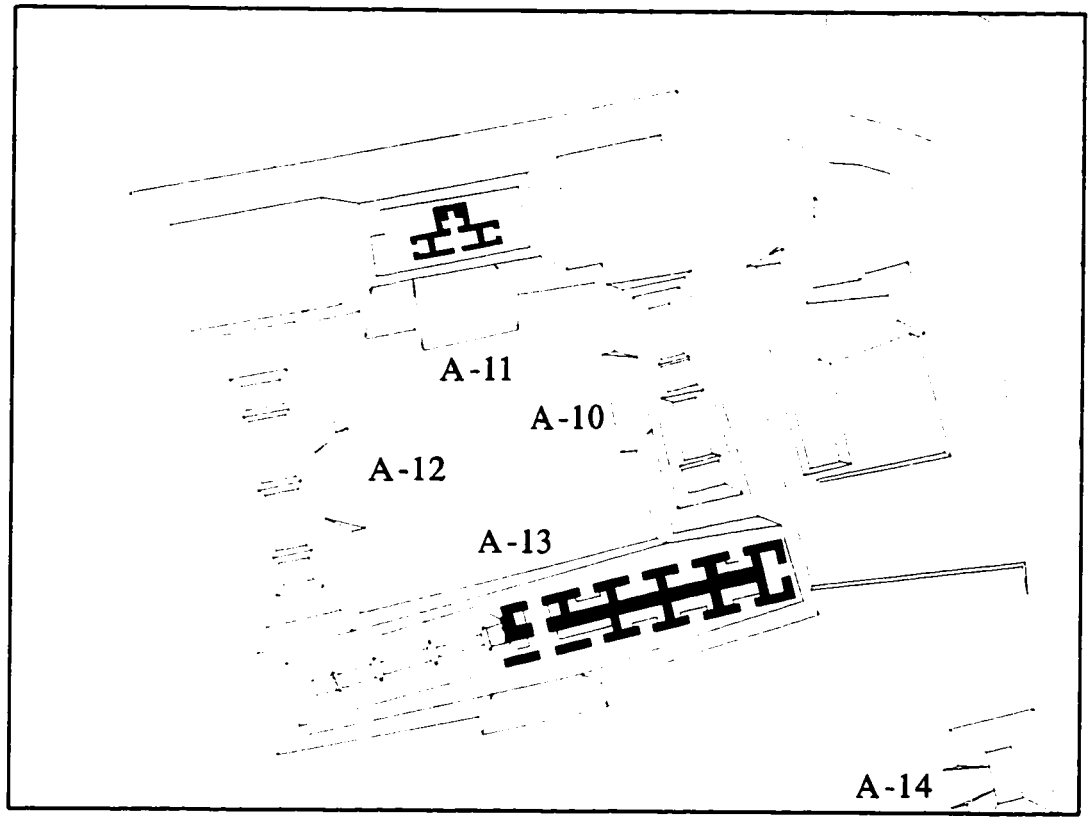
Despite these modifications, evidence of hardship looms large. Between Structures A-1 and A-3, a low wall physically closed off the eastern walkway between the two structures. The western ballcourt ideologically restricted movement along the western

edge of the civic center. Both constructions effectively restricted movement between Plazas I and II. The grand staircase to Plaza II was dismantled or vandalized sometime in the Terminal Classic, and the Northeast Complex fell into neglect (Keller 1995). In Group C, test excavations indicate no activity in the semi-public zone (Chase 1992). Excavations within the attached courtyard, however, encountered five episodes of trash dumping in a blocked off alleyway (Op 25 D-E). The trash scatters contained predominately McRae Impressed dishes and other ritual serving wares, thus supporting Leventhal's hypothesis that the area was used solely by ritualists in their preparations for ceremonies (Leventhal 1995). Apparently, the Castillo and Plaza A-I were still the location of public performances, ritual feasting, and food offerings during the Terminal Classic. However, Plaza A-II was cut-off from the rest of the civic core. Leventhal suggests that the northern portion of the site became non-public space guarded by an increasingly wary royal lineage.

Xunantunich Households

Three residential areas were excavated: Group A, Group B, and Group D. Detailed information will be provided concerning their construction history and development since households are the basis of this research. I must emphasize at this point that all excavations were conducted by crew members of XAP other than the author. I had no substantial input on site sampling, excavation strategies, nor data collection procedures. For detailed discussion of excavation strategies and results, I urge the reader to refer to the original field reports by the appropriate researcher.

The Royal Compound



PLAZA A-III

XAP 1995

0 10 25M

Figure 4.3: Royal residence at Group A, Xunantunich.

The royal compound is composed of four linear structures that enclosed Plaza A-III (Figure 4.3). MacKie (1961, 1985) suggested that A-11 was the actual royal residence given its northern most position and room arrangement. Structures A-10 and A-12 also may have been palace structures that functioned as the residences of the royal court. Structure A-13, a range structure with multiple small rooms fronting both Plaza A-II and A-III, probably served as an *audencia* to receive visitors.

Directly east of the royal compound is a set of three platforms and two terraces facing Plaza A-II (Figure 4.4). The group was the focus of XAP excavations because of the high density of ceramics encountered in trenching operations for the modern stela house and its direct association with the royal household (Jamison and Wolff 1994). The group's close proximity to the royal compound and its high volume of ceramics suggest that it may have functioned as a food preparation area for the royal residence and a service locale for events in Plaza A-II. Excavation operations focused on each structure and terrace (Table 4.1). A full listing of excavation lots, their cultural context, and temporal designations is found in Appendix 1.

Table 4.1: List of excavation operations from Structures A-23, A-24, and A-25

Operation	**Structure**	**General suboperation location**
116	A-23	Front eastern face of structure
		Stair case corners
		Substructure fill
		Terrace 1 occupation material
117	A-25	Platform top and all sides of structure platform
		Substructure fill
118	Terrace 2	Off terrace to north east
123	A-24	Platform top
		Terrace 1 and corner of Structures A-24 and A-23
		Alley way between A-12 and A-24

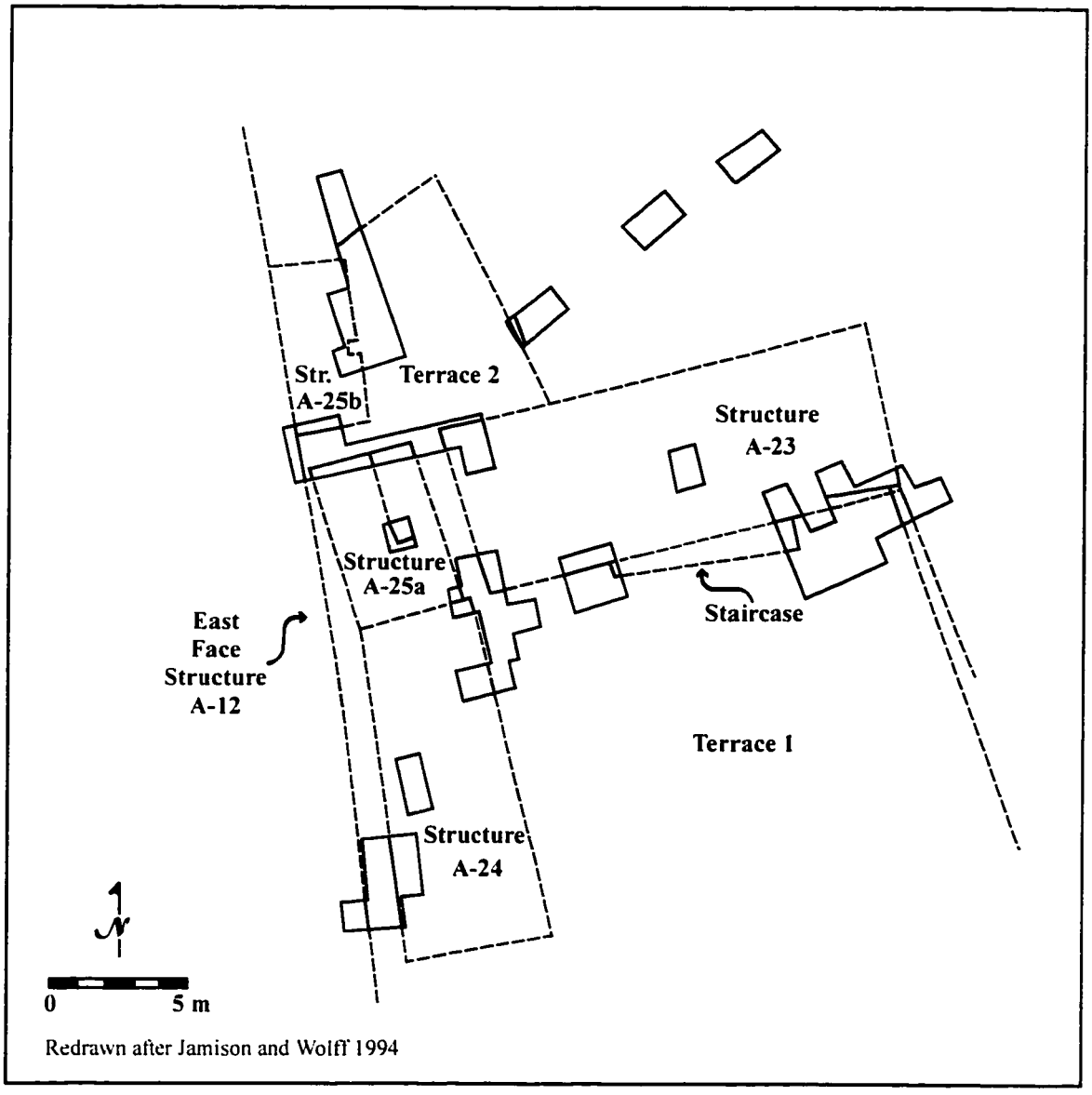


Figure 4.4: Excavations at Structures A-23 through A-25.

The southern most structure of the group is A-24 which parallels A-12 and is separated by a narrow alleyway. Structures A-24 and A-23 create an L-shaped platform with a staircase running down to Terrace 1. These structures face to the south and open onto Plaza A-II. Behind them is a smaller, more secluded platform - Structure A-25 - with a terrace - Terrace 2 - facing to the northeast away from the general public.

All structures were built in the Late Classic II period, although the largest platform, Structure A-23, may rest on a low Late Classic I foundation (Op 116J). Terminal Classic occupation is restricted to the front structure but its use is rather ephemeral with no evidence of facade modification or floor replastering. Combined with MacKie's work at Structure A-11, these data suggest that the royal residence and its supporting area were rapidly built after A.D. 700 and utilized for approximately 130 to 150 years. Terminal Classic occupation material is scanty in both the service area and the royal compound. At this time, Leventhal has yet to rule out total abandonment of the compound, since Plaza A-III appears well maintained and no trash accumulated on the plaza floor (Leventhal pers. com.).

Excavations yielded the greatest number and largest sized sherds found in midden context at Xunantunich. Midden was found in the alleyway between Structure A-24 and A-12 toward the front of the building (Op 123 A,C); on the northwest floor of Terrace 1 where Structures A-25, A-24, and A-23 converge to form a corner (123 D,F; 116 I, K-N); flanking the southern stairs of Structure A-23 (116 A-C, F,G); and strewn off Terrace 1 to the east (Op 116 D, E, H). The heavy accumulation indicates that the front of the group was used for public feasting, especially in the Late Classic II. In general,

the area contains substantially less trash associated with the Terminal Classic period. The reduction in activity indicates that the ruling nobility either limited their domestic activities or utilized the service area only for a short period.

Group B

Group B, located approximately 100 meters to the west of Group A, across a shallow ravine, is a discreet cluster of at seven mounds arranged around at least two small plazas (Figure 4.5). This group has been the focus of excavations by Thompson (1940), Pendergast and Graham (1981) and XAP (Etheridge 1995).

Thompson's excavations at Structure B-1 and B-3 revealed architecture and midden deposits associated with domestic residences (1940:2-4). Structure B-1 is a vaulted room sitting on a low platform, whereas, Structure B-3 is a large building consists of at least eight rooms, some of which contained vaulted ceilings and benches. The buildings were constructed in the Late Classic and occupied until the Terminal Classic.

Pendergast's and Graham's (1981) excavations at Structure B-5 revealed it to be a simple stone-faced platform with a front stair and unusual low extensions at the sides. There was no evidence of standing architecture; therefore, the platform probably supported a perishable wood and thatch structure typical of domestic structures. Ceramics from the fill of the building core indicate that it was built sometime in the Late Classic II period with occupation into the Terminal Classic. Pottery vessels associated with an axial cache and a richly adorned burial suggest that the inhabitants had considerable access to wealth items.

In 1991 preliminary testing by XAP in the saddle between Structure B-1 and B-2

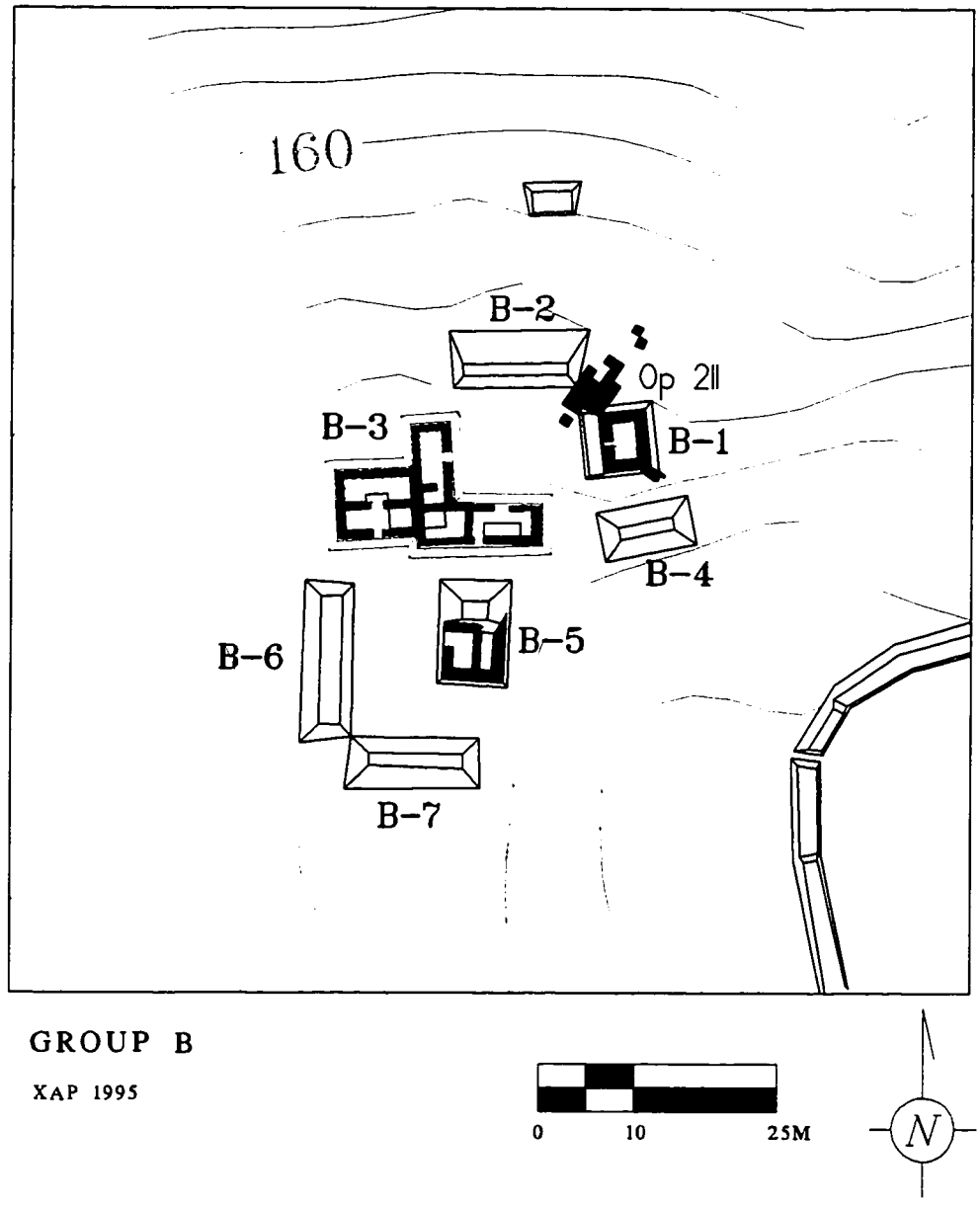


Figure 4.5: Group B and the location of Operation 211.

encountered a deep stratified deposit with abundant ceramics and a ritual cache containing a Belize Red Group tripod dish and incised cylinder vase. XAP returned to this location in 1994 in order to better understand the deposit (Ethridge 1995). A trench, measuring 4 x 7 meters, was placed across the saddle between the structures. It revealed the presence of a low platform with a series of fill and floor events spanning the Late Classic II and Terminal Classic periods. Midden, which had accumulated against retaining walls, was used as *in situ* construction fill. A plaster cap covered the fill and created a finished surface. During the Terminal Classic period, the platform was raised, a new floor added, and, later, a short wall was built perpendicular across the top. Across the last occupation surface, small deposits of Terminal Classic debris were found. Additionally, a Terminal Classic burial was encountered underneath the wall. The Late Classic II cache recovered in 1991 appears to be a dedicatory offering related to the initial construction of Structure B-2. The cache vessels were found underneath a single course of medium-sized stones. Above this wall, a large number of whole serving vessels had been stacked atop the low wall. The ritual dedicatory event predates the accumulation of the midden.

The socio-political status of Group B residents is difficult to interpret at this time. Architecturally, the group exhibits large block facades, and the presence of vaulted buildings suggest that a large amount of labor was invested in residential construction. The burial with pryrite dental inlays encountered in Structure B-5 and the carved cylinder vases found in the Structure B-2 dedicatory cache indicate considerable access to wealth. However, the small, tightly packed layout of the area and the lack of an

obvious ancestor shrine suggest a relatively transient group inhabiting the mounds. The elaborate architecture, substantial wealth, and the non-corporate nature of the site layout, suggest that Group B residences were attached to the royal residence in some economic manner. Comparison of artifactual data, including domestic items and luxury goods, may better clarify the social-political position of Group B residents within Xunantunich society.

Group D

Group D is a distinct group-focused patio cluster consisting of 14 mounds located around an artificial, raised central plaza (D-8) with an eastern pyramid. The 8 meter high pyramid, Structure D-6, is interpreted as an ancestor shrine because it supports a vaulted building and is fronted by a stela. The central plaza is oriented toward a second plain stela marking the formal entrance to group at the head of the sacbe. All other mounds appear to be low, flat topped platforms without stone superstructures.

A corporate group refers to a set of individuals who share descent but may also include individuals who are tied by marriage, patronage or work. Corporate groups, therefore, are larger than an extended family (Hayden and Cannon 1982; Fallers 1956; de Montmollin 1989). Members often do not share the same social status nor do they participate in the same economic activities, especially in an non-agrarian societies. Highland Maya corporate groups form when important resources are controlled by a few individuals, generally lineage heads (Hayden and Cannon 1982). Commonly, upper class families attract and support members who are dependent on them for access to land. Elite corporate groups are especially resilient during times of stress when such

groups disappear among the lower class (Hayden and Cannon 1982:151). Archaeologically, all corporate groups are defined by residential coherency and internal hierarchies (Hayden and Cannon 1982).

Braswell (1994) suggests that Group D exhibits corporate characteristics. The complex exhibits a settlement cluster with more than four residential structures - the average for extended household groups in the Maya area (Tourtellot 1988). Their dispersed arrangement argues for more than one extended family. Braswell suggests a minimum of four households surrounded the central platform (1993:69-70). I include a fifth household in Table 4.2. Diversification of economic strategies is also evident.

Table 4.2: List of Group D households

Households	**Structure numbers**
Household 1	Str. D-7, D-7 west
Household 2	Str. D-4, D-9
Household 3	Str. D-12, D-13
Household 4	Str. D-14, D-15
Household 5*	Str. D-1, D-2, D-3

from Braswell 1993
* LeCount's fifth household

Braswell argues that Group D was involved in the specialized lithic production of microdrills for shell working. Chert for the drills was mined at a quarry located at the southern edge of the site (Braswell 1995). The presence of elite architecture features - ancestor shrine, sacbe and stele - suggests Group D was an elite corporate group.

Braswell (1992, 1993, 1994) tested 13 of 16 platforms at Group D, as well as the northern sacbe, a chultun, and the vacant terrain to the southeast (Figure 4.6).

Operations are listed by location (Table 4.3) and Appendix 1 supplies a full listing of proveniences, cultural contexts, and phase designations.

The group was founded by the Early Classic period, if not earlier, based on ceramic

Table 4.3: List of excavation operations from Group D

Operation	Structure	General excavation location
137	D- 1	Off southwest corner
89	D- 4	Trench across top and west off platform
130	D- 5	Axial trench across top and both sides
74	D- 6 and 8	Pyramid front facade and central platform substructure
5	D- 8	Off central platform to the south
		Trench off northern end of platform
22	D- 7	Axial trench across building
		Off platform to the north, west, and south
23	D- 8	Central platform northern staircase
		Off western front of platform
20	D- 9	Axial trench, tests pits on all corners & along center line
103	D-10	Trench off northwest corner
104	D-10	Axial trench
81	D-12	Axial trench plus extensions along center front and back
105	D-13	Axial trench plus extension along center front
142	D-14	Off east and west platform sides
143	D-15	Axial trench
107	D-16	Horizontal excavation of entire small platform

analysis. Pottery samples taken from the ancestral shrine exhibit clear evidence of basal flange bowls and numerous waxy ware types. Early Classic diagnostics also are found consistently in fill levels in the central platform (D-8), in two long low platform to the south (D-13 and D-15), and in a test pit (Op 5 J) to the south of the central platform. Construction began in earnest, however, in the Late Classic. As at other parts of the site, single component, *in situ* Late Classic I deposits are extremely rare, but they have been

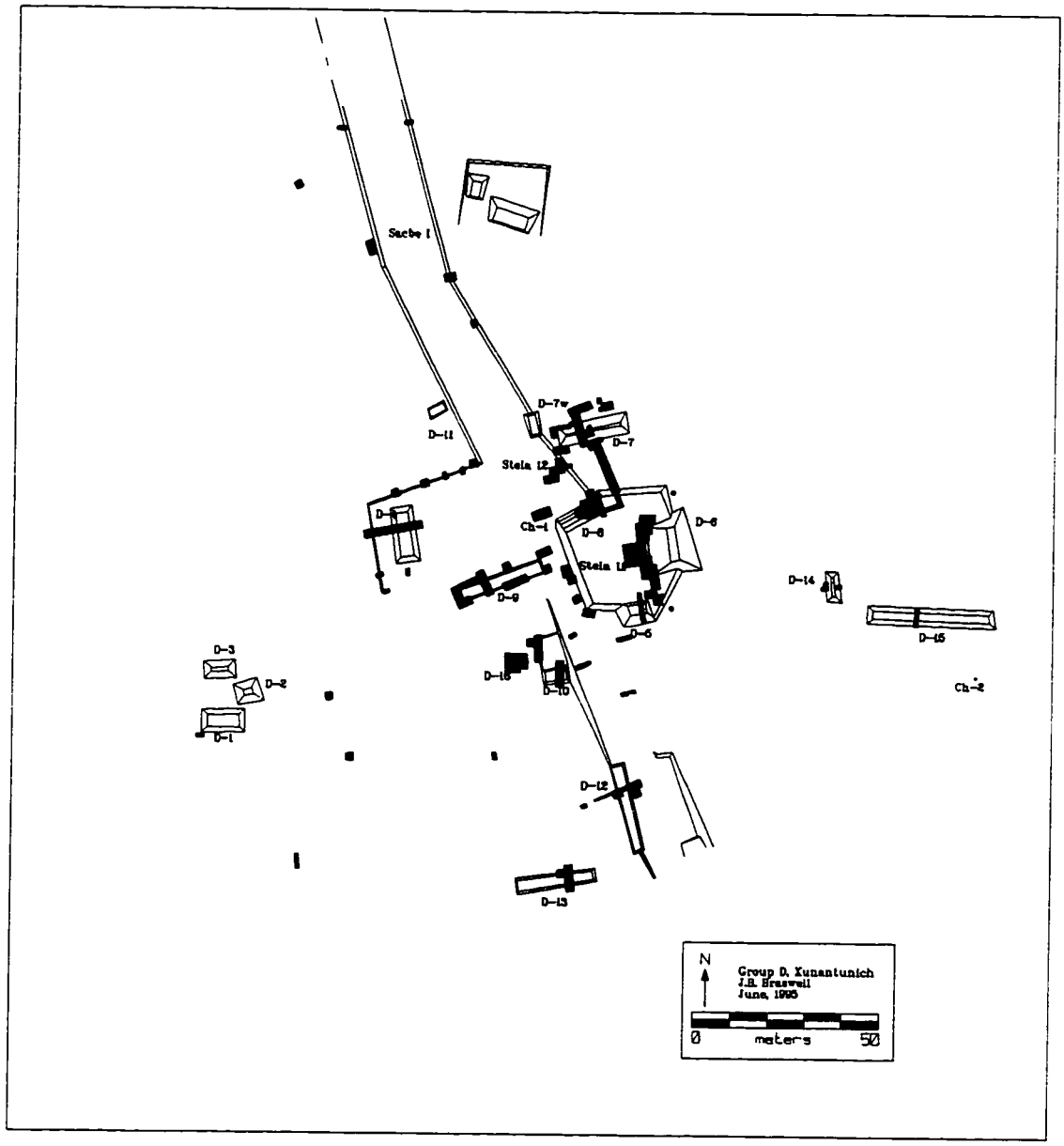


Figure 4.6: Excavations at Group D, an elite corporate group at Xunantunich.

found in Structure D-5 (Op 130H), a small mound anchoring the southern axis of the central platform. Its southern location indicates association with the underworld and ancestors (Ashmore 1989), possibly an important Late Classic I lineage head. High frequencies of Late Classic I diagnostics are also found in the same locations as Early Classic sherds, but, they are also encountered in two platforms to the south (D-10 and D-12). Early Classic occupation of Group D may have been focused toward an already existing central platform and incipient ancestral shrine with residences spread out to the south. The early date for the founding of Group D indicates that this elite corporate group had established residence on the hilltop before the royal residence was built.

During the Late Classic II period, all but two (D-4, D-9) of the eleven mounds tested were constructed or extensively modified. Even Structure D-7, a residential platform to the north, was probably constructed late in the Late Classic II (b) period, although in previous publications, I considered this building to be Terminal Classic in construction. The sacbe leading to the civic center was also constructed at this time, and Stela 12, located at the terminus of the sacbe, probably was erected concurrently. Thus, in the Late Classic II period, Group D shifted its orientation north toward the sacbe, giving the site a linear orientation. The construction of a sacbe, used for ritual precessions, indicates that Group D competed directed with the royal lineage for social power (Braswell 1995).

The high volume of construction at Group D depleted Late Classic II trash, making primary deposits extremely difficult to find. Some small trash deposits are found against and behind domestic platform walls at Structure D-1, D-5, D-7, and D-14 (Op 22 JJ; 130

A.G.J; 137A; 142A) and inside staircase corners of the ancestor shrine (74 ZZ). Further complicating the collection of an adequate Late Classic II sample is the poor preservation of sherds at Group D. Most sherds, even those buried under floors, exhibit little in the way of surface treatment; rather, they are uniformly gray, pocked with holes, and light weight. I have previously suggested this poor state of preservation to be due to water leaching (LeCount 1993). Like Xunantunich in general, Group D soils are shallow, sitting less than 50 cms above the limestone bedrock. The bulk of the soil was be formed by deposition of organic remains and the limestone bedrock, making the soils highly alkaline. The combination of alkaline soils and constant water percolation rapidly destroys sherds. Terminal Classic sherds found near the surface also face bioturbation, compounding the problem.

During the Terminal Classic period, new construction focused on the north and west areas of Group D. The central platform was expanded to the north and stairs constructed in the direction of the sacbe. Stela 11 was erected in front of the ancestral shrine (Braswell 1994). Three long, low, mounds, D-4, D-9, D-14 were constructed to the west and east of the central platform. Terminal Classic midden deposits are located near the corner of the staircase to the ancestral shrine (74O) and north of Structure D-7 (22 T,U) in front of the sacbe. A small termination ritual of burnt Terminal Classic Mount Maloney bowl fragments was found in a feature within the benched at D-7 (22Q/5-6). Four platforms, D-10,12,13,15, however, show little or no evidence of Terminal diagnostics and may have fallen into disuse. During the Terminal Classic, Group D residents continued to focus their activities in the northern portion of the complex but

limited their use of structures in the south. This pattern of diminished activity areas is similar to that found in the central core.

Elite competition at Xunantunich

Two elite groups resided at Xunantunich during the Late Classic II period: the royal lineage at Group A and the elite corporate group of Group D. Evidence of power struggles between the two groups comes from monumental constructions.

At Xunantunich, the rapid construction of massive residential and civic buildings, monumental art, and the erection of stelae indicates the royal lineage publicly announced its arrival as a regional power in the Late Classic II period. New civic construction and stela erection stopped after 10.1.0.0.0. or A.D. 849, however, and activity around the royal residence was greatly diminished. In fact, access to, and movement around, the civic center was restricted by walls and the dismantling of staircases. Ideological breaks with the past are seen in the covering over of the plaster frieze which depicted deified ancestors. Multiple lines of evidence, therefore, suggest the royal lineage either was severely threatened or had already vanished from the site by the Terminal Classic. If this lineage was socially and politically linked with Naranjo, the site's final collapse may have undermined the lineage's ideological and political power base. As a consequence, their rulership of the site during the Terminal Classic was either weakened or totally superseded.

Group D appears to have always been in direct competition for social power with the royal elite. The early date of residential and ritual constructions at Group D indicates its lineage pre-dated the arrival of royal family. If Group D was the preeminent lineage on

the hilltop, its leader may have been the local *batab* of the site. In the Late Classic II period, the construction of a sacbe that physically linked the residential group to the civic center may have been a direct assertion of their social status and power. Processions along sacbes were critical components of religious ceremonies (Freidel et al. 1993), but elites could also utilize them as backdrops for staging public rituals. Ritual processions by Group D elite could have proceed from their ancestral shrine along the sacbe to a dramatic entrance in front of the Castillo. The sacbe would also provided an effective thoroughfare for movement of tribute garnered from the local populace. During the Terminal Classic, when activity associated with the royal residence experienced marked decline, Group D embarked on a new campaign of construction, architectural modification, and stela erection. At this time, Group D was able to effectively challenge the royal lineage or directly assume leadership and social power.

4.3 The Sites of San Lorenzo

San Lorenzo is a spatially discrete settlement cluster (Chase 1992, 1993; Yaeger 1994, 1995) located approximately 1.5 kilometers northeast of Xunantunich (Figure 4.7). It lies immediately downhill and across the Rio Mopan from Xunantunich and is the nearest settlement of substantial size to the regional center. The series of small sites sits on a series of ancient alluvial terraces overlooking the river (Woods, Holley, and Dalan 1993). The rich floodplain at the base of these terraces is relatively free of habitation structures and Yaeger suggests it was one of the resources critical in determining the location of the community and the length of occupation there (1994, 1995). Soil studies conducted in the Belize Valley (Fedick 1995; Fedick and Ford 1990) suggest that fertile,

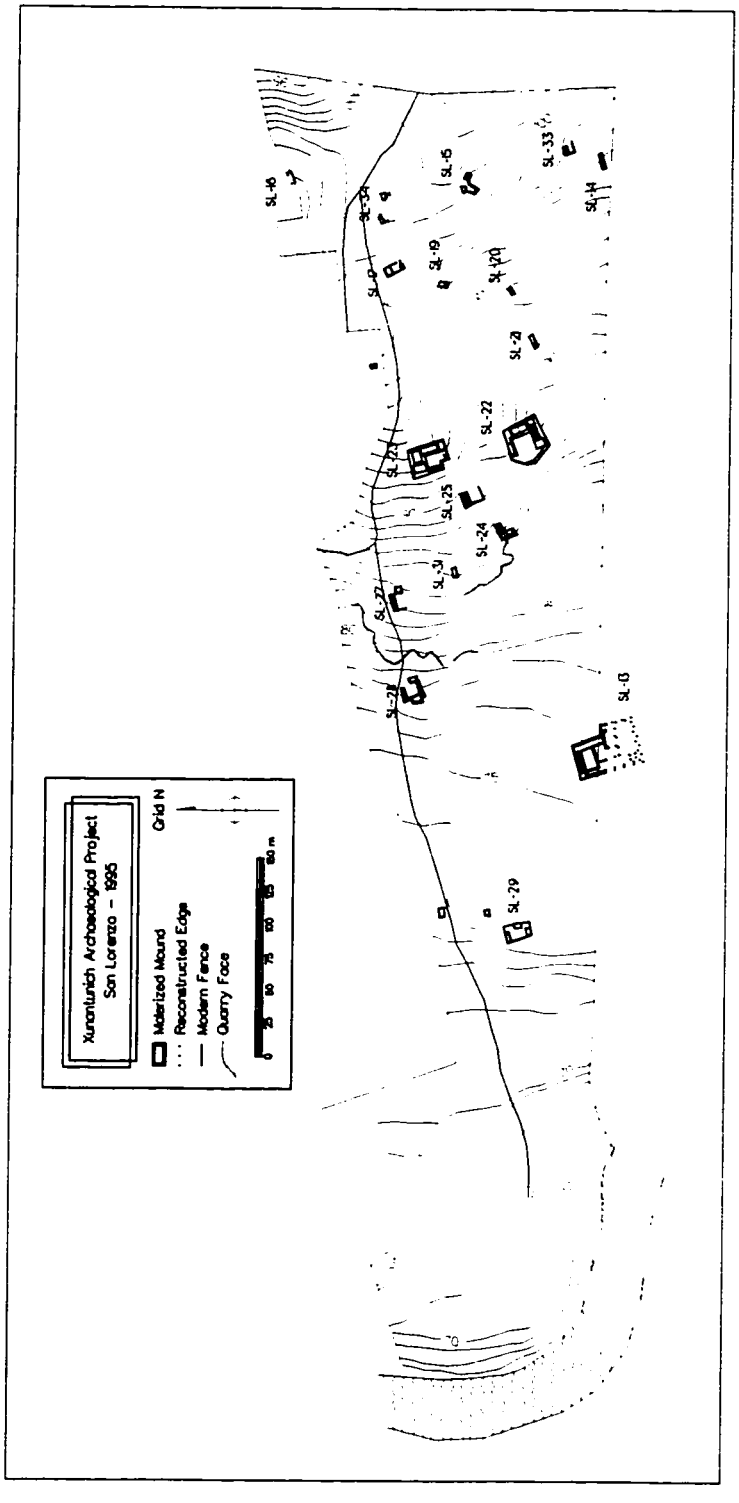


Figure 4.7: The hamlet of San Lorenzo

deep alluvial soils of valley bottoms such as those below San Lorenzo is prime agricultural land and highly suited for cacao cultivation (Muhs et al. 1985). Cacao was valuable commercial crop was traded throughout the Maya lowlands and may have been a source of wealth for residents of San Lorenzo. Fedick (1995:29) notes that residential architecture within the area is, on average, much larger and more elaborate than residential architecture elsewhere in the study area, suggesting San Lorenzo was a relatively well-off hamlet.

The hamlet is a cluster of eight mound groups and 13 isolated mounds with a fair degree of morphological variability within architectural categories. Yaeger's (Yaeger 1994,1995; Yaeger and LeCount 1995) working model for the social composition of the community is that it consisted of a group of related patrilineages not dissimilar to the *pet kahob* hamlets mentioned in colonial period documents (Marcus 1983) or that exist in many modern Maya communities (e.g. the *sna* of Zinacantan [Vogt 1976] or the *aldea* of Chiquimula [Wisdom 1940]). Variation in residential group morphology reflects community history and lineage status within the small community. Larger patio groups were homes to the descendants of the first families who established the community and had greater control over resources. As residences of the heads of long-established lineages, plazuelas represent families with the highest social status and authority with the community. Small patio groups and isolated mounds were the residences of new families related by affinal and consanguineal ties to these first families. Over time, gradual growth and fissioning processes related to the domestic developmental cycle created a community composed of several inter-marrying localized patrilineages where variation in size of

household and their location in the community can be linked to social status.

Excavations

No previous excavations have been conducted at San Lorenzo. XAP investigations, therefore, were designed to understand the development of the community and focus specifically on the synchronic variation between Late and Terminal Classic households in order to better understand integration within the community. Current research is centered around extensive horizontal excavations of a sample of San Lorenzo households (Yaeger 1995).

Chase initiated excavations at San Lorenzo at Site 22, one of the largest patio groups, to investigate length of occupation of the plazuela and the degree of architectural preservation (Chase 1992). A test pit (Op 70) was placed in the northeast quadrant of the courtyard to explore strata beneath the plaza and to expose deeply buried deposits which pertain to the early occupation of the area. The four meter deep pit revealed only 4 shallow lots of cultural material dating no earlier than the Late Classic period which overlaid graded clay strata. No evidence of substantial occupation before this period has been found in other deep geological excavations conducted by Woods and associates (Woods, Holley, and Dalan 1993) or in trenches into substructures (VandenBosch 1993) in the general area. A test pit (Op 71A, B) placed in the saddle between Structures 1 and 2, revealed a series of five floors spanning the Late to Terminal Classic periods and a Late Classic burial (Op 71C). This stratigraphic sequence became the basis for my microseriation of a common bowl type - Mount Maloney incurving bowls - and the frequency seriation of key temporal diagnostic pottery types (LeCount 1992). Test pits

(Op 72) were placed in the corners of the central staircase and along the western front of Structure 2 to determine construction type and degree of preservation. Excavations revealed shallow stratigraphy, fairly well-preserved architecture, and substantial cultural material lying on the plaza floor. Given the state of preservation, *in situ* occupation debris, and a relatively short occupation span, San Lorenzo became the center of XAP household research.

In 1993, research centered around establishing a firm classification scheme of architectural groups and understanding patterns of trash deposition (Chase 1993). Excavations at Site 22 were expanded to investigate the morphology of a single plazuela in order to guide test excavations at other sites (Figure 4.8). Extensive horizontal excavations were undertaken along the front facades (facing the plaza) of Structure 1 (Op 86) and Structure 2 (Op 85) and vertical excavations were undertaken behind and beside Structure 2 (Op 90). Refuse associated with the last occupational phase was found lying on the plaza floor along the building fronts and was especially concentrated beside the front staircase (Op 85 B,F,H) and in plaza corners (Op 85 J,O). Stratified deposits were found behind Structure 2 (Op 90G). Using this information, Chase tested nine other mounds, placing her units behind (up slope) buildings near corners (Op 95A-K). Data from test excavations were used by Yaeger to construct a mound typology and guide recent excavations.

Yaeger's mound typology is based on two variables which together account for a great deal of the formal variability in the community. The variables are 1) the presence or absence of a patio surface and 2) the number of basic social units, either house

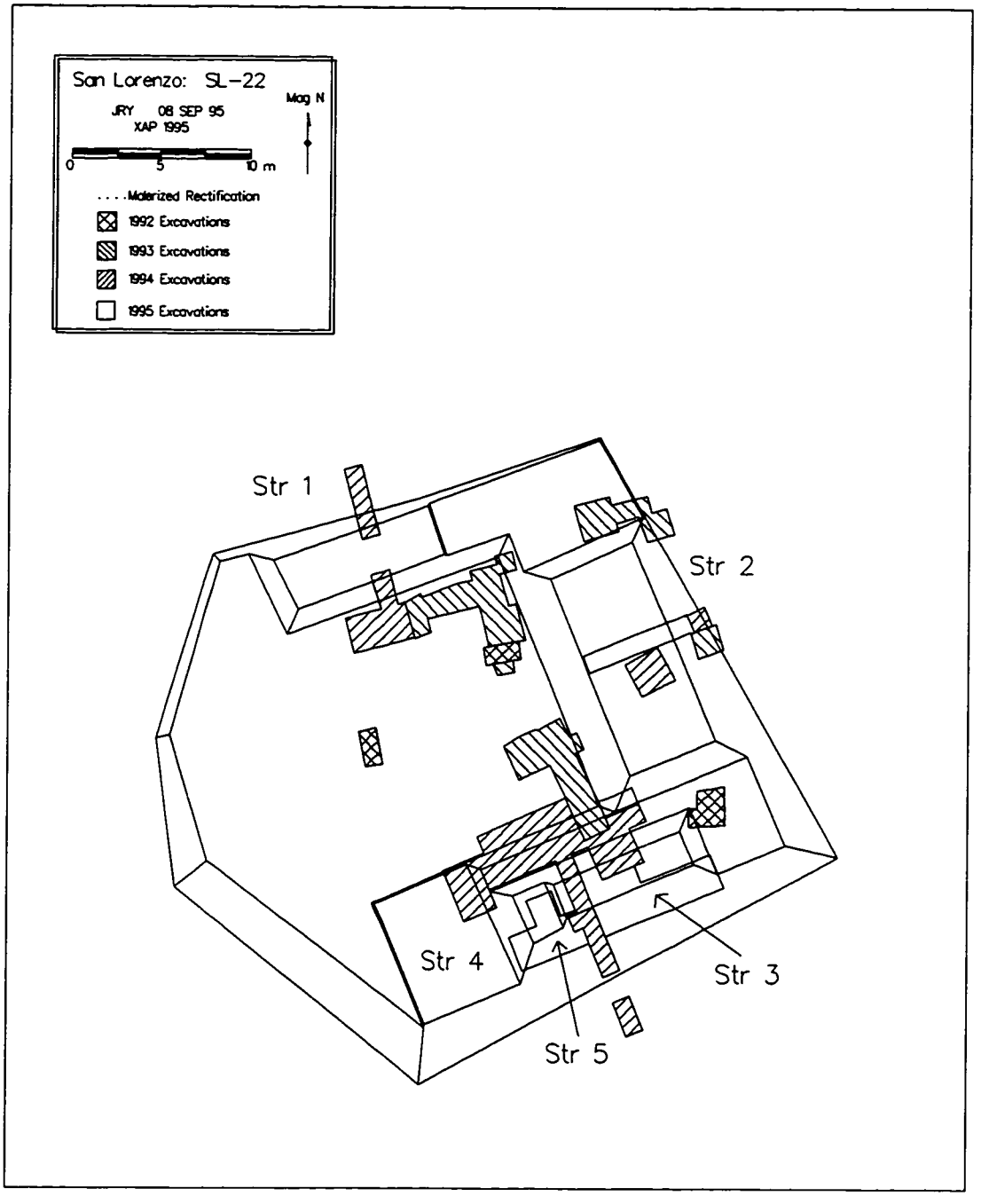


Figure 4.8: Excavations at San Lorenzo Site 22

mounds or patio-groups. This typology leads to a simple four-type classificatory scheme (Table 4.4). Using this typology, San Lorenzo is composed of 8 simple plazuelas groups(IA), 1 multiple plazuela group (IB), 10 isolated mounds (IIA), and 1 (IIB) mound cluster (Table 4.5). Classification of mounds may change after future excavations

Table 4.4: Architecture classification scheme for San Lorenzo mounds*

Type	Description
IA	Multiple mounds around a single patio
IB	Multiple patio groups
IIA	Isolated mound (more than 25 meters from another mound)
IIB	Multiple mounds without formal patio

* from Yaeger 1994

since buried structures or plazas which do not appear on the surface could change morphological designations. In addition, the settlement area may be re-defined with the addition or subtraction of groups. Presently, Yaeger excludes three sites - SL 13, 16, and 29 - from the settlement area (1995); therefore his type site totals are different than those listed in this dissertation.

Since 1994, excavations at San Lorenzo have focused on select plazuela groups and isolated mounds (Yaeger 1994, 1995). Horizontal stripping and limited vertical excavations in 1994 and 1995 were conducted at six sites: three simple plazuela groups - Sites 22, 24, and 25; one mound cluster - Site 34; and two single structures - Sites 20 and 31 (Yaeger 1994, 1995).

Sites 24 and 25 - smaller plazuelas - were partially excavated. Site 24, previously tested by Chase, received clearing along the front facade of the two structures (Op 146).

Excavations revealed a small plaza. At site 25, two test pits were placed in front of the major structure, revealing a low plaza and little evidence of a second structure to the west. Extensive excavations at multiple mound group, Site 34, revealed two low-lying structures situated in an L-shaped manner but not abutting each other (Op 212, 213). At Site 20, the small isolated mound was tested along the up slope side of the

Table 4.5: List of excavation operations at San Lorenzo from 1992-1995*

Site	Type	Sampling strategy	Operation numbers
13	IB	Tested	95H
14	IIA	None	
15	IA	None	
16	IIA	None	
17	IA	None	
18	IIA	None	
19	IIA	None	
20	IIA	Horizontal excavation	136
21	IIA	Test	95K
22	IA	Extensive excavation	71, 72, 73, 85, 86, 90, 110, 113, 129
23	IA	Tested	95A, 95B
24	IA	Tested, horizontal excavation	95C, 95D, 146
25	IIA	Horizontal excavation	139
27	IA	None	
28	IA	Tested	95F, 95J, 95L
29	IA	Tested	95E
31	IIA	Tested, horizontal excavation	95G, 138
32	IIA	None	
33	IIA	None	
34	IIB	Tested, horizontal excavation	95I, 212, 213

* adapted from Yaeger 1995

platform. Site 31, another isolated mound, was more fully excavated. Nearly, one half of the total area was horizontally stripped. Refer to Yaeger (1994, 1995) for detailed discussion of excavations and maps of excavation locations.

At Site 22, work continued to define major portions of the plazuela group. Structure 3, long neglected, received horizontal excavation across the front terraces and vertical excavations on top of the structure (Op 110). Excavations revealed that this structure was vaulted and contained a bench, making it the most elaborate building within the plazuela group. Extensive remodeling of the architecture occurred through the Late Classic and into the Terminal Classic period. Excavations on top of Structure 2 (Op 129) and Structure 3 (Op 113) indicated that these shorter structures most likely were flat-topped and would have supported perishable structures.

Commoner groups, integration, and competition

Ranking with commoner groups at San Lorenzo are derived from the size and layout of mounds. Yaeger and LeCount (1995) suggest that the largest patio groups were homes to the descendants of the first families. This model is borne out by ceramic analysis which indicates that the largest plazuelas - Sites 22, 23, 28 - have the earliest diagnostics dating to the initial founding of the community during the Early Classic period (Table 4.6). Site 13, another large plazuela, was only minimally investigated with a single test pit, and its lack of early ceramics is probably a result of limited sampling. Early Classic ceramics associated with Site 34, a set of small mounds located in the NE section of the community, may indicate re-use of midden material from other groups for fill, or possibly long-term occupation by poor relations of the founding families. Heads of the families associated with plazuelas would have been lineage leaders, *ah chun cahil*, and some of these men may have sat as council members, *ah cuch cabob*, for San Lorenzo and represented the community at Xunantunich.

Small patio groups and isolated mounds were the residences of new families related by affinal and consanguineal ties to these first families. Most of these mounds appear to have sprung up in Late Classic I and some as late as Late Classic II. These mounds were also the first to be abandoned in the Terminal Classic. Large, developmentally mature families remained at San Lorenzo during the political upheaval that was occurring at Xunantunich and other large sites around them. Their investment in homes and lands along the Mopan river were too critical to abandon rapidly. Small families, however, were the first to leave or possibly merge with related kin living in larger plazuelas.

Table 4.6: San Lorenzo site occupation chart*

Site	Early Classic	Late Classic I	Late Classic II	Terminal Classic
13			*	*
20			*	
22	*	*	*	*
23		*	*	*
24			*	*
25		*	*	
28	*			trace
29		*	*	
31		*	*	trace
34	*	*	*	trace

*based on LeCount's phase designation of lots (1992-1995)

Even without invoking fierce competition between lineage heads for land, labor, or political favors, lineage leaders looking for economic success and personal security would have used political strategies to garner labor and pay tribute to elites at Xunantunich. During the Late Classic, as tribute demands from Xunantunich elite increased and access to land decreased, *ah cuch cabob* would have attempted to consolidate smaller households

into their domains to secure valuable labor to work family fields and contribute service and goods to elite. They also would have cultivated ties to Xunantunich elites in order to gain political favors by either supplicating lineage connections or instigating patron-client relationships. San Lorenzo residences had much to offer in return for political favors if they grew cacao. Even if they did not produce a commodity crop, their control of the rich, fertile, Mopan river valley would have been a reliable source of food for the waterless, ridge top residents of Xunantunich. During the Terminal Classic, lineage leaders would have tried to retain as many family and allies as possible in order to survive the tough economic and possibly violent times. Their most potent source of social power would have revolved around ancestral rights to land and social position. Worshipping their ancestors via rituals involving gift-giving and feasting would have accomplished two goals, validating their claims and integrating lineage members.

4.4 Hypotheses: Pottery as Indicators of Competitive Strategies

Political contests rather than alliance building would have characterized relations between the two elite groups at Xunantunich as residences of Group A and D competed for rulership. Commoners, on the other hand, would have been more interested in intra-community alliance building as they struggled to comply with elite demands for tribute and labor or protect themselves against outside groups during the Terminal Classic. Land shortages, the most common source of competition between communities, may have been a severe problem even in the fertile Belize Valley. The Xunantunich Settlement Survey documents frequent occurrence of agricultural terracing suggests intensification of agricultural techniques in the Late Classic II (Neff et al. 1995).

Subsistence intensification and the weak integration between communities would have produced inter-community competition.

Kinship ties and social alliances with Peten states effectively would concentrated codex-style pottery at Group A. By the Late Classic II period, figural vessels were extremely rare and, therefore, not likely to be gifted vertically to Group D. Public feasting would have been sponsored by Group A in order to integrate and stabilize relations with the valley populace. Preparation and serving vessels found in the royal service area should be larger and more abundant than those found at Group D since community wide activities would have been sponsored by the nobility. Tribute to the ruling nobility included locally produced fine ware at a higher volume than that amassed by Group D elites.

As hereditary elite, Group D's lineage would have controlled substantial land and tribute. In its attempted to maintain social power, it would continue to garner tribute from its lineage members and sponsor festivals, especially those pertaining to ancestor worship. Feasting with the ancestors would have centered around the shrine. Lineage leaders would have attempted to sponsor large-scale public feasts that rivaled the size and splendor of those thrown at the royal service area. Competitive consumption of luxury goods and food would tend to make the two groups very similar in the distribution of pottery types and assemblages. If the royal lineage was severely weakened in the Terminal Classic, Group D's luxury and domestic pottery should reflect greater access to goods either through gifting and alliance building between the two elite groups or because of greater success in commanding tribute from the supporting

populace.

Alliances with San Lorenzo families may have been highly prized by elites at Xunantunich because of the former's fertile land and access to water. Locally produced luxury ware would have been gifted to lineage heads by both royal and elite groups as they competed for its resources. Unlike other, more marginal groups, San Lorenzo with its prime agricultural land may have had a greater access to luxury goods. This pattern may be especially prevalent in the Terminal Classic, as people and labor become scarce and the remaining elite attempted to stabilize their hold on social relations and power. San Lorenzo residents may have been able to play-off competition between the two elite groups and gain access to political favors and wealth.

Commoner competition

Within the San Lorenzo community, gifts to ancestors and lineage members would have been simpler and less luxurious than those exchanged by elites at Xunantunich. But they would have been fundamentally the same items -- jade, obsidian and especially pottery and food -- to reaffirm their participation within the greater Maya culture. Luxury pottery used as gifts would have been predominately locally produced luxury items. These items were supplied through social and political ties with elites. Feasting, rather than gift-giving, may have been a more important strategy among commoner groups, given their economic situation. Lineage leaders capable of sponsoring feasts may have been held in great esteem and looked upon as the most stable, economically prosperous members of the community. Serving vessels and large preparation pots should be concentrated at the residences of lineage leaders. The type of luxury vessels displayed and gifted would

reference external kin ties and membership within the Xunantunich social and political sphere.

During the Terminal Classic period, connections to the central Peten may have been sporadic. Access to elite trade goods should be centered at Xunantunich but they may have widely circulated these items to commoners as gift items in order to consolidate ties with their shrinking constituency. With lessened tribute, undivided loyalty to the remaining elite, and the need for heightened community security within an increasingly volatile landscape, commoner lineages may been more tightly integrated into the Xunantunich political sphere. Frequency of pottery styles, types, and sizes should be roughly similar across large households. As political contests subsided between elite groups at Xunantunich, and alliance building between factions increased, pottery assemblages, in terms of the frequency of types and forms, should begin to merge.

To examine political strategies and developments through pottery, Late and Terminal Classic assemblages must be separated. Temporal control is extremely important when comparing periods with such dramatic economic and social change (Hodder 1979). Ceramic assemblages are directly affected by loss of elite culture and economic restructuring. As a result of the processes pottery styles and forms are reduced and become simpler. As regional systems fragment, pottery complexes often become more regionally diverse and provincial as they reflect within-group solidarity. It is critical, therefore, not to lose patterning in the data by confounding two temporal assemblages. Combining Late and Terminal Classic assemblages can only blur the effects of differing strategies utilized by groups as they attempted to create, maintain, or expand social power. The next chapter

describes the new chronology and seriation methods used to separate temporal assemblages. It also lists styles and forms to be used as the bases of household analyses presented in the final chapters.

Chapter 5: Ceramic Complexes, Pottery Groups, and Type-varieties: Redefining the Late and Terminal Classic Pottery Sequence at Xunantunich, Belize.

> "Here comes to rest the end of the protracted and once powerfully spirited Maya Classic ceramic continuum. Peten Gloss Ware lies buried and its partial successor, Vinaceous Tawny Ware, is quickly gone with a speed more sudden than that of its appearance. The next chapter in the ceramic history of Barton Ramie is one of local ceramic degeneracy highlighted at times by pieces of intrusive pottery and one or two interesting indigenous monochrome red types never high in the frequency of their representation" (Gifford as quoted in 1976:227).

5.1 Introduction

Archaeologists have long recognized and classified the Late Classic pottery complex (Thompson 1940; R. E. Smith 1955; Gifford 1976; Sabloff 1975). Its elaborately painted and inscribed polychrome pottery testify to the commanding skill of Maya potters and wide-spread influence of lowland Maya elite. Terminal Classic pottery, on the other hand, is poorly understood, not only in the Upper Belize Valley but across much of the lowlands. Many of the traditional markers used to identify pottery complexes, such as polychrome painting, motif styles, and serving vessels, are either missing or are present in much smaller frequencies than in the preceding period. The absence of luxury pottery has inhibited the recognition of a separate Terminal Classic complex.

The lack of a well-defined complex directly affects our ability to identify sites with Terminal Classic components and concomitantly hinders study of social, political, and economic changes which occurred at this time. Combining Late and Terminal Classic assemblages into a single complex produces substantial errors in establishing

household and community sizes, constructing building sequences, and calculating artifact frequencies. These are the technical foundations for estimating population densities, determining socio-political organization, and comparing elite control of wealth. Delineation and separation of these two complexes, therefore, is critical in studying cultural processes and reconstructing culture history. My work solidly positions Xunantunich and its surrounding rural settlement as survivors of the so-called "collapse" of the major Peten states, especially the near-by polity of Naranjo. More importantly, it begins to address the mechanisms involved in the initial restructuring of Classic Maya social, political, and economic organization; processes which shaped Postclassic society in the central lowlands.

5.2 Previous Research

The clarification of the Terminal Classic complex at Xunantunich was aided by two excellent ceramicists: J. E. S. Thompson (1940) and J. S. Gifford (1976). Early on, Thompson was successful in separating the Benque Viejo III (Late Classic II) and the Benque Viejo IV (Terminal Classic) assemblages at Xunantunich. Despite this chronology, many current archaeologists in the Belize Valley have not utilized his work and prefer to use Gifford's popular type-variety scheme as is the standard for comparing regional pottery complexes in both Belize and Guatemala. Unfortunately, Gifford's data did not allow him fully to recognize the Terminal Classic assemblage (1976:226) and subsequently has led to a lack of recognition of this period in the Upper Belize Valley. My work is a direct extension of Thompson's and Gifford's studies. Although it does not radically change the current chronology, its importance lies in clarifying the

Terminal Classic assemblage and placing it within a secure context at Xunantunich and San Lorenzo. A review of these previous chronologies is presented in order to clarify changes I have made to these works.

Benque Viejo Chronology

The strength of J. E. S. Thompson's chronology lies in his seriation of Late and Terminal Classic ceramics at Xunantunich, then called Benque Viejo. Thompson analyzed ceramic collections from well-stratified deposits located primarily in Group B, a residential complex west of the civic center. Anna O. Shepard performed the initial compositional analysis of paste and slips, and together they devised a chronological sequence and a typology of pottery types.

Thompson recognized a strong continuity of types within Late Classic collections. His Benque Viejo III (BV III) period documents the stability of unslipped plain and fugitive-black styles and forms. Ash ware temper, polychrome painting, and tau-shaped feet were other attributes which Thompson used to characterize the entire BV III assemblage (1940:10-11). Differences did exist within the period, however, they are "mostly questions of preponderance of various wares" (1940:9-10). Thompson distinguished BV IIIa from the later subphase by the frequency of lateral ridged dishes and calcite tempered polychrome pottery. In the BV IIIb subphase, he noted the increased frequency and diversification of ash ware, especially in red slipped and polychrome painted types. Finally, he considered barrel-shaped vases to be restricted to the BV IIIb subphase (Table 5.1).

Thompson was the first to suggest that the Terminal Classic complex "represents

Table 5.1: Thompson's Benque Viejo III diagnostic types

Type	Temper	Phase
Unslipped Plain Ware		
Simple silhouette dishes	Calcite	BV III
Incense burners (flanged)	Calcite	BV III
Scutate lids	Calcite	BV III
Red Ware		
Lateral ridged dishes	Calcite/Ash	BV IIIa
Simple silhouette dishes	Calcite	BV IIIb
Shouldered dishes	Calcite	BV III
Tau-footed tripod dishes	Ash	BV IIIb
Tau-footed tripod pans	Ash	BV IIIb
Simple silhouette bowls	Ash	BV IIIb
Tall cylindrical vases	Ash	BV III
Barrel-shaped vases	Ash	BV IIIb
Fluted tripod bowls	Ash	BV IIIb
Small drum	Opaque carbonate	BV IIIb
Black Ware		
Cylinder vases	Ash	BV III
Fugitive black ware		
Incurving bowls (beveled)	Calcite	BV III
Barrel-shaped jars	Calcite	BV III
Early storage jars	Calcite	BV III
Vinaceous Tawny Ware		
Tawny ware tripod bowls	Ash	BV IIIb
Red/black on tawny bowls	Ash	BV IIIb
Red/black on tawny barrel-shaped vases	Ash	BV IIIb
Other Bichromes and Polychromes		
Black on red dishes	Ash	BV IIIb
Red/black on orange dishes	Calcite	BV IIIa
Glyph & figure painted vases	Ash	BV IIIb
Orange ground polychrome dishes	Ash	BV IIIb
Whitish ground polychrome dishes	Ash	BV IIIb
Whitish ground polychrome bowls	Ash/calcite	BV IIIb

a clean break with the past" (1940:10). His principal Benque Viejo IV diagnostic attributes were flat lips on fugitive black ware incurving bowls, pie crust lips on unslipped storage jars, oven-footed red slipped ash ware, carved red ware vases, and the lack of polychrome ash wares (Table 5.2). Importantly, censer styles change from modeled-head varieties to modeled-spiked varieties.

Thompson's pottery types and seriation stood the test of subsequent investigations at Xunantunich. Both Mackie (1960, 1985) and Pendergast and Graham (1981) utilized his work with great success. In the 1960's, J. S. Gifford working at Barton Ramie subsumed Thompson's Benque Viejo (1940) and R E Smith's Uaxactun (1955) research into his Belize Valley sequence.

Table 5.2: Thompson's Benque Viejo IV diagnostic types

Type	Temper	Date
Unslipped Plain Ware		
Storage jars with pie crust lips	Calcite	BV IV
Storage jar with flaring lips	Calcite	BV IV
Basin lids	Calcite	BV IV
Spiked vessels	Calcite	BV IV
Red Ware		
Oven-footed tripod dishes	Ash	BV IV
Oven-footed tripod pans	Ash	BV IV
Incised vases	Ash	BV IV
Fugitive Black Ware		
Incurving bowls with flat lips	Calcite	BV IV
Bowls with recurved rims	Calcite	BV IV
Storage jars with flared necks	Calcite	BV IV
Large jars with outcurving rims	Calcite	BV IV
Vinaceous Tawny Ware		
Small bowls with recurved rims	Ash	BV IV

Barton Ramie Chronology

The importance of Gifford's work lies in the fact that his chronology spans the entire prehistory of the eastern lowlands and provides systematic descriptions and illustrations of temporally sensitive type-varieties. It is the most widely used temporal sequence and pottery typology in western Belize and eastern Guatemala today. Gifford's scheme works relatively well for the Middle Preclassic, the early part of the Late Preclassic, and the Late Classic (Tiger Run and early facet Spanish Lookout Complexes)

periods. During these times, potters produced very similar wares and styles across the lowlands. In many cases, Belize valley types mirror larger regional trends suggesting widespread assimilation of pan-lowland Maya styles and forms. During times of regional balkanization, such as the Terminal Classic, pottery complexes diverged and became heterogeneous. In these situations, Gifford's site-specific sequence can only hint at trends found at other sites.

The Spanish Lookout Complex

Gifford characterized the Spanish Lookout phase as "inextricably linked into the overall Late Classic Maya ceramic picture" (1976:225). The complex is dominated by a number of pan-lowland Maya pottery modes or attributes. Within the eastern Peten, the Palmar Ceramic Group -- highly polished, ornately painted polychrome types -- are similar to those produced at Uaxactun and Seibal in the central lowlands, Becan in the Yucatan, and Hormiguero in Campeche. Belize Red Group serving vessels are comparable to Tepeu 2 and 3 styles and forms at Uaxactun. Even Upper Belize Valley unslipped domestic jars resemble Tikal vessels with similar shapes and rim styles. Despite these similarities, Gifford identified a strong regional ceramic tradition exemplified by ash temper wares. British Honduras and Vinaceous Tawny wares exhibit distinctive composition and surface coloration, although they are similar in vessel shape and decorative techniques to pan-lowlands types. In general, these wide-spread styles and forms make the recognition of the Late Classic complex a straight-forward endeavor.

Temporal variation within the Late Classic is well-documented at Barton Ramie.

Gifford split the period into two complexes (Tiger Run and Spanish Lookout) and the Spanish Lookout Complex into two facets -- early and late. However, the low frequency of late facet (Terminal Classic) deposits at Barton Ramie did not allow him to clearly separate it from the early facet assemblage (Late Classic II). Gifford was able to recognize only three Terminal Classic types: Vaca Falls Red, Roaring Creek Red, and a variety of Mount Maloney Black (1976:226). Despite these difficulties, many of Gifford's type-varieties and their temporal designations mirror those found at Xunantunich (Table 5.3).

Table 5.3: Gifford's Spanish Lookout diagnostic groups

Early facet
Sotero Red-brown: Sotero Variety
Macal Orange-red: Macal Variety
Dolphin Head (Red) Group
Belize (Red) Group
Vinaceous Tawny Ware
Garbutt Creek Group
Yalbac (Smudged-brown) Group
Peten Gloss Ware
Mount Maloney Group
Late facet
Belize Red Group
Garbutt Creek Red: Garbutt Creek and Paslow Varieties
Vaca Falls Red Types
Roaring Creek Red Type
Kaway Impressed Types (see 1965:373)
Mount Maloney Group

Three factors inhibit the identification of Terminal Classic assemblages in the Upper Belize Valley. First, although diagnostics are distinct, they comprise a small percentage of the total assemblage. At Barton Ramie, Gifford encountered a low diagnostic to non-diagnostic ratio with Terminal Classic diagnostics composing roughly

1% of the total Spanish Lookout Complex (Gifford 1976:f13). Not surprisingly, he notes late facet diagnostics are "very few in number and disturbingly restricted, even though the levels involved produced good material in sufficient quantities" (1976:226). This situation results when utilitarian types -- which are generally slow to change stylistically -- dominates the assemblage while luxury types -- which change rapidly -- drop out. Second, settlement pattern data from across the lowlands indicate a dramatic reduction of sites at this time. At Seibal, settlement aggregation, loss of elite lineages, and overall reduction of population radically restructured the landscape (Tourtellot 1988: 440). Similarly, the Xunantunich Settlement Survey found Belize Valley populations had abandoned isolated small sites and nucleated at centers like Xunantunich (Ashmore 1994). Terminal Classic diagnostics are, therefore, often found only at large sites where they are mixed with Late Classic assemblages. Usually, these deposits represent the terminal occupation of the site and are found on or near the surface. The tropical environment wreaks havoc on ceramics in these situations. This poor state of preservation and the fact that Terminal Classic types are generally non-elite domestic wares makes identification problematic.

After reviewing previous research, I realized that in order to study Late and Terminal Classic household pottery, I would need to clarify the Barton Ramie chronological sequence before I could begin documenting assemblage variability at Xunantunich. Reliance on the Barton Ramie chronology was not an option given its lack of Terminal Classic diagnostics. Reliance on the Benque Viejo Chronology would be negating 50 years of subsequent ceramic analysis at sites around the Valley.

5.3 Xunantunich Ceramic Catalogue

Ceramic research began with the construction of a computerized ceramic catalogue which was designed to accomplish three goals. First, it was created to take advantage of previous ceramic research in the valley and to generate data that would allow regional comparisons of specific well-documented types. Second, it was intended to refine the existing regional chronology. Lastly, it was constructed to record variability indicative not only of diachronic but synchronic patterns. Recording both established types and single attributes was considered the best method for such a large project. Attribute analysis, specifically, allows monitoring of small-scale diachronic and synchronic trends within established types or across them. It also permits the combination of significant attributions into new types. This methodology deconstructs Gifford's types into specific characteristics and then tracks those characteristics across time and space. I am, therefore, not rejecting Gifford's types nor his research, but essentially, microseriating attributes from previously defined types, creating new varieties, and carrying-on the basic work chronology building.

The XAP ceramic catalogue is a hierarchically constructed, computerized coding system designed to measure the frequency and weight of sherds which share attributes within a given provenience. Within a lot, every sherd -- including bodies, rims, and unidentifiable bits -- is characterized using 18 variables across 5 major ceramic aspects: paste/temper composition, surface treatment, formal aspects, decorative technique, and decorative motif (Table 5.4). Specific attributes and their codes are described in

Table 5.4: Initial ceramic catalogue attribute list*	
Provenience information	
	Operation
	Suboperation
	Lot
	Special feature
	Burial
	Special find number
Ceramic Group	
	Paste and temper combinations
	Surface finish
	1st slip color
	2nd slip color
	1st paint color
	2nd paint color
	3rd paint color
Formal Attributes	
	Primary form
	Secondary form
	Neck curvature
	Lip/rim detail
Attachments	
	Flange, ridge & angle
	Spout form
	Handle form
	Foot form
	Base form
Decoration	
	Primary technique
	Secondary technique
	Stylistic elements
Ceramic type-variety	
	Barton Ramie ware, group, type-varieties codes
Weights & measures	
	Frequency
	Weight
	Catalogue number
	Comment

* see Appendix B for variables and their codes

Appendix 2. The ceramic group, type and variety also are recorded hierarchically. Codes were recorded on forms which were transferred into computer flat files for statistical analysis by SAS software.

Given the number of variables, analysis was time intensive and restricted to lots from important contexts. Lots deemed non-essential to household research or chronology building -- usually fill material from structures or fall from architectural clearing -- were recorded using a rapid sort for temporal diagnostics. This technique consists of visually inspecting the lot for known diagnostics with no quantification of types, styles, or forms. Phase designation were assigned to all analyzed lots -- including rapid sorted contexts -- based on the presence of known temporal diagnostics. Temporal designations were recorded on a master list which contained the lot's cultural context, type of analysis, and collection procedure. This list was provided to excavators for their use in reconstructing architectural sequences.

5.4 Xunantunich Chronology Building

In order to refine the Upper Belize Valley chronology, stratified deposits with abundant ceramics were necessary for seriation methods. Stratified deposits are scarce at the civic center but are more common in households, especially at San Lorenzo. Excavations in the central plaza and at Group D yielded shallow cultural deposits between 20 and 50 cms in depth which sit directly on sascab (limestone parent material). Excavations along the eastern boundary of the civic center, where retaining walls and fill were used to expand the plaza, encountered deeper deposits, although often these exhibited only a few badly mixed strata. One such unit, Op 18E, located near El

Castillo's southeast corner, was an unusually deep excavation exhibiting 1.5 meters of fill divided into two major strata. Ceramic material from this unit was one of several used to refine the Upper Belize Valley chronology.

The best location for finding stratified deposits useful for seriation are households. Here, frequent domestic modification generates finely layered floor and fill deposits with sherd collections exhibiting small temporal spans. Major civic construction produce abundant fill, yet typically, sherd collections derived from such fill appear highly mixed. Presumably, civic construction fill is more commingled because corporate laborer scavenged debris from various locations across the urban landscape. In households, fill is more temporally discreet presumably because trash was frequently gather-up and used for modifications. Interestingly, San Lorenzo households yielded more deeply stratified deposits than those at Group D, which exhibited more horizontal stratigraphy. With the exception of the ancestor shrine, most platforms exhibited single construction phases. Construction episodes were staggered across the site in keeping with its expanding corporate social structure. At Group A, middens were deep but appear to have accumulated over a short time span.

Stratified units

Three units -- 18C, 18E, 71B -- exhibited stratified deposits and ample ceramics for seriation. All three units were screened with 1/4 inch mesh. A brief description of the stratigraphy is provided below in order to clarify seriation issues (Figure 5.1).

Units 18C and 18E

Operation 18 was located at the southeast corner of El Castillo where the outer

terrace wall defines the edge of the plaza (Chase 1992). Six units (18A-F) were placed in this area in the hope of finding midden deposits associated with activities behind the Castillo. Although primary deposits were not found, units 18C and 18E were deep deposits with abundant, relatively unmixed ceramic material.

Unit 18C exhibited at least two stratigraphic levels associated with the building of a plaza retaining wall. Lot 1 is a 20 cm humus root zone which covers occupation material (lot 2) that rests on floor ballast (lot 3) associated with plaza surface. Below the ballast is a series of distinct fill levels which alternate between sascab (decomposed limestone) and dark brown fill matrix. Five strata of fill, approximately 70 cm thick, were found above bedrock and contained substantial quantities of sherds. The same basic scenario can be applied to unit 18E, where a possible plaza floor appears 44 cms below the present day surface. The cultural deposits underneath this floor sit on a steeply sloping sascab surface.

Operation 71

Operation 71 is located in the saddle between Structures 2 and 3 at Site 22 (Chase 1992). Saddles between platforms appears to be the best location to find deeply stratified deposits with abundant sherds. Apparently, trash deposits along platform sides were conveniently used for *in situ* construction fill for low, ancillary platforms. Operation 71, at San Lorenzo's Site 22, encountered such deeply layered deposits.

Operation 71 was completed in three contiguous units (A-C). As a single excavation, the combined units reached a depth of 210 cms (Figure 5.1). Unit 71A was

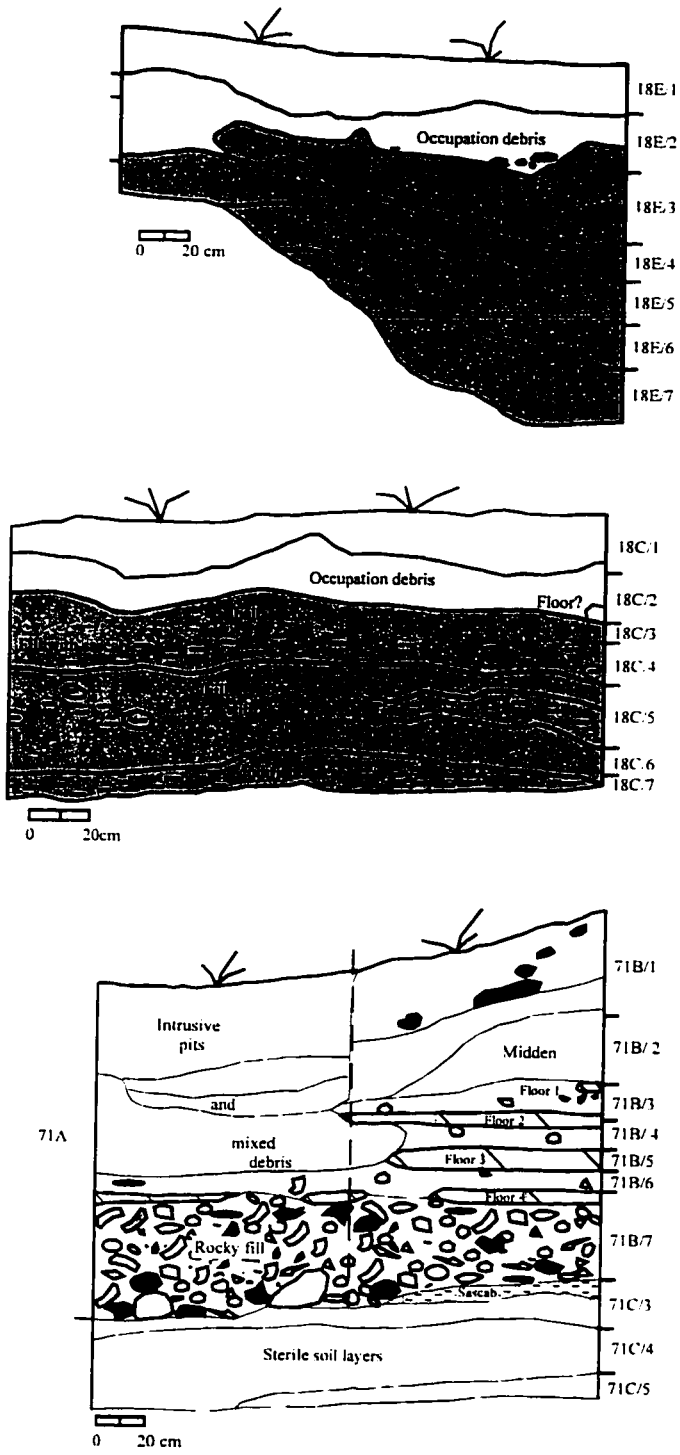


Figure 5.1: Soil profiles from stratified excavations (after Chase 1992).

highly disturbed by post-deposition digging and internment of a burial. Operation 71B, on the other hand, exhibited four floors and a series of fill layers. Below the humus root zone (lot 1) a midden (lot 2) sat on top a badly eroded floor (Floor 1). Shallow fill lots (lot 3, 4, 6) were sandwiched between Floors 1, 2 and 3. Floor 3 was taken off as a single lot (lot 5). Below Floor 3, a thick, 35 cm fill deposit of very coarse cobbles, rocks, sherds and lithics (lot 7) lay on top a prepared sascab surface used as a foundation for the northeast wall. In the southern portion of the unit, a burial pit had been dug into three strata of naturally deposited clay (71C/3-5). The badly crushed burial, 71C/1-2, displayed three inlaid teeth, indicating a person of some rank, but it lacked mortuary goods except for broken pottery, a broken effigy head (possibly a frog), a broken bone whistle, and the rim of a codex-style vessel.

Seriation

A frequency seriation was conducted on attributes from sherds recovered from the three units described above. Selected attributes or types found to be highly diagnostic are presented below. A complete list of seriated attributes and types with their frequencies can be found in Appendix 3.

In general, unit 71B gives the clearest picture of temporal changes from the Late Classic I through the Terminal Classic period. Units 18 C and 18E are more mixed and provide some clarification, especially of the earliest phases.

Decorative techniques

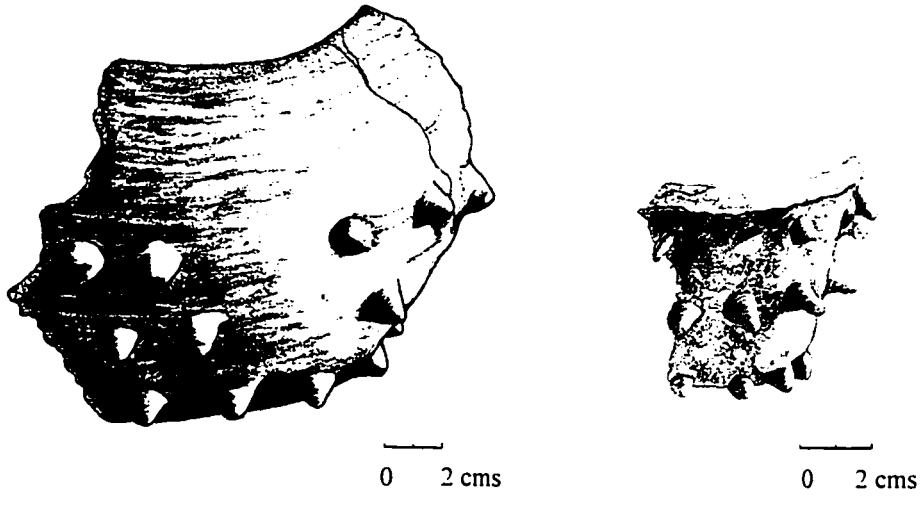
Decorative techniques and motifs are temporally diagnostic because they display changing social and ideological aspects of the group (Braun and Plog 1982). Motifs are

rare at Xunantunich because of the poor state of preservation. Samples sizes were too small for seriation, but abundant and variable decorative techniques permit frequency seriation. Decorative techniques often are linked to specific motifs. Painting and model carving are used to portray figures and other complex designs, whereas, incising is often geometric or simply linear. Diversity of techniques can also be linked to the organization of craft production which shift in the face of socio-political and economic change (Costin and Hagstrum 1995).

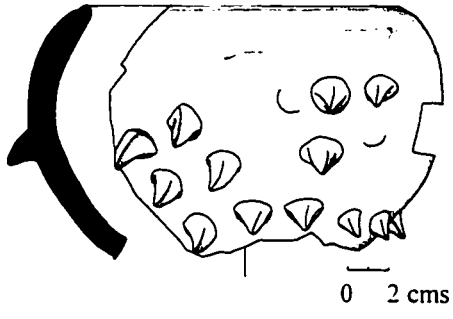
Terminal Classic decorative techniques

The first three lots of unit 71B provide the clearest picture of the Terminal Classic assemblage (Table 5.5). Three decorative techniques are restricted to the Terminal Classic period: spiked appliqués found on censers (Figure 5.2), pie crust impressions on flaring lip jars (Figure 5.3), and model-carving generally found on Pabellon model-carved vases (Figure 5.4). Overall, it is apparent that Terminal Classic assemblages lack tooling, punctating, and patterned impressing, indicating a reduction in labor investment for most pottery styles. Painting, a highly labor intensive technique, is present but shows substantial declined in relative frequency from the Late Classic II levels. Some elaborate Terminal Classic types, especially Peten influenced styles, however, indicate continued investment in the production of ritual and serving vessels.

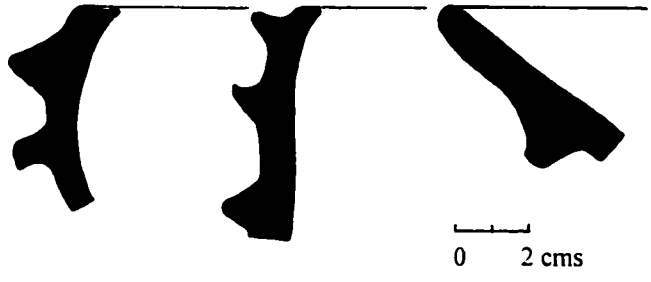
Terminal Classic diagnostic types represent both internal and external social affiliations. Spiked incense burners associated with the Miseria Appliquéd Type are representative of the Bayal Complex at Seibal, Guatemala (Sabloff 1975). The production of a similar style at Xunantunich and San Lorenzo indicates they were still



a.

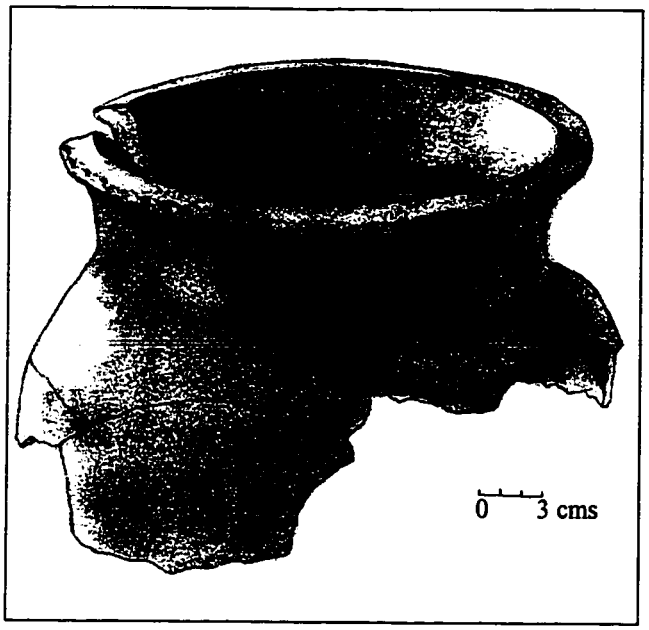


b.

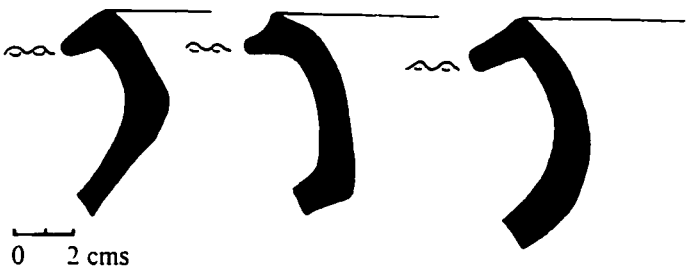


c.

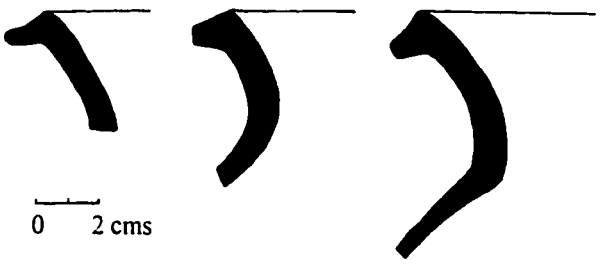
Figure 5.2: Miseria Appliquéd Type censors. Bowls (119B/1.13176, 39E/1.2219) a.; bowl (119B/1.13176) b.; formal variation (14 M/2.131824, 14H/6.13186, 15M/5.13184) c.: left to right. Gray-scale illustrations courtesy of Vicky Liddiard.



a.

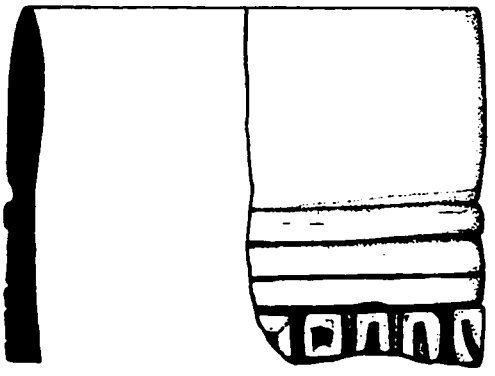


b.

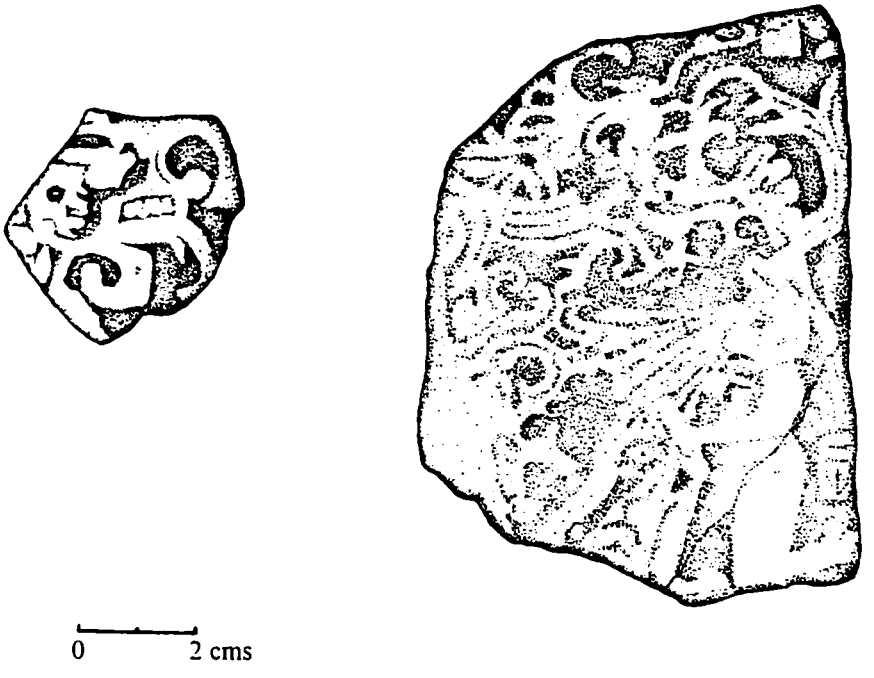


c.

Figure 5.3: Terminal Classic jars. Cayo Unslipped Type Piecrust Impressed Variety (123 A/7.11193) a.; variation in jar forms with piecrust lips (22Q/6-D1.4792; 85E/2.6150; 123A/8.11216) b.; variation in jar forms without piecrust lips (22L/4.4699; 22T/1.11452; 22V/2.11523) c.; left to right. Gray-scale illustration courtesy of Delia Cosentino.

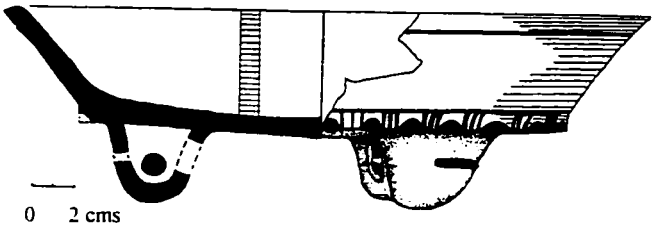


a.

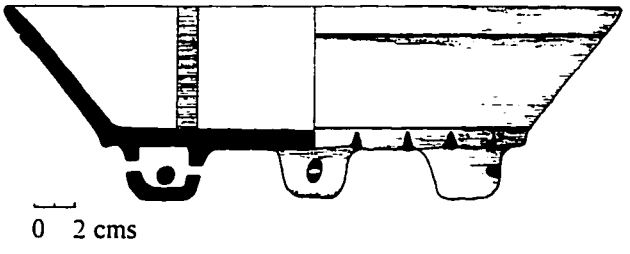


b.

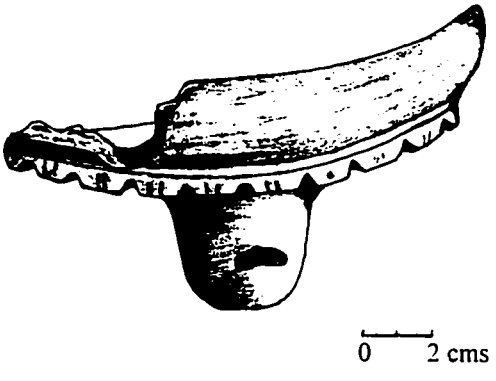
Figure 5.4: Pabellon Modeled-carved style. Vase rim (22G/2.2478) a.; bodies (71A/2.1602, 1E/3) b.; left to right. Illustration of body sherds courtesy of Sydney Cosselman.



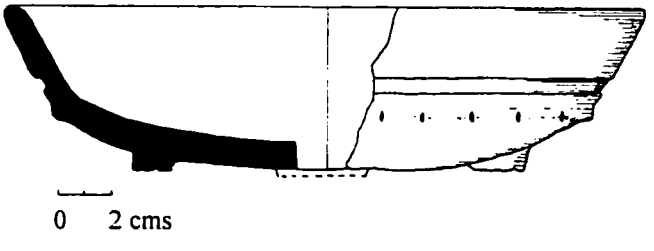
a.



b.



c.



d.

Figure 5.5: McRae Impressed Type. Plate (14MM/4.13126) a.; bowl (85J/4-D1.6420) b.; bowl (12L/1.13122) c.; bowl (116E/5.11511) d.; left to right. Gray scale illustration courtesy of Vickie Liddiard.

involved in pan-lowland ritual system. This association is further illustrated by the presence of imported or local imitation Pabellon Model-carved vessels. This style portrays elaborate figural scenes and is generally assumed to be produced in the central Peten during the Terminal Classic (Sabloff 1975). In the Stan Creek District, "model-carved" vessels date to the ninth or early tenth century and are predominately found in surface deposits (Graham 1987:79). Like vessels found at Lamanai, the Xunantunich variety does not show indications of modeling. This decorative technique and style contrasts with Late Classic II types which, in the Belize Valley, are characterized by gouge-incised or plano-relief carving of simple representative or abstract motifs rendered on ash ware vessels, such as Big Falls Gouged-incised or Puhui-zibal Composite Types. These styles are found in earlier levels in unit 18C. Indigenous Belize valley Terminal Classic style appears on domestic pottery. Pie crust impressions on flaring lips are found on large, heavily built jars. Flaring lips without impressions, may precede those with impressions as indicated in unit 18E/3 where they appear with Late Classic II types.

McRae Impressed Type often is associated with Terminal Classic occupations, but within the Belize Valley it appears earlier, albeit in different varieties (Figure 5.5). McRae Impressed Types are distinctive serving vessels with notched and sometimes incised basal apron. It is present in the latest levels of Op 18E. At Tikal, McRae Impressed vessels with oven feet are associated with the Eznab phase dating from A.D. 830 to 930 (Culbert 1973:89). In the Postclassic, the elaborately decorated basal apron is one of the most defining characteristics of this period (Graham 1987). Gifford

Table 5.5: Relative frequencies of decorative techniques in stratified deposits

Provenience	71 B/1	71B/2	71B/3	71B/4	71B/5	71B/6	71/7
	Over-burden	Fall / midden	Floor 1 & Fill	Floor 2 & Fill	Floor 3	Fill	Floor 4 & Fill
spiked appliqué	0.2	0.3					
pie crust lip	0.2		0.1				
flaring lip	0.9	0.3					
carved decoration	0.4						
McRae Impressed				0.5			0.1
painted designs		0.3	1.2	0.1	8.0	1.4	1.9
painted-tooled				0.1			
tooled decoration				1.3			0.4
punctate-incised				0.7	4.0	0.3	0.1
Silver Creek Type							
textured decoration							0.1
other techniques	1.3	1.4	0.4	0.8		0.6	0.4
no decoration	96.9	97.6	98.3	96.4	88.0	97.8	97.1
total sherds	456	296	940	716	25	358	1156

Provenience	18E/1	18E/2	18E/3	18E/4	18E/5	18E/6	18E/7
	Humus	Occup.	Ballast	Fill	Fill	Fill	Fill
spiked appliqué							
pie crust lip							
flaring lip			0.2				
carved			0.1		0.2		
McRae Impressed			0.1				
painted designs	0.6	0.8	1.2	2.8	1.9	3.0	6.5
painted-tooled			0.1				
tooled decoration			0.3	0.4			
punctate-incised				0.3	0.2		0.3
Silver Creek Type			0.1				
textured decoration			0.1	0.4	0.3	0.3	0.3
other techniques	0.6		1.5	0.5		1.0	1.8
no decoration	98.6	99.2	96.2	95.4	97.4	95.7	91.2
total sherds	176	246	1479	676	581	303	339

Provenience	18C/1	18C/2	18C/3	18C/4	18C/5	18C/6	18C/7
	Humus	Occup.	Floor	Fill	Fill	Fill	Fill
spiked appliqué							
pie crust lip							
flaring lip							
carved							
McRae Impressed							
painted designs		2.1	3.2	0.5	1.9	2.6	3.4
painted-tooled				0.5			
tooled decoration							
punctate-incised	0.7					0.2	0.8
Silver Creek Type					0.4	0.2	
textured decoration				1.1	0.1		
other techniques			3.2		0.7	1.2	0.8
no decoration	99.3	97.9	93.5	97.8	96.8	95.9	95.0
total sherds	148	48	31	184	722	508	121

recognized McRae Impressed Type within Barton Ramie collections but never assigned it to a specific Spanish Lookout facet. Thompson, on the other hand, documented a stylistic progression for the type based on vessel form, decorative techniques, and foot styles (1940: figs. 15, 16, 46, 47). McRae Impressed Types in units 71B and 18E substantiate the temporal spread from early to late, but due to their fragmentary nature the specific formal trajectory can not be addressed.

Late Classic Decorative Techniques

Below the last floor in all three units, the frequency of decorative techniques show a distinct trajectory. Polychrome painting peaks in the Late Classic II period, as do tooling, such as fluting, and composite techniques, such as painting-tooling and punctating-incising. The diversity of decorative techniques used to elaborate vessels reached its highest point in the sequence at this time. As Thompson noted, Late Classic (Benque Viejo III) period yield ceramics with basically the same decorative techniques, making differentiation between the phases difficult. However, texturing and punctating-incising appear to be more consistently represented in the lower levels, especially those lower lots of unit 18C, and are predominately Late Classic I decorative techniques. Notching around the basal angles can be used to differentiate periods if it is linked to composition. In the Terminal Classic, McRae Impressed ash ware varieties have notching of the basal apron. This technique has a long tradition -- notching can be found on jar necks before the Classic period. However, in the Late Classic I, it is predominately found on basal angles of calcite wares (Silver-Creek Type). Later this decoration was transferred to ash ware bowls which served the same function as calcite

bowls.

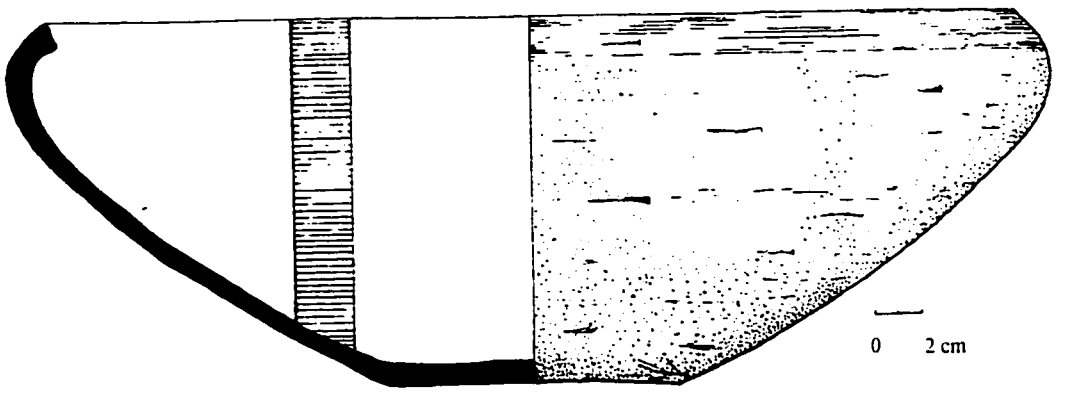
Formal Attributes

Formal attributes of serving vessels show some sensitivity to temporal trends. Secondary characteristics, such as the presence of ridges or the shapes of side walls, are more diagnostic than primary formal categories. The Terminal Classic is marked by the presence of rimmed bowls which are unique to the Terminal Classic period (Table 5.6). This form is produced both as a slipped black calcite type (Mount Maloney Group), as well as slipped red or orange ash ware types (Belize Red or Chunhuitz Orange Group). Interestingly, the Mount Maloney Type also may be a marker for the transition phase (LCIIb) between the Terminal and Late Classic II periods. It can be seen in the last floor in unit 71B and the upper levels of unit 18 E, a unit which showed no clear signs of Terminal Classic diagnostics.

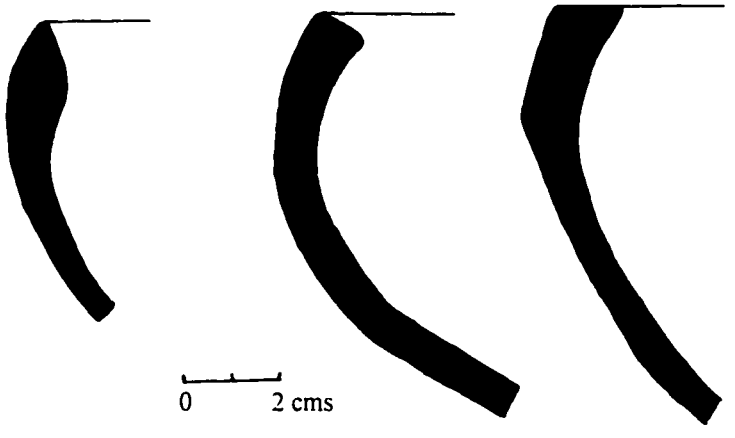
Within the Late Classic II phase, the cylinder vases is the single most diagnostic form, although it also can appear in the Terminal Classic. In general, the Late Classic II is dominated by flaring plates, dishes, and bowls forms. The Late Classic I phase is characterized by the consistent appearance of lateral ridges on simple silhouette forms. These small, often flat ridges are considered to be the vestiges of basal flanges which typify the preceding Early Classic period.

Mount Maloney microseriation

One of the most abundant domestic forms, Mount Maloney incurving bowls, has long been noted to have temporally diagnostic lips. Thompson recognized that beveled lips precede flat lips (1940: fig. 50), and Gifford acknowledged the distinctive nature of



a.



b.

Figure 5.6: Mount Maloney incurving bowl and lip microseriation. Reconstructed vessel (79DD/3.7050) a.; and microseriation of lip (b.). Left to right: Late Classic I (18E/7.1343), Late Classic II (22L/5.4708), and Terminal Classic lips (85G/3.6300).

Table 5.6: Relative frequencies of forms in stratified deposits

Provenience	71 B/1	71B/2	71B/3	71B/4	71B/5	71B/6	71/7
	Over-burden	Fall / midden	Floor 1 & Fill	Floor 2 & Fill	Floor 3	Fill	Floor 4 & Fill
rimmed bowl			**0.1**				**0.2**
barrel-shaped vase			**0.1**				
cylinder vase							
vertical open form	**0.2**			**0.3**		**0.6**	**0.1**
flaring open form			**0.1**	**0.5**			**0.5**
silhouette form	**0.4**			**0.2**		**0.6**	**1.4**
w/ lateral ridge	**0.2**					**0.3**	**0.4**
other forms	7.8	5.6	5.2	13.0	8.0	8.9	13.4
bodies	91.0	94.3	94.3	85.9	92.0	89.7	84.2
total sherds	456	296	940	716	25	358	1156

Provenience	18E/1	18E/2	18E/3	18E/4	18E/5	18E/6	18E/7
	Humus	Occup.	Ballast	Fill	Fill	Fill	Fill
rimmed bowl	**0.6**	**0.4**	**0.1**				
barrel-shaped vase			**0.1**				
cylinder vase			**0.1**	**0.1**			
vertical open form			**0.4**	**0.4**	**0.2**		
flaring open form	**1.7**	**0.4**	**1.0**	**0.1**		**0.3**	
silhouette form		**0.1**	**0.9**	**1.2**	**1.7**		**2.7**
w/ lateral ridge			**0.3**	**1.2**	**1.5**	**3.3**	**0.6**
other forms	5.7	6.5	10.2	8.2	5.3	7.6	6.5
bodies	92.0	92.7	86.6	88.6	91.2	88.8	89.4
total sherds	176	246	1479	676	581	303	339

Provenience	18C/1	18C/2	18C/3	18C/4	18C/5	18C/6	18C/7
	Humus	Occup.	Floor	Fill	Fill	Fill	Fill
rimmed bowl							
barrel shaped vase					**0.1**		
cylinder vase							
vertical open form					**0.1**		
flaring open form					**0.5**	**0.6**	**1.7**
silhouette form		**2.1**			**0.1**		**1.7**
w/ lateral ridge						**0.6**	**0.8**
other forms	8.9	6.3	3.2	7.1	5.6	7.9	6.6
bodies	91.2	91.7	96.8	91.8	92.4	90.9	89.3
total sherds	148	48	31	184	722	508	121

beveled lips on Mount Maloney bowls at Barton Ramie (1976:226). However, neither ceramicist utilized the lip trajectory to its fullest potential. In 1992, I documented a change in lip orientation from vertical to beveled to flattened coupled with changes in tooling techniques (Figure 5.6). The earliest variety has a vertical face with smoothed edges and little evidence of tooling to form the lip. Later lips bevel upward and are quite elaborate with grooved faces and pinched upper and lower edges. Lip edges often are sharply defined and flattened with interior and exterior striations indicative of extensive tooling. The latest variety also shows substantial tooling, however although this technique was intended as an efficiency measure to

Table 5.7: Mount Maloney incurving bowl lip microseriation tables

Provenience	71 B/1	71B/2	71B/3	71B/4	71B/5	71B/6	71/7
	Over-burden	Fall / midden	Floor 1 & Fill	Floor 2 & Fill	Floor 3	Fill	Floor 4 & Fill
Unspecified	38.5	0.0	26.7	0.0	100.0	15.4	0.0
Flat lip	**46.2**	**100.0**	**73.3**	**15.4**	00.0	00.0	3.1
Beveled lip	0.0	0.0	0.0	**48.7**	0.0	0.0	51.6
Smooth lip	15.4	0.0	0.0	**35.9**	0.0	**84.6**	45.6
total sherds	13	4	15	39	1	13	64

Provenience	18C/1	18C/2	18C/3	18C/4	18C/5	18C/6	18C/7
	Humus	Occup.	Floor	Fill	Fill	Fill	Fill
Unspecified	0.0	33.3	0.0	0.0	18.8	26.3	0.0
Flat lip	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Beveled lip	**77.8**	**66.7**	0.0	0.0	**68.8**	**15.8**	**25**
Smooth lip	22.2	0.0	0.0	**100.0**	**12.5**	**57.9**	**75.0**
Total sherds	9	3	0	5	16	19	4

reduce production time rather than for aesthetic reasons. Lips are quite square, flat, and horizontally oriented, with no indication of elaboration. Often, orifices are irregularly shaped and non-symmetrical, suggesting that little care was taken in their production.

The frequency of each lip variety exhibits overlapping, standard bell-shaped distributions (Table 5.7).

Ceramic Wares and Groups

Surface treatment -- slip color, slip quality, and paint colors -- is considered highly diagnostic in the Maya lowlands (Andrews 1990; Lincoln 1985) and pottery composition is temporally significant in the Belize Valley where ash tempered pottery appears predominately in the Late Classic (Ford and Glicken 1987). Some ash tempered pottery can be found earlier, especially in the Middle Preclassic, but is associated with a different paste. Analyzed together, ceramic groups can be used to date a large portion of otherwise non-diagnostic undecorated body sherds.

Ash wares

At Xunantunich, the frequency of total ash ware sherds and the diversity of ash ware groups show a trajectory similar to decorative techniques (Table 5.8). Ash wares within assemblages gradually increase through the early part of the Late Classic. They peak in the Late Classic II and then drop back to levels reminiscent of earlier levels during the Terminal Classic period. Throughout the sequence, Belize Red and Chunhuitz Orange Groups predominates, whereas, cream slips (possible Zacatel or Anonal Types) occur in the lowest levels associated with the Late Classic I occupation. Black slipped ash ware is extremely rare and encountered only in middle levels associated with the Late Classic II. Polychrome painting, especially popular throughout the Late Classic, dies out in the Terminal Classic.

Calcite wares

Table 5.8: Relative frequencies of wares and groups in stratified deposits*

Provenience	71 B/1	71B/2	71B/3	71B/4	71B/5	71B/6	71/7
	Humus	Midden	Fill	Fill	Floor 3	Fill	Fill
Ash wares	3.5	8.1	5.7	14.4	20.0	8.4	11.2
orange/red slip	**1.8**	**5.1**	**3.2**	**10.2**	**12.0**	**5.0**	**7.4**
polychrome		**0.3**	**1.2**	**0.3**	**8.0**	**1.4**	**1.4**
cream slip							**0.1**
Calcite wares	93.4	90.2	90.0	80.9	72.0	82.7	86.2
Dolphin Head			**0.2**	**1.1**		**2.5**	**1.8**
cream slip						**0.3**	**0.4**
polychrome							**0.1**
smudged slip						**0.3**	**0.1**
brown slip				0.3			**0.2**
Other wares	3.1	1.6	4.2	4.8	8.0	8.9	2.7
Total sherds	456	296	940	716	25	358	1156

Provenience	18E/1	18E/2	18E/3	18E/4	18E/5	18E/6	18E/7
	Humus	Occup.	Ballast	Fill	Fill	Fill	Fill
Ash wares	13.1	10.6	10.8	8.3	5.0	2.0	2.4
orange/red slip	**5.1**	**1.2**	**7.4**	**2.7**	**1.5**	**1.3**	**0.9**
polychrome	**0.6**	**0.8**	**1.0**	**2.5**	**1.9**	**0.7**	**3.0**
black slip					**0.2**		
Calcite wares	84.7	87.0	84.7	82.0	83.0	75.6	85.0
Dolphin Head	**1.7**		**3.0**	**3.0**	**1.4**	**1.3**	**0.6**
cream slip			**0.2**	**3.3**	**4.5**	**6.6**	**4.4**
polychrome			**0.1**	**1.0**	**0.2**	**1.7**	**1.8**
smudged		**1.2**		**5.2**	**0.9**	**4.3**	**3.5**
brown			**0.7**		**2.2**	**2.0**	**4.1**
Other	2.2	2.4	4.4	9.7	7.5	22.5	12.7
Total sherds	176	246	1479	676	581	303	339

Provenience	18C/1	18C/2	18C/3	18C/4	18C/5	18C/6	18C/7
	Humus	Occup.	Floor	Fill	Fill	Fill	Fill
Ash wares	2.7	6.3	3.2	10.9	12.5	9.3	5.0
orange/red	**0.7**		**3.2**	**3.8**	**4.3**	**3.3**	**0.8**
polychrome		**2.1**		**2.7**	**2.5**	**3.0**	**4.2**
black slip					**0.1**	**0.2**	
Calcite wares	93.2	93.8	80.6	73.4	77.4	78.7	88.4
Dolphin Head				**3.3**	**3.2**	**3.9**	**9.1**
cream slip				**0.5**	**0.1**	**1.0**	
polychrome						**0.8**	**0.8**
brown slip					**0.6**	**0.4**	
smudged			9.7			**0.2**	
Other	4.1	0.0	16.2	15.8	10.1	12.0	6.6
Total sherds	148	48	31	184	722	508	121

* ware totals include eroded and non-slipped varieties

Within the large array of calcite wares, five surface treatments stand out as temporally significant. The earliest surface treatments are cream, brown, or smudged black-to-brown slips the two brown slips are associated with Sotero Red-brown Types. Polychrome painting, the least common surface treatment, occurs most often in the Late Classic I phase but is also found sporadically in the Late Classic II. These polychromes are associated with the Palmas Ceramic Group in the Late Classic II and the Saxche Ceramic Group in the Late Classic I, although such specific identifications can rarely be made at Xunantunich or San Lorenzo. Occasionally cream or yellowish backgrounds are used for early polychromes. These are associated with Julep Cream-Polychrome and Sibyl Buff Types which often exhibit lateral ridges on simple silhouette forms. Dolphin Head Group is most common in the earliest levels, but appears to have been produced into the Late Classic II. In general, the reduction of calcite groups in the Late Classic II can be explained by their replacement with ash ware groups. In the Terminal Classic, the reduction of all groups regardless of composition suggest a major restructuring of the pottery complex due to loss of elite culture, reorganization of craft production, and a decline in display of luxury items among all groups.

Summary: Temporal diagnostics from serration techniques

After completing these analyses in 1992, I formulated a set of first order diagnostics -- those types or attributes restricted to a specific phase -- which I used as temporal markers to assign phase designations to all excavated lots at Xunantunich. For the Terminal Classic, spiked censers, pie crust impressions on jars, model-carving, and rimmed bowls are first order diagnostics. For the Late Classic I, diagnostics include

lateral ridged forms and Sotero Types. The Late Classic II has the highest diversity of types, styles, and forms but each diagnostic is also shared with periods either before or after the Late Classic II. In essence, the Late Classic II period is the nexus between two highly distinct periods with no true first order diagnostics. Because these first order diagnostics are extremely limited, I often used second order characteristics or types to assign phase designations to lots. The Terminal Classic complex is characterized by its numerous first order diagnostics plus high frequencies of TC variety Mount Maloney incurving bowls. The Late Classic II complex is characterized by high frequencies of tooling (such as fluting), ash ware polychromes, black slipped ash ware, cylinder vases, Dolphin Head Types, and Late Classic II variety Mount Maloney bowls. The Late Classic I complex is characterized by its first order diagnostics and high frequencies of cream slip, calcite polychromes, Dolphin Head Group, and Late Classic I varieties of Mount Maloney bowls. This scheme proved successful in dating most large lots, but smaller lots presented problems due to rarity of first order diagnostics. In order to flesh out the complexes in greater detail, those lots designed as single occupation contexts by the diagnostics described above are analyzed.

5.5 Late Classic II and Terminal Classic Assemblages

Single occupation, primary trash deposits located close to households are singled out to further clarify the temporal sequence and to provide percentages of ceramic groups and types for regional and household comparisons. For these analyses, cultural context is extremely important for generating accurate proportions of pottery groups and types. Unfortunately, primary trash deposits are difficult to find at Xunantunich and San

Lorenzo, perhaps due to the large quota of fill residents were required to provide for civic construction, as well as for their own household improvement projects.

Single occupation contexts

Despite their scarcity, XAP encountered refuse accumulations in the following locations. A deep stratified trash deposit containing both Terminal Classic and Late Classic II assemblages was located in a corridor between A-12 and its ancillary service structure (Op 123A). Other stratified trash deposits were found along both sides of a stairway in front of A-23 (Op 116 C,D,E,F) and behind plauzela group walls at San Lorenzo's Site 22 (Op 129D; 90G; 113 F,G). Smaller accumulations of single component Late Classic II refuse were found along platforms walls (Op 22 JJ, 95 D,K, 130G; 136A-C; 142A), inside corners of domestic staircases (Op 166K; 74 ZZ), or within blocked-off alley ways (Op 25D; 116I). Like Late Classic II deposits, single occupation Terminal Classic refuse was encountered inside staircase corners (Op 85 J,G) and behind platform walls (95C/5-D1; 129D; 138D; 146B) but also strewn across the tops of staircases (22 E,F,G,TU,V; 85O). Finally, *in situ* Terminal Classic debris was found lying across the original, buried occupation surfaces or plastered plaza floors (22 R,Y,Z,DD,JJ; 110A-M,R,S; 117C). Collapse debris from crumpling structures helped seal these accumulations between occupation surfaces and architectural fall, producing single-component deposits. The entire list of single occupation deposits, their cultural contexts, and phase designations used for this analysis is provided in Appendix 1.

As a caveat, I would like to note that even the cleanest deposits appear slightly mixed. In the jungle, roots and rodents create substantial bioturbation and wall fall

dislodges fill, impacting sherds into occupation deposits. Lastly, for a number of reasons, excavators may not always be able to cleanly separate deposits. Interpretation of the following tables must take these factors into account.

Calculating frequencies

The frequency of ceramic groups at Xunantunich and San Lorenzo are presented in the standard Barton Ramie format (Table 5.9). Within each group, the frequency of types are listed as a percent of the total group. New groups, types, and varieties identified at Xunantunich have been assigned names. Description and illustration of all groups, types, varieties and forms are presented in Appendix 4. Frequencies of groups, types, and varieties are based on rim sherd counts taken from single occupation household contexts only.

As you will note, the frequency of groups do not match those presented in the previous set of analyses because early analyses utilized all sherds to increase sample sizes within single excavation units. In the analyses to follow, rim sherd counts are used to calculate relative frequencies. Rims rather than bodies are used in order to control for differential ability to identify types. Some types are quite easy to recognize based on composition and decorative motifs or techniques placed on the body of the sherd. Some types are defined solely by elements along the rim while the rest of the vessel is identical to a myriad of other types. The convention of classifying types based on rim treatments necessitates their use in calculating frequencies.

The most obvious difference between calculating frequencies based on bodies versus rims appear within ash wares and Opaque Carbonate Ware. Calculations based

Table 5.9: Relative frequencies of groups and types in single component deposits

Ceramic Group, Type and Variety*	LCI	LCII	TC
Cayo Ceramic Group	**22.4**	**18.1**	**24.8**
Cayo Unslipped Type	90	98.4	100
Cayo Unslipped Type: Incised Variety	5.0	0.8	
Cayo Unslipped Type: Notched Variety	5.0	0.8	
Tu-Tu Camp Group		0.4	
Cambio Ceramic Group	**1.2**	**3.7**	**4.4**
Pedregal Modeled: Appliquéd Head Variety		100	11.3
Miseria Appliquéd Type			88.7
Macaw Bank Ceramic Group	**3.5**	**1.3**	**1.5**
Dolphin Head Ceramic Group	**7.1**	**4.3**	**0.3**
Dolphin Head Red Type (plainware)	66.7	53.4	100
Dolphin Head Red: Incised Variety		35.6	
Silver Creek Impressed Type	33.3	11.0	
Vaca Falls Ceramic Group		**0.5**	**2.1**
Vaca Falls Red type (plainware)		83.3	85.7
Kaway Impressed Type		16.7	14.3
Garbutt Creek Ceramic Group		0.1	0.5
Mount Maloney Ceramic Group	**20.0**	**36.9**	**46.5**
Mount Maloney Type (plainware)	100	99.8	100
Mount Maloney Type: Incised Variety		0.2	
Chial Ceramic Group (Opaque Carbonate)	**5.9**	**5.1**	**1.4**
Xunantunich Red-orange Type (plainware)	80	95.2	88.9
Xunantunich Red-orange Type: polychrome Variety	20		
Xunantunich Red-orange Type: Incised Variety		4.8	
Xunantunich Red-orange Type: Impressed Variety			11.1
Belize Red Ceramic Group	**12.9**	**11.1**	**12.9**
Belize Red Type (plainware)	63.6	37.9	24.4
Belize Red Type: Incised Variety	9.1	53.3	55.7
Platon Punctated-incised Type	18.2	0.7	1.2
Gallinero Fluted Type	9.1	1.4	1.2
Martins Incised Type		0.7	
McRae Impressed Type		4.9	17.5
Big Falls Type		0.7	
Chunhuitz Orange Ceramic Group	**15.3**	**11.8**	**2.6**
Chunhuitz Orange Type (Unpainted variety)	30.8	20.9	53
Benque Viejo Polychrome Type	69.1	75.6	41.1
Benque Viejo Polychrome Type: Tooled Varieties		3.5	5.9
San Lorenzo Black Group (ash ware)		0.5	0.2
Plain ware		33.3	
Channel-grooved Type		66.7	100
Peten Gloss Wares	**2.4**	**0.2**	
Undifferentiated cream slip polychromes	**7.1**	**2.7**	
Sotero Ceramic Group	**1.1**	**0.2**	**0.1**
Altar Fine Orange Ware			**0.6**
Other	1.3	3.1	2.6
Total rims (single occupation, household contexts only)	85	1220	665

* frequency of type is calculated as percent of group

on rim sherds derived from occupation contexts double the percentage of ash wares and halve that of Opaque Carbonate Ware. For ash wares, the increase most likely is due to their poor state of preservation within secondary fill deposits. Ash wares are especially friable and generally break into small pieces which erode rapidly into unrecognizable bits or dissolve away completely. This lowers their frequencies within secondary deposits when counts are based on body sherds. For Opaque Carbonate Ware, the opposite is true, this well-fired ware breaks into large, easily identifiable sherds, thus inflating its relative frequency within the assemblage. Calculating percentages using rim sherds minimizes differential breakage, preservation patterns, and the recognizability of certain highly distinctive types, thus frequencies may approach realistic proportions.

Types identified solely by their modeled bodies are never accounted for when rims are used to calculate frequencies. Cambio (censer ware) and Altar Orange ware types, therefore, are assigned frequencies based on calculations from sherd counts within the same contexts. Minor adjustments were made in the frequency of plainwares, in the case of censer wares to account for differences. Lastly, the Late Classic I assemblage is poorly represented with less than 100 rims encountered in occupation contests, thus the frequency of Late Classic I groups and type should viewed cautiously.

Ceramic groups and types

At the group level, trends already noted in stratified excavation lots are present but more clearly defined in single component deposits. During the Terminal Classic, ash ware frequencies decline from their Late Classic II high. However, the Chunhuitz Group is diminished whereas the Belize Red Group remains stable. Most calcite polychrome

types, such as the Peten Gloss wares and cream slip polychromes, disappear altogether but a few Benque Viejo polychromes may linger on. Dolphin Head and Chial Groups are substantially reduced, and, like Benque Viejo polychromes, their very low frequencies indicate either the tail end of their production distribution or a slight mixing of lots. The Terminal Classic is best characterized by Vaca Falls and Garbutt Creek Groups and Altar Fine Orange ware, although, their frequencies are also quite small.

Most of the differences between Late Classic II and Late Classic I groups appear to be the result of the small Late Classic I sample size rather than real patterning. However, some trends noted in stratigraphic analyses also show up in single occupation assemblages. The Late Classic I period displays the highest frequencies of undifferentiated cream slip polychromes, Peten Gloss polychromes, Dolphin Head Red Group, and Sotero Group (a brown or smudge slipped calcite ware). Generally, the Late Classic II period is only recognizable at the type and varietal levels because of overlap of groups.

At the type level, Belize Red types show the most marked distributions across all phases. During the Terminal Classic, McRae Impressed and a specific Platon Punctated-incised variety -- small rimmed bowl with incising and punctating along the rim and shoulder -- are the most distinguishable diagnostics. Elaborately decorated Martins Incised and Big Falls (gouge-incised) vases are restricted to the Late Classic II phase. Platon Punctated-incised plates, dishes and bowls are limited to the Late Classic I phase when this type is defined by both punctating and incising techniques. The frequencies of Belize Red undecorated and incised types do not vary across time, although variation

may exist across forms. In order to discover small scale temporal changes that define the difference between these three phases, microseriation of attributes within types is necessary.

New varieties

Gifford did not differentiate temporally sensitive varieties with the Cayo and Mount Maloney types, the two largest ceramic types at Xunantunich. My early success in microseriating Mount Maloney incurving bowl lips prompted me to look for variation within other large types, especially among common domestic forms which are often overlooked in stylistic analysis.

Within the Cayo Unslipped type, jar lips show marked stylistic variation. As already noted, flaring lips -- with or without pie crust impression -- are Terminal Classic markers. Alexander style jars, which are large jars with square vertical faces, are

Table 5.10: Relative frequencies of Cayo Unslipped jar lips

Lip styles	**LCI**	**LCII**	**TC**
unspecified	27.3	25.0	20.6
pinched	54.5	4.0	0.6
Alexander type	18.2	63.8	18.3
flaring lip		3.6	23.4
flaring lip with pie crust impressions		2.2	37.1
Total (jars from single occupation contexts only)	6	224	175

more common during the Late Classic II. Late Classic I jars have simple rounded or pinched lips. Overall, these early jars are much smaller in body size, neck height, and orifice diameter.

Among Mount Maloney jars, the curve of the neck appears somewhat temporally

diagnostic. Late Classic II jars generally have smooth neck contours, whereas later jars more often have overhanging, angled profiles. Although not reported, Late Classic I Mount Maloney jar lips can also be pinched like Cayo Unslipped jars.

Table 5.11 Relative frequencies of Mount Maloney jar varieties

Neck styles	**LCII**	**TC**
smooth	64.3	24.3
angled	35.7	75.7
Total jars (from single occupation contexts)	56	37

Secondary formal variation linked to temporal difference is probably evident in Belize Red types, especially common ones like Belize Red Plain, Belize Red Incised, and McRae Impressed, which exhibit substantial variation in specific attributes. Combinations of side wall curvature (flaring, incurving, etc.) and foot form (oven, tau, column, etc.) would be particular sensitively within a single type. Unfortunately, the combination of three attributes (style, primary form, and secondary characteristics) creates exponentially large numbers of varieties with such small sample sizes that meaningful statistical analyses are impossible.

Formal variation

Within the Belize Red Group, plates and dishes diminish in frequency during the Terminal Classic indicating a reduction in status displays and feasting activities. However, other ritual and serving forms, such as vases and drums, remain relatively constant. This complex pattern within ritual and serving forms may be explained by viewing differences in activities associated with ranked households. These analyses will be presented in Chapter 7. At the same time, jars and bowls increase in frequency and

their increase could signal more concern for storage and domestic preparation. Although this may be true, the increase in jars and bowls could be merely a statistical pattern created by the loss of dishes and plates from the assemblage.

Among secondary formal characteristics, Belize Red Group barrel-shaped vases clearly dominate cylinder vases in the Terminal Classic, although both exhibit overlapping distributions. The simple silhouette plate and dish forms also decline through time, a trend first noted in previous analyses. Overall, rim curvatures on open

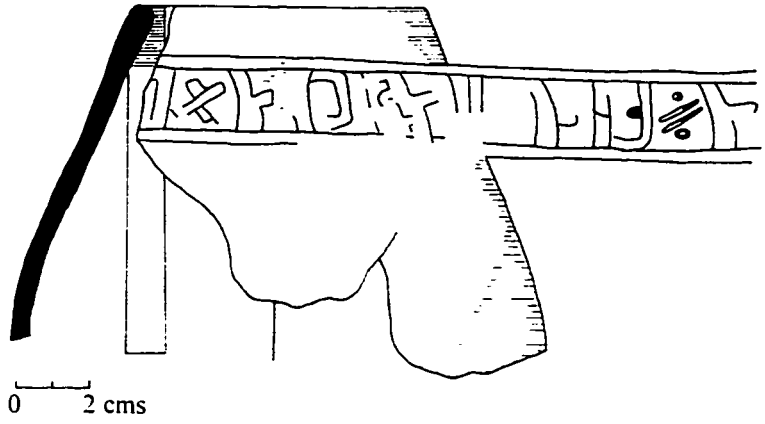
Table 5.12: Relative frequencies of Belize Red Group primary forms

Primary form	**LCII**	**TC**
Undifferentiated	31.4	34.9
Plates	13.1	4.7
Dishes	19.7	12.8
Bowls	18.2	26.8
Rimmed bowls		1.2
Vases	13.9	15.1
Jars	2.9	3.5
Drum	0.7	1.2
Total (rims from single occupation contexts only)	137	86

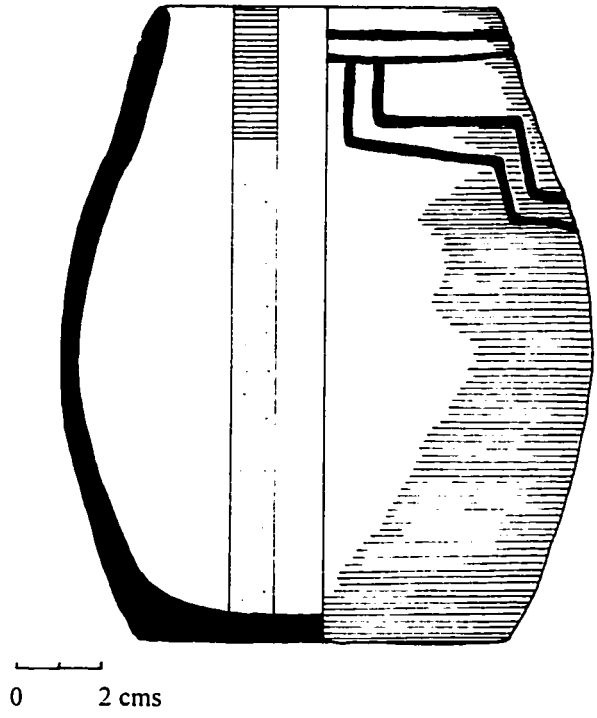
forms tend to shift from simple silhouette in the Late Classic I to flaring in the Late Classic II to rounded or incurving in the Terminal Classic period; however, there is variation in each period with the greatest amount occurring in the Late Classic II.

Table 5.13: Relative frequencies of Belize Red Group secondary forms

Secondary form	**LCII**	**TC**
Flaring or slightly outcurving	54.7	50.0
Silhouette	10.9	1.4
Rounded	2.5	6.9
Incurving	18.5	23.6
Cylinder	6.7	4.2
Barrel-shaped	5.9	13.9
Total rims (from single occupation contexts)	119	72



a.



b.

Figure 5.7: Stylistic variation in Belize Red Group barrel-shaped vase motifs. Late Classic II pseudo-glyph motif (113D/4.11513) a.; Terminal Classic geometric motif (85L/7-D1.6596) b.

Motif variation

Motifs are expected to be the most temporally diagnostic of all ceramic attributes. Unfortunately, the poor state of preservation at Xunantunich allows only superficial analyses. Abstract designs and kin signs appear to be restricted to the Late Classic II period. These motifs are applied by painting and the almost complete loss of this decorative technique in the Terminal Classic reduces their display. Nonetheless, complex figural scenes and glyphs are still represented in the Terminal Classic by model-carving even though polychrome painting is nearly eliminated. The desire to represent complex themes, especially those related to status, did not entirely disappear in the Terminal Classic. Terminal Classic types that display elite figures were made outside Xunantunich and these suggest that power struggles with the western Peten still produced the need to publicly announce status. Incised motifs on barrel-shaped vases change from a series of decorative signs and alphanumeric characters -- what I call a "pseudo-glyph band" -- to a stepped geometric pattern in the Terminal Classic (Figure 5.7). Geometric designs are the most common designs -- painted or incised -- found on

Table 5.14: Relative frequencies of motifs

Motifs	**LCII**	**TC**
Undifferentiated	86.6	87.0
Geometric	5.8	5.9
Abstract	0.4	
Glyph	2.6	2.4
Kin signs	1.2	
Representational	1.8	1.2
Scenes	1.8	3.5
Total rims (from single occupation contexts)	277	85

ceramics at Xunantunich in any time period. In general, painted motifs are relatively crude triangles, lines, and block of color. Geometric motifs are the standard Upper Belize Valley design tradition which survives into the Terminal Classic. Lastly, censers styles change from portraying the heads of gods or lords in the Late Classic to representation of spikes -- often interpreted as sacred cieba trees -- in the Terminal Classic. Overall, I suggest symbols displayed on pottery shift from during the transition from the Late to Terminal Classic glyphic or lordly signs back to a long term tradition of geometric or naturalistic representations.

5.6 Summary: Diagnostic Markers

Terminal Classic

The Terminal Classic complex represent a dramatic shift in wares, styles, forms, decorative techniques, and motifs and can be easily recognized given its distinct ritual and domestic types. However, the reduction in the number of serving vessels which display these techniques and motifs create problems when attempting to assign dates to small collections that are devoid of serving ware. Thankfully, variation of domestic bowl and jar lips makes the problem simpler.

The complex is primarily marked by the increase of calcite wares at the expense of ash and Opaque Carbonate wares. The Terminal Classic assemblage is dominated by domestic pottery, especially the Cayo Unslipped and Mount Maloney Groups that comprise 70 % of the complex. Unslipped jars with flaring or pie crust lips are common, as are Mount Maloney incurving bowls with flat lips, jars with overhanging neck profiles, and small rimmed bowls. Censers predominately belong to the spiked

appliqué style but some god-head censers may still be used by certain social groups. A micaceous ware -- the Macaw Bank Group -- was produced in small, open mouthed jars.

Ash wares are limited in frequency and diversity to a few Belize Red and Chunhuitz Orange types. McRae Impressed type with oven feet is the standard serving vessel, replacing many Belize Red Group and Benque Viejo polychromes plates and dishes. Platon Punctated-incised Type barrel-shaped vases with stepped designs, simply punctated and incised rimmed bowls, and Chunhuitz Orange Type monochrome incurving bowls compose the remaining serving vessels. Lastly, calcite red wares -- Vaca Falls and Garbutt Groups -- along with Peten-influenced styles -- Altar Fine Orange ware -- appear in small numbers.

Table 5.15: Terminal Classic diagnostics at Xunantunich and San Lorenzo

Attributes	**Associated types**
Spiked censers	Miseria Appliquéd: Variety unspecified
Flaring lips on storage jars	Cayo Unslipped: Variety unspecified
Pie crust impressed lips on jars	Cayo Unslipped: Variety unspecified
Model-carving	Pabellon Model carved: Variety unspecified
McRae Impressed with oven feet	McRae Impressed: Variety unspecified
Mount Maloney incurving bowls with flat lips	Mount Maloney: Variety unspecified
Mount Maloney rimmed bowls	Mount Maloney: Variety unspecified
Punctated-incised rimmed bowls	Platon Punctated-incised: Variety unspecified
Red slipped jars and bowls	Vaca Falls and Garbutt Creek Groups

Late Classic II

The diverse Late Classic II assemblage contains the largest number of groups, forms, decorative techniques and design motifs. Differentiation of the early and late phases of the Late Classic rests upon a few diagnostic forms and decorative techniques.

Within calcite wares, Mount Maloney Group makes up roughly 40% of the assemblage. Incurving bowls have beveled and tooled lips and jars exhibit a full range of neck shapes and dimensions. At this time, unusual Mount Maloney forms such as plates, vases, deep bowls, lids, and candeleros are produced. Some closed ollas -- abundant throughout the Late and Terminal Classic -- have incised lines near the rim.

Cayo Unslipped Types also exhibit the greatest range in stylistic and formal aspects at this time. Stylistically, incised and notched decorative techniques, as well as numerous lip styles, especially Alexander Type varieties, were produced on jars. Formally, Cayo Unslipped Types were manufactured as closed ollas, lids, lip-to-lip vessels, large flaring and hemispherical bowls, and possibly a handled plate or comal.

Lastly, three minor calcite groups are encountered during the Late Classic II. Dolphin Head Group -- the most numerous calcite serving vessel -- is found in a large, flaring plate form, as well as, tripod dishes and hemispherical bowls. Opaque Carbonate Ware was produced in a large variety of forms, including jars, tecomates, "brandy snifters", and drums -- many of which exhibit shallow groove-incised geometrical designs. The micaceous Macaw Bank Group, normally restricted to jars forms, may have been produced in incensarios and small bowls form at this time.

Ash wares characterize the Late Classic II phase and were the major serving wares. The highest diversity of slip colors and decorative styles are found at this time. Red and orange slips predominate but cream, natural, and black backgrounds were produced. Fluting, patterned impressing, and incising, as well as composite techniques such as painting and fluting, were common. Although a few sporadic Peten Gloss Ware

polychromes linger, painting was generally applied to Chunhuitz Orange slipped ash ware vessels. Unusual forms such as howler monkey effigy pots, pyroforms, and channel-grooved outflaring vases are found only at this time.

Late Classic I

Like the Terminal Classic, Late Classic I temporal diagnostics are easily recognized but occur in low frequencies. The most common diagnostics are the lateral ridged plate, dish or bowl which mark the end of a long tradition of flanged vessels. These dishes were produced as either calcite or ash wares. Calcite polychromes, such as Saxche and Palmar Groups, predominate over ash ware polychromes in this period.

Table 5.16: Late Classic I and II diagnostics at Xunantunich and San Lorenzo

Late Classic II	
Cylinder vases	Palmar Ceramic Group
	Puhui-zibal Composite: Unspecified Variety
	Big Falls Gouged-incised: Unsp. Variety
	Mount Maloney Type
Barrel-shaped vases	Martins Incised Type
Black slipped ash ware	none
Late Classic I	
Lateral ridges	Belize Red Group
	Saturday Creek Ceramic Group
	Saxche Ceramic Group
Polished brown slips	Sotero Ceramic Group
Smudged-black slips	Sotero Ceramic Group
Texturing (striations)	Jones Camp, White Cliff, or Zibal Types

Other less common Late Classic I temporal diagnostics include Sotero Types and Mount Maloney incurving bowls with vertical smoothed lips. These diagnostics form the basis for recognizing the Late Classic I period at Xunantunich. However the assemblage also

contains other less temporally discreet types such as small jars with pinched lips (both Mount Maloney and Unslipped plainware), simple silhouette Belize Red dishes, Platon Punctated-incised Type dishes and plates, cream slips polychromes associated with Zibal Buff, Juleki Cream Types and the occasional Holmul style, and notched Dolphin Head bowls (Silver Creek Type). As a final note, Late Classic I red ware rims assigned to the Dolphin Head Group actually may be better classified as Mountain Pine Red but at Xunantunich and San Lorenzo variation within Pine Ridge Carbonate Ware in terms of slip color, decorative techniques, or other group related aspects were not self-evident.

5.7 Conclusions: Chronological Revisions and Future Studies

My ceramic chronology is not a new or radically different scheme; rather, it is the result of almost 60 years of research in the Belize Valley by distinguished archaeologists. These revisions represent the continuing process of refinement and the inevitable splitting of periods as more work in the Belize Valley allows us to better characterize the Late and Terminal Classic Maya.

There are only a few areas in which my research contradicts Thompson's scheme. First, I find that some types are not as temporally discreet as Thompson indicated. Some of his Benque Viejo IV types may start earlier, at the very end of Late Classic II(B), and then continue into the Terminal Classic. These transitional types are rare and include Mount Maloney rimmed bowls, Cayo Unslipped jars with flaring lips (without pie crust decoration), and tall gently outcurving necked plainware jars. Current excavations at elite contexts at Xunantunich (A-6 and A-12) have discovered a previously undocumented polychrome ash ware type -- a red and black on light orange

tripod dish -- also associated with this transitional period. The new, yet unnamed, Chunhuitz polychrome type has tall, hollow columnar feet and one vessel has a notched basal angle. Second, I suggest barrel-shaped vases span the Late Classic II and Terminal periods, whereas, Thompson restricted their use to the Late Classic II period.

Gifford's chronology works relatively well at the group level, although, some Barton Ramie groups -- Garbutt Creek Red, Yalbac Smudged-brown, Rubber Camp Brown, Achote or Meditation Black, and Tu-Tu Camp Striated -- are found in very low frequency at Xunantunich. Their low frequency suggests differential production and distribution zones or polity boundaries rather than temporal variation. Similarly, some very distinctive Xunantunich pottery styles are not found at Barton Ramie, especially the wide variety of Mount Maloney forms and San Lorenzo Black Type (black slipped ash ware). I find these types very sensitive to temporal shifts at Xunantunich.

Overall, more work is required to understand variation in ash wares. Temporally, ash ware appears earlier and lasts longer at Xunantunich than is evident at Barton Ramie. More importantly, I can not consistently make the distinction between Gifford's two ash wares: British Honduras and Vinaceous Tawny. British Honduras ware is characterized as a red slip on light "buff" paste, whereas, Vinaceous Tawny ware is associated with an orange slip on a "tan" paste. I find, however, that ash ware paste color grades continuously from light gray to strong brown with an equally continuous variation in surface color and treatment. Much of the continuous variation evident in the slip color is due to the fact that the two slips are derived from the same clay based pigment slip and the difference between red and orange colors depends on the thickness

of the slip (Shepard in Thompson 1940:11-17 and Reents-Budet 1994). Further, polishing also produces denser hues by aligning fine clay particles. Given a large sample of well preserved sherds, it is evident that combinations of slip color and polishing results in continuous variation in surface appearance. Like Gifford, however, I find the Belize Red Group consistently higher polished with denser hues than the Chunhuitz Orange Group, which has a thinner, lighter orange, semi-matte slip. The Belize Red slip is applied to a wider variety of forms than Chunhuitz Orange surface treatment. The latter is not applied to tripod vessels, rimmed bowls, barrel-shaped vases, pyroforms, or jars. I have, however, found examples which contradict these associations.

William Woods, soil scientist at SIU-Edwardville, suggests that ash ware paste color may be a product of the amount of organic material in the clay source. At Xunantunich, Belize Red and Chunhuitz Orange Groups have the same overall range of paste colors, with over 50% of the sherds from both groups exhibiting reddish yellow (Munsell 7.5 YR or 5 YR 6/6, 6/8) paste colors. Despite these consistencies, Chunhuitz Orange pastes are more variable with higher frequencies of brown paste colors, indicating that potters producing Chunhuitz Orange vessels had access to a wider range of clay sources.

A second source of paste color variation is due to firing conditions. Within a single vessel, paste color can range from light gray to tan, the latter of which is especially evident in fire clouds. This suggests hotter, more reducing atmospheres produce light gray pastes, whereas, more oxidizing atmospheres produce tan colored

ones. Furthermore, light gray pastes are generally harder and "clink", whereas, brown pastes are softer and more friable. This suggests differential firing techniques. Taken as a whole, these observations argue for a number of factors that result in different ash ware paste colors including source of raw clay and firing conditions.

Refinement of the Belize Valley chronology permits investigation of synchronic variation across households within each period. To determine whether differences exist in pottery assemblages of social groups, the next set of analyses will focus on comparing the frequency of wares, types, varieties, and forms across households ranked by size, architectural layout and location within the site. Before ceramic vessels can be used as indices of wealth and markers of social activities, however, inferences must be made concerning their multiple roles as wealth items and domestic tools. The next chapter therefore focuses on assigning social meaning and value to pottery styles and forms.

Chapter 6: Pottery and Power: Ceramics as Wealth in Late and Terminal Classic Maya Society.

> "The Indians in making visits always take with them a present to give, according to their rank; and the person visited gives another gift in return...The tribute which they gave was cotton *mantas*, cocks, hens, maize, honey and all the other things of value they did not have, but all which the country produces they give to the governor in recognition of his lordship" (Tozzer 1941:97).

6.1 Introduction

The control and manipulation of wealth, defined as rare, sumptuary items used in display, ritual, and exchange, is a key factor in creating, sustaining, and expanding social power (Brumfiel and Earle 1987). By monopolizing symbols displayed on wealth items and sacred objects, individuals establish and maintain ideological power by linking themselves with foreign authority, divine gods, or ethnocentric principles. By giving wealth, leaders reinforce existing relationships and attract new clients and allies, thereby, enlarging their support base and garnering economic revenue. By controlling the production or distribution of wealth, individuals use luxury goods as primitive currency to display status, fund political contests, provision administrative personnel, and support craft specialists. The socio-political significance of wealth is derived from its role in communicating group inclusion through reinforcing social boundaries associated with social status, ethnic affiliation, or political position (Douglas and Isherwood 1979). The distribution of certain kinds of wealth objects, therefore, can lead to an understanding of how individuals manipulate and use wealth as a political resource.

All wealth items do not have the same value or roles in society. In this dissertation, I make a distinction between two kinds of wealth: exclusive status symbols

and disposable wealth. Very few wealth objects are exclusive status symbols which unequivocally distinguish the rank of its bearer (Hirth 1992). As unique insignias of socio-political standing, rare items are exchanged by individuals within a well-defined positions such as the feathered cloaks of the Hawaiian chiefs (Earle 1987); the lip, nose, and ear ornaments of Aztec lords (Brumfiel 1987), and the Jester God crown of Maya royalty (Freidel and Schele 1988). These items communicate rank through the display of specific symbols which make intimate connection between the owner and the source of his/her social power. Often these insignias are made from rare materials, display ornate iconography, and require advanced craftsmanship to produce. For these reasons they have high exchange values; however, the exchange values are far less than their worth as symbols of ideological power (Weiner 1992). Their significance derives primarily from ideological connections with powerful external forces such as gods, ancestors, foreign powers, and historic events which make them inalienable possessions.

Disposable wealth, on the other hand, is a form of primitive currency purposely distributed as gifts or payments to clients and allies. Disposable wealth items also impart meaning but at a much less specific level. Because their meaning is more vague they circulate more widely. Their circulation allows for a greater range of meanings and, therefore, value. Disposable wealth can be accumulated by individuals. Its accumulation implies that these individuals have special social ties with powerful leaders. A wide variety of items can be used as disposable exchange items -- polychrome pottery, jade celts, precious jewelry, or obsidian eccentrics -- as long as each maintain a degree of scarcity either though control of their production or distribution. Restricted access to

disposable wealth makes these desired objects suitable as primitive currency for economic, social, and political ends. However, their political uses make them more prone to devaluation and poor indicators of high status. For example, during potlatches American Northwest coast chiefs ambivalently distributed and destroyed oil, cloth, and metal in order to exhibit personal economic prosperity, increase their social prestige, and preserve through destruction the scarcity of the items themselves. But, while they conspicuously consumed disposal wealth, these chiefs refrained from giving or destroying exclusive, inalienable status items which were the sources of their ideological power (Weiner 1992:41).

Differences between wealth items, in terms of values or roles, is not clear-cut since any object can be imbued with special importance. All objects have meaning, therefore, they have value to specific individuals. Their ability to convey meaning is often achieved through overt symbols painted, woven, or impressed on the surface. However, subtle physical characteristics of shape and color also hold and communicate important cultural concepts. For example, the shape of cooking pots signify ethnic affiliation among Fulani people in west Africa (David and Hennig 1972).

Any object, plain or elaborately decorated, can assume significance through physical and symbolic connections with individuals, social groups, gods, ancestors, homelands, or historical events. A child's' crayon drawing may be curated and cherished for life but is of little value to individuals outside the family group. Wealth is an item that crystallizes meaning to a larger group and preserves that meaning for a considerable length of time. Because it embodies characteristics that are appreciated by a

larger group, it has general exchange value. However, the value of an object is not universal; not all groups or individuals share similar ideas concerning its meaning nor significance of symbols. How individuals create, maintain, and extend meaning, (thus create, maintain, and extend the value of objects) is critical in understanding how wealth is used as a medium to negotiate social relations.

Objects assume value through many aspects. Earle and Brumfiel (1987) suggest they attain value through the use of rare materials; regulation of production and/or distribution systems; and display of specific symbols which materialize dominant ideology (DeMarris et al. 1996). Weiner suggests value is also created though reproducing social relations (1992). She concentrates specifically on cloth and how it acts to authenticate and confirm connections with historical legacies and ideological power. Pottery and cloth are nearly identical in manner of production, distribution, and role in society. Individuals who monopolize materials procurement, manage production, distribute goods, and create or manipulate symbols gain power over social relations. Attempts to stabilize the value of wealth rests in the ability of individuals to maintain its meaning to a prescribed construct.

The use of rare, precious materials is one of the easiest ways to maintain value. Precious materials are esteemed for their exceptional and enduring physical properties - purity, flawlessness, clarity or rarity of color, material, or shape. Luxury goods are often, but not always, made with limited or foreign substances such as gold, jade, or spondylus. Because they are unique and scarce items within the environment, their procurement and distribution easily can be regulated. Many other wealth items,

however, assume value through production. Wealth items communicate important social information through decoration or design which requires labor to execute (Costin and Hagstrum 1996). Labor, however, is the most difficult aspect of production to regulate and requires constant attention to preserve the value of items produced. Labor demands direction of individuals or groups who may resist regulation, attempt to undermine production, or produce rival items for their own gain. Wealth items that rely solely on labor intensive techniques to assume value, therefore, can be easily copied and devalued since the producer's time and energies are the most difficult aspects of production to coordinate. Workshops, which aggregate craftsmen and provide an institutionalized framework for production, are methods for regulating labor and maintaining the value of goods. The manner in which labor is organized, therefore, indicates the degree to which labor is controlled and value is retained. Stylistic attributes such as motifs, forms, or colors are equally difficult to maintain a consistent meaning. These items, like symbols in general, are inherently ambiguous in meaning and multivocal (Kertzer 1988). In other words, they mean different things to different people and interpretations can easily be corrupted. Those products which require special skills or knowledge, such as hieroglyphic text, however, are more easily controlled because meaning is more concisely defined and regulated. Production techniques, skills, and advanced knowledge of these symbols are gained through years of apprenticeship with masters and concentrated in a small number of individuals. Individuals worthy of education are training are often hand-picked or are members of the dominant group; this ensures confinement of knowledge. Very few individuals acquire the necessary skills to

produce these valued items, and these people are highly rewarded for their expertise. Knowledge of sacred symbols and writing systems are, therefore, highly guarded to maintain meaning and stabilize the value of objects which display them. The ways by which individuals create, maintain, and attempt to expand the value of objects, therefore, helps us to understand how wealth items are used as sources of social power.

6.2 Pottery as Wealth

Pottery vessels can be ritual objects, display and exchange goods, or common domestic utensils. Pottery's ubiquity on late prehistoric sites can be explained by these multiple roles. Ceramic was the first synthetic material created by humans and is relatively easy to produce using common materials (clay, rock, fire, and water), relatively little skill, and simple technology (Rice 1987a). Initially, it was valued as a durable and relatively portable container (Brown 1986). Water-tight and fire-resistant, its predominant role continues to be as a common household tool for boiling dried carbohydrates and storing goods. Pottery, however, is also amenable to decoration. Therefore, it also is a highly popular medium for communicating social and cultural information (Braun and Plog 1982; Wobst 1977). Because of its portability and small size, pottery is easily transported over considerable distances, making it an excellent gift and marker of social affiliations. Its portability likewise permits it to be moved from private to public contexts and allows individuals to arrange its display at family-oriented day-to-day activities, private observances, or public ceremonies. The ability to shift contexts makes pottery a powerful medium to communicate social affiliation. Through long-term use and intimate association, individuals, groups, or polities come to identify

with particular pottery vessels or styles. Special vessels often are buried or "killed" for inclusion in human internment or ritual caches. This cross-cultural practice illustrates how pottery is directly linked with people's lives.

As a wealth item, pottery's value is created through the regulation of three aspects 1) clays, tempers, and pigments, 2). social relations involved in production and distribution systems, and 3) the display of style. Classic Maya pottery complexes are some of the most diverse Pre-Columbian assemblages in the New World and are an excellent medium with which to study how value is created and regulated. Codex-style vessels illustrate and describe historic events and godly images. Their display informs social history and validates status and political position (A. Chase 1985). Highly decorated import pottery found throughout the lowlands Belize, Mexico, and Guatemala signaled cultural affiliation or trade among regional elite (Sabloff 1986). Many local styles were labor intensive, making them perfect examples of disposable wealth to be gifted or awarded to honored allies or kin. Lastly, fine wares were produced with crushed volcanic ash which is limited in distribution and could have been controlled by elites. Variation in raw materials, labor investment, design styles, and distribution networks makes Classic Maya ceramic assemblages perfect for studying how wealth is produced, how it retains value, and how it is used as a political resource.

Raw Material

The distribution of pottery wares determines whether Maya elite regulated raw resources for luxury pottery production. Within the Belize Valley there are two major Classic period wares: ash and calcite wares. Calcite wares -- the most common pottery

fabric -- are not expected to show differential distribution across households, due to the wide-spread occurrence of raw materials used in their production. Smectite clay, the matrix material of many calcite wares, is an ubiquitous constituent of the Cretaceous limestone sediments of the Belize Valley and surface deposits are found less than 5 kilometers from Xunantunich (William Woods, ISU Soil Scientist, personal communication). Igneous, calcite, and quartz tempers found in most calcite wares can be obtained within a day's walk of Belize Valley in the same locations as material for ground stone. Ash ware pottery, on the other hand, may show differential distributions because of the limited distribution of volcanic tephra used for tempering this ware. The restricted nature of this resources is amenable to monopolization by elites.

The only known source of volcanic ash is located in the northern Maya highlands, however, Ford and Glicken (1987) suggest ash from recent eruptions of volcanoes in Guatemala could have settled over the area quite recently. They contend that ash settled directly on the ground surface and was accumulated by the ancient Maya for pottery making and natural fertilizer. Ash for pottery manufacture, therefore, was wide-spread, abundant, and easily available. They suggest this availability accounts for the lack of differential access to ash tempered ceramics in major centers around Tikal (1987:485).

If ash fall was recent and relatively substantial, one would expect more archaeological evidence of ash in soil profiles or cave deposits. However, no ash deposits have been found in stratigraphic excavations throughout the Belize Valley nor have geologists searching the Maya Mountain found it. This situation suggests ash was

scarce even in Late Classic II times during the height of its use. Robert Johnson, BHP Minerals geologist, contends airborne ash from the Bladen Volcanic series (active around 100 million years ago) would have settled directly on ground surface but may have accumulated on the leeward side of ridges near the base of the Maya mountains. Ash which settled on the ground surface rapidly eroded but that which accumulated along ridges could have been protected and quickly buried by alluvium. If this scenario is valid, ancient Maya could have mined small, localized ash deposits along tributary drainage bottoms where erosion first exposed pockets of tephra. Since pockets of ash were localized, elites could monopolize mining activity. Additionally, the cost of mining and transporting the bulky material would make ash ware pottery prohibitively expensive for commoners. It is also possible that volcanic ash or pumice is foreign to the area and was transported into the area via canoes up the Belize River from the Caribbean sea. Shipping expenses would inflate the cost of ash ware pottery and elites could have monopolized access through trading partners. Unlike Ford and Glicken, I assume that ash was scarce and probably locally mined. Its limited distribution make it prone to monopolization by elites.

This study will view the distribution of ash ware pottery in the Belize Valley and determine whether there was differential access to this fine ware. If access to ash ware pottery appears ubiquitous, like that found by Ford and Glicken in the Tikal area, then I will assume elites were not interested in regulating raw resources of pottery production.

Pottery production and distribution

Although codex-style pottery is the best known luxury pottery type, the bulk of

Late to Terminal Classic assemblages are composed of domestic plain wares and a wide variety of less-prestigious, locally produced luxury types. During the Late and Terminal Classic, almost 70 % of all vessels are slipped and nearly 30 % exhibit some form of additional decoration including painting, impressing, and modeling. Locally produced luxury pottery, such as Benque Viejo polychromes, Belize Red monochromes, and Pedregal Modeled incensarios, vary significantly in the amount of labor invested in their production. A small fraction of these types exhibit a third and even a fourth decorative technique. For example, Benque Viejo Polychrome: Tooled Variety is a polychrome painted type with either an appliquéd and notched basal angle or fluted decorations on the body of the vessel. The diversity of decorative techniques and styles argues for a wider range in the organization of craft production and distribution systems than current models indicate.

The prevailing model of Maya pottery production suggests that the bulk of Classic Maya pottery was manufactured by part-time community craft specialists (Rice 1987a:78). No pottery workshops, kilns or concentrations of production debris have been found to suggest full-time or workshop specialists. Distributional studies (Fry 1979; Fry and Cox 1974; Rice 1987b) indicate local luxury styles, like utilitarian pottery, were produced by part-time specialists residing in villages which specialized in the manufacture of a single ceramic group, much like modern potting communities found today in the Maya highlands (McBryde 1945; Reina and Hill 1978). Maya centers are considered to have been predominantly consumers rather than producers of pottery. At large centers such as Tikal and Palenque, luxury pottery production loci are encountered but these are scattered

across the sites and not restricted to workshops or attached to elite households (Becker 1983: Fry 1980). Rice suggests luxury pottery was redistributed locally through kin relations where vessels were given to the heads of kin groups as tribute and, in turn, distributed as payments for other goods and services (1987b:77). Given the presence of ethnohistoric and ethnographic markets, however, many researchers suggests local luxury pottery and other items could have circulated freely and were not subject to elite or kin intervention (Sharer 1995; Sabloff 1986; Freidel 1981). The lack of differential access to luxury pottery found at large sites (Chase and Chase 1993; Hanson et al. 1991; Beaudry 1987:244; Willey et al. 1965; Cowgill et al. 1984) implies Maya elites had little control over the production and distribution of domestic and luxury pottery.

These studies, however, fail to examine the full range of pottery types within the assemblage nor, with the single exception of Beaudry (1987), do they quantify labor invested in those types. With the substantial variation evident in Classic Maya pottery, certain highly decorated types might show more regulation in production or distribution than do less elaborate types. The ranking of all decorated types using a labor investment index provides comparative evidence to view the organization of pottery production and address issues of elite control in their distribution.

Craft production can be organized in eight different modes and each mode can evolve and occur simultaneously given particular social, economic, political, and environmental circumstances (Costin and Hagstrum 1995; Costin 1986, 1991). The organization of production and the types of craft specialization can be delimited from technological characteristics of objects (Table 6.1). According to Costin and Hagstrum

Table 6.1: Types of craft specialization and their technological characteristics*

Type of Specialization	Labor investment	Skill	Description
Individual specialization	low	low - moderate	Autonomous individual or household-based production units, aggregated within a single community, producing for unrestricted regional consumption.
Dispersed workshop	low	moderate	Larger workshop dispersed among the population producing for unrestricted local consumption.
Community specialization	low	moderate	Autonomous individual or household-based production units, aggregated within a single community, producing for unrestricted regional consumption.
Nucleated workshops	low	moderate	Larger workshops aggregated within a single community, producing for unrestricted regional consumption.
Dispersed corvée	low	low	Part-time labor producing for elite or government institutions within a household or local community setting.
Nucleated corvée	moderate - high	moderate	Part-time labor recruited by a government institution, working in a special purpose, elite, or administered setting or facility.
Individual retainers	high	high	Individual artisans, usually working full-time, producing for elite patrons or government institutions within an elite or administered setting.
Retainer workshop	high	high	Large-scale operation with full-time artisans working for an elite patron or government institution within a segregated, highly specialized setting or facility.

* from Costin and Hagstrum 1995

the context of production, defined as the sociopolitical status of consumers and the nature of the producer-consumer relationship, is reflected in the amount of labor invested in the production of items (1996:623). Luxury items produced by attached specialists are more labor intensive than those of independent specialists. Skill, which reflects the craftperson's experience, proficiency, and talent, is considered to be correlated with intensity of production and to be greatest in the wares of full-time specialists. Those items that require the greatest amount of skill and training are produced by relatively few, uniquely trained individuals.

Rice argues that the bulk of Classic period pottery, with the exception of "codex-style" types, was produced by community specialists (1987b). According to Costin and Hagstrum's model, if Classic Maya pottery was produced by part-time village specialists, types should exhibit relatively low labor investment in their production and require moderate amounts of skill used to produce design motifs. Clearly, highly decorated Late Classic types do not fit this pattern. Some polychrome types, especially those with representational painting and more than one decorative technique, appear to fit the nucleated corvée specialist or even individual retainer categories. Both types of specialists produce pottery for patrons or governmental consumption within an elite or administered setting. The difference lies in the amount of labor invested and the skill exhibited by potters.

Some decorated Classic Maya types may have been manufactured by nucleated corvée crafts-specialists who produced solely for elite lineages as tribute. The full range of decorated types would be accumulated by nobles as tribute from community potters,

corvée specialists, and, in certain situations, from attached craftsmen. Heads of subordinate elite lineages, which had their own loyal populations, also obtained luxury types as tribute, although they may not have had access to the full range of luxury types nor received the volume garnered by the ruling family. Commoner lineage leaders obtained a smaller range of luxury vessels, mainly through kin connections and elite redistribution. In a kin-based redistributive system, like that envisioned by Rice, even small commoner households should have access to some decorated vessels, and more than would be expected in a market based system. Certainly, less decorated luxury types should fit the model of community rather than corvée specialization. In the Classic period, locally produced luxury pottery types, therefore, should show differential access depending on social status, kin affiliations, socio-political ties.

Gift exchange complicates this pattern since it distributes luxury goods across social ranks. As Landa stated "...Indians in making visits always take with them a present to give, according to their rank; and the person visited gives another gift in return" (Tozzer 1941:97). Exchange of luxury pottery was recorded among 16th-century Yucatec Maya by Landa at political functions, feasts, and ceremonies to venerate ancestors. These exchanges were competitive and required reciprocation. As Landa stated, when a person died, his household or his relatives were obliged to repay the social debt (Tozzer 1941:91).

As elite competition escalated, displaying and gifting pottery wealth would inflate the use of luxury goods among elites and tend to equalize the distribution of luxury pottery types. During the Late Classic, commoner groups located on valuable

land received considerable attention by elites who attempted to involve them in a network of vertical relations. Gifts, used to entice or solidify their participation in social alliances, trickled downward into the hands of commoner lineage headmen. This scenario should apply to elite competition at Xunantunich and their social relations with San Lorenzo headmen.

Gifts between regional Maya elite were critical in consolidating and maintaining socio-political alliances and prestige building (Sabloff 1986). Adams (1968, 1977) suggests that regional elites gifted vessels as funeral commemorations for kinsmen. Royal families also obtained pictorial ceramics through gift exchanges and intermarriage (Marcus 1973, 1976, 1983). The Juancy Vase found at the Belize Valley site of Buenavista names Smoking Squirrel -- the Naranjo king -- suggesting it was a gift between regional elite (Houston, Stuart and Taube 1993).

Individual figural vessels would have been imported into the Belize Valley as elite trade items. Compositional studies have located the general production loci for the three major figural types including "codex style" types (Bishop et al. 1983; Bishop 1992; Bishop, Harbottle and Sayre 1982; Bishop and Rands 1982; Bishop, Rands and Holley 1982). Terminal Classic Fine Orange Ware was produced along the Usumacinta river on the western border of Guatemala and Mexico. Codex-style vessels were manufactured northwest of Uaxactun and south of El Mirador in northeastern Guatemala. Lastly, the Holmul style is associated with the site of Holmul in northeastern Guatemala, although a local variant may have been produced in the Belize Valley at the site of Buenavista (Ball 1993).

At Xunantunich, the socio-political value of codex-style vessels derives primarily from their connection with foreign elite and the portrayal of pan-Maya iconography. Their frequency signals the strength of socio-political ties with Peten states and their distribution within the polity can be used to view vertical relationships established between and among factions.

Pottery iconography and the significance of symbols

There are two basic categories of Maya iconography: 1) glyph and figural scenes, and 2) non-thematic motifs. Codex-style icongraphy has received the bulk of attention (Coe 1978; Reents-Budet 1994; Robicsek and Hales 1981). As public art, thematic scenes on pottery are a key element in transmitting social status and displaying power relationships (Tate 1992). However, it should be recognized that all designs impart important social information, and even simple motifs may be linked to specific lineage groups (Longyear 1952). Investigating the distribution of local designs, as well as thematic styles, will address issues of pottery as markers of social affiliation and status.

Codex-style vessels display figural scenes and hieroglyphic text which focus on a select group of topics. According to Reents-Budet (1994), scenes display three major subjects: natural environment, historical scenes, and supernatural beings and events. For the Maya, thematic scenes helped order the cosmos, inform history, structure ritual, and transform the elements of elite everyday life into the supernatural realm (Schele 1990:55). Often, they are used to document ritual performances by recording events such as dynastic marriages, births, deaths, and military conquests. On some vessels, scenes are accompanied by hieroglyphs which narrate action, dedication, and ownership

of vessels (Schele 1990:54). Marcus (1992) contends that the Maya hieroglyphic system was created by elites to record events and genealogies in order to monopolize and manipulate social history and ideology power. The goal of the writing system was not mass communication but presentation of ideological propositions that documented status and political position among competing elites. Production and distribution of iconography, especially portable scenes on ceramics, were thus critical mechanisms for creating, maintaining, and expanding the ideological power of elites in the society as a whole and for waging internal elite competition for rulership.

Codex-style vessels required skill and knowledge for "encoding or infusing local wisdom and culture into visible form" (Tate 1992:30). Elite permission may have been essential to produce sacred themes because they portrayed specific rituals. Certain vessels may have been produced solely by elite commission since they were dedicatory statements which provided the owner's name and explicitly stated the relationship of the owner to the events illustrated (Mathews 1979:79). Many Primary Standard Sequence texts found on vessels contain the artisan's name, a fact which also support the idea that vessels were commissioned and produced by a small number of highly trained artisans. Not all figural vessels depict explicit, historical themes, but it can be argued that complex scenes, in general, document ties with historical events, divine gods, or important ancestors.

Ceramicists contend elites controlled the production of glyph and figural vessels (Ball 1993; Bishop et al. 1983; Bishop 1992; Coggins 1975; Reents and Bishop 1985; Reents-Budet 1994; Robicsek and Hales 1981). Along with codex-style vessels, post-

fired stucco painted and model-carved types require specialized technological expertise, artistic abilities, and hieroglyphic knowledge -- information and resources vested in a limited number of attached specialists. Currently, the debate circles around the scale of production and the degree to which specialists were connected to particular elites. Reents-Budet suggests artisans were well-educated elites and members of the royal court (1994). Others suggest craftsmen were traveling artisans commissioned by elites to produce entire pieces or paint pre-formed vessels (Hammond 1982; Coggins 1975). Certainly, artisans who painted vessels may been very specialized and removed from the physical production of vessels. Un-fired, "green ware" vessels could have been provided to individuals who then painted and inscribed them. Therefore, location of vessel production and decoration were not necessarily the same. At this time, however, there is little archaeological evidence to support either hypothesis. So far, only Taschek and Ball (1992) have found sherd concentrations associated with a palace structure indicative of attached specialists.

The most important aspect of codex-style vessels remains their meaning (or value) and how it is retained. The thematic scenes and glyphs on certain vessels display the source of political, ideological, and economic power among Classic Maya elite, and surely their production was tightly regulated. Because the complex iconography required craft-specialists to produce, their meaning was more easily maintained and their value was stabilized. Their distribution, on the other hand, indicates they had varied roles in Maya society. Many vessels were closely guarded family heirlooms displayed in life and in death. Vessels were made for commemoration of a specific event and owned by a particular elite individual throughout his life (A. Chase 1985). The vessels either were

directly commission by the family or received as a gift from another elite. These vessels were particularly important for marking status and were solely display items. Upon death of the elite individual, his vessels were buried with him. However, some "codex-style" vessels were widely circulated and have been found in moderate-sized plazuela groups (Hansen, Bishop, and Fahsen 1991), and within non-royal tombs (A. Chase 1985), as well as unceremoniously dumped in domestic trash piles (Fry 1979). I suggest these vessels have a distinctively different way of defining status and play a distinctively different role in negotiating social relations. Rather than specific markers of social history and genealogy, they were generic status items, much like simple jade jewelry or cloth which were accumulated, exchanged, and displayed. They communicated status, not by explicit meaning encoded within the item, but rather by virtue of their role as symbols of social connections. Their accumulation signals client-patron relationships, trade partnerships, economic prosperity, political favors, and other hierarchical relationships. Codex-style vessels without specific personal meaning, such as those with scenes of natural environment, supernatural beings, and especially those that lack hieroglyphic text, were readily used as disposable wealth items, gifted vertically down through the social hierarchy to clients and valued kinsmen.

Codex-style vessels made up an extremely small portion of the pottery assemblage, even in the central Peten. In Belize Valley assemblages, the bulk of Late and Terminal Classic luxury pottery is made up of incised and appliquéd red monochromes (Belize Red Group) and relatively crude polychrome (Chunhuitz Orange Group) ash wares. Fine craftsmanship requiring advanced knowledge and skill is not evident in locally

produced types. Motifs on local types focus on four subjects 1) pseudo-glyphs, 2) "kin" or day signs, 3) geometrics, 4) simple representations, and 5) linear or block designs (see Shepard in Thompson 1940:11-17 for additional descriptions). Pseudo-glyph and kin signs are found throughout the Maya lowlands. Their reproduction in the Belize Valley suggests the desire to reflect membership within pan-lowland Maya culture, to buy into Peten-based ideology, or to imitate symbols displayed by powerful foreign elite. The bulk of Belize Valley motifs, however, appear to be purely indigenous designs which must have had particular significance to local groups.

Pseudo-glyphs are elements which appear to imitate known readable glyphs. They often repeat individual symbols or are very stylized alphabetic-like designs (Longyear 1952: 60; Thompson 1940:18). Many mimic hieroglyphs with symbols located in the same position as hieroglyphs -- along the rim band and beside painted figures of vases and bowls. Others replicate hieroglyphic linguistic organization (Figure 6.1). Maya writing is built on a system of individual elements, or glyphs, that are grouped into symbols typically having a squared or oval shape. Some are pictures of natural objects while others are abstract in appearance. Glyphs are classified as main signs -- the large central glyph within a symbol -- and affixes-- elements joined to the main sign in various locations. Glyphs, therefore, are complex figural design layouts.

Upper Belize Valley types displaying pseudo-glyphs are Big Falls Gouged-incised, Martin's Incised, Puhui-zibal Composite, and various Vinaceous Tawny polychromes which presumably were made regionally during the Late Classic II period. Big Falls and Puhui-zibal Types replicate naturalistic objects, whereas, Vinaceous

Tawny and Martin's Incised Types appear to imitate the form and organization of hieroglyphics. Thompson considered the Vinaceous Tawny "glyph band and figural" type to be produced locally because they the painting is "characterized by freedom and lack of precision" (1940:13). He stated that these "short texts, which may or may not have a meaning, usually complement figure-painting designs" (1940:18). Although they may have had particular intentions, especially in relationship to lineage affiliation, they lack the specific linguistic meaning of readable glyphs. Although these glyphs may not be readable, they took considerable time to produce. Artisans would have had to spend hours practicing and copying complex glyph designs. In terms of skill, pseudo-glyph types may be considered noteworthy and rank above those which display simple geometrics or even simple representational themes. As local luxury items, they may have replaced codex-style pottery after the decline of Peten Gloss pottery centers to the west.

The majority of Upper Belize Valley motifs are simple designs applied to the surface with paint or cut or impressed into the surface (Figure 6.2). Late Classic vessels display the most variation in decorative motifs and techniques. Painted, rather than incised or impressed designs display the most stylistic variation. During the Terminal Classic, however, incised and impressed designs dominate pottery decorations .

Painted designs show the most variation. Kin signs are either rounded cartouches with an X pattern in the center or a hollow circle with short strokes radiating from the center of the design. Like pseudo-glyphs, kin signs are found throughout the lowlands and indicate association with pan-Maya cultural affiliation. Geometrics can be

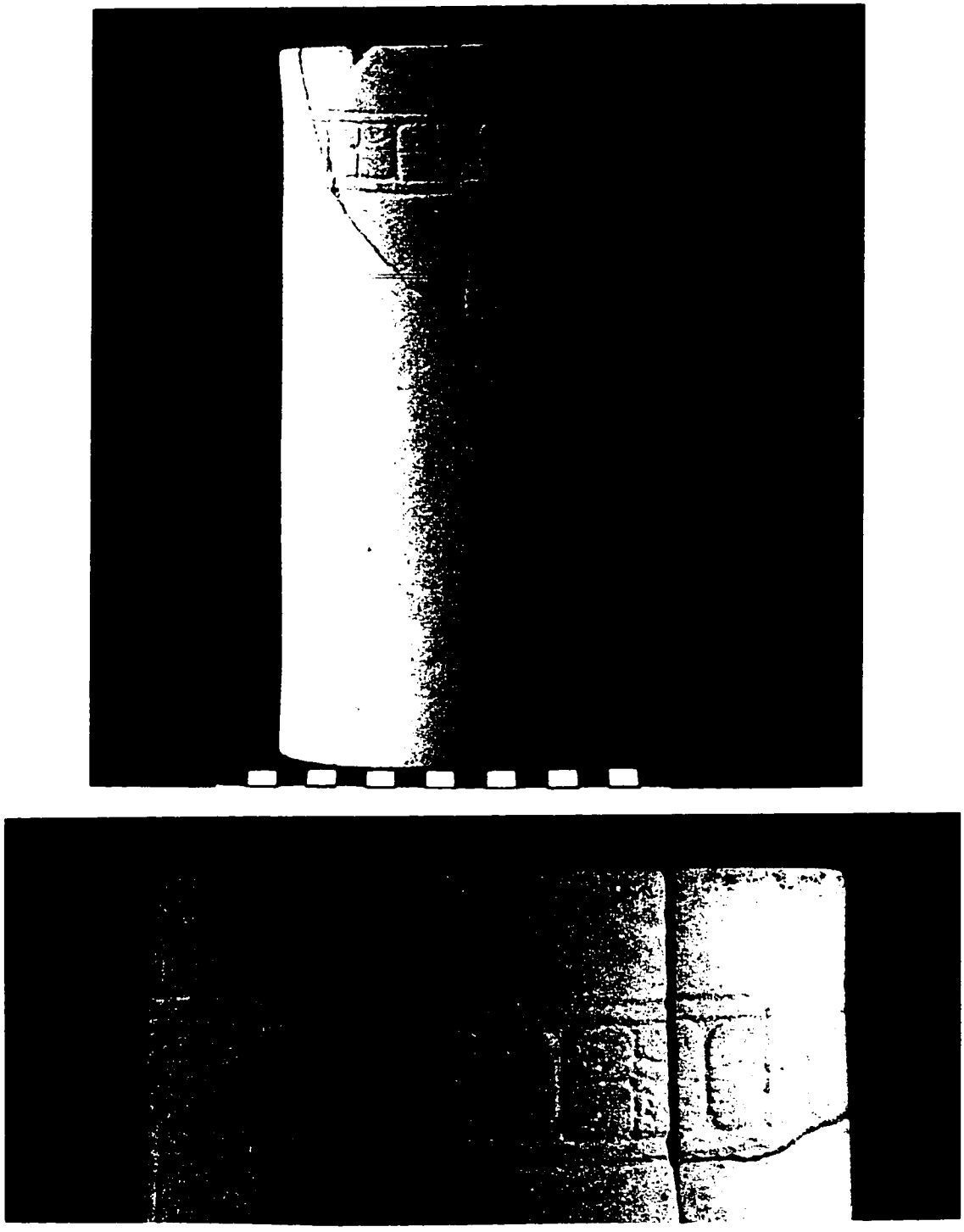
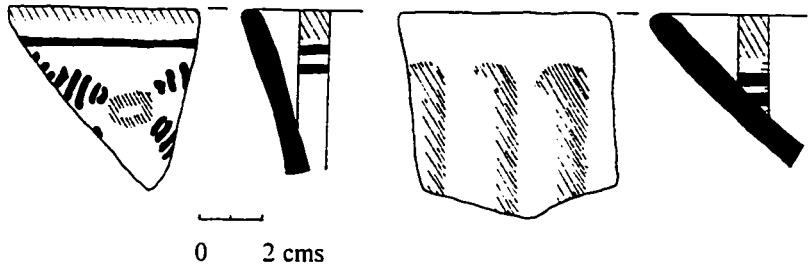
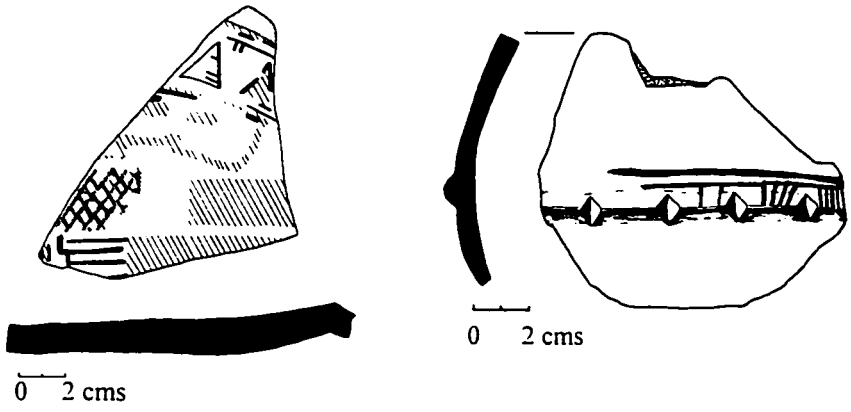


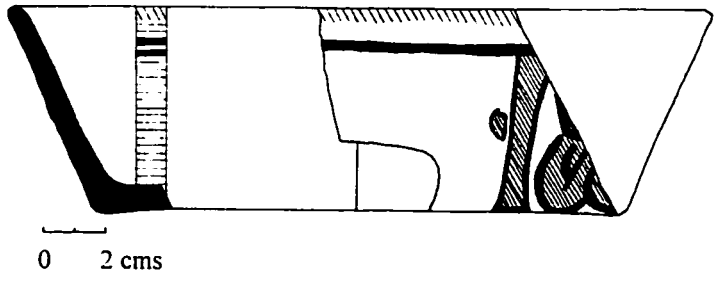
Figure 6.1: Pseudo-glyphs. Ash ware cylinder vase with band of repeating glyphs carved and incised below rim. Exterior vessel surface was well smoothed prior to carving, incising, and painting. Very little black paint remains, but is visible along the rim and intermittently within a wide vertical zone which runs from the base, across glyphs, to the top of the rim. (1E/12-P1.20066)



a.



b.



c.

Figure 6.2: Common painted and incised motifs. Kin sign (Black and Red on Vinaceous Tawny, 79T/36.3829) and variegated blocks (Benque Viejo Polychrome, 117L/6.12992) a.; complex layout of geometrics, linear patterns, and blocks of color (Benque Viejo Polychrome with notched basal apron, 123A/11.11290) and notched, incised basal appliqué (McRae Impressed Type, 113D/5-D1.11516) b.; representative motif (Benque Viejo Polychrome 79JJ/47.5093) c.; left to right.

simple or complex: often they consist of banded triangles or wavy lines fashioned as E's, S's, circles, or dots. Representative motifs are usually single, large animals or possibly humans painted in bold fashion on exteriors or on interiors sides of open forms; rarely are they found on interior bases like those characterizing the Early Classic period. Lines, blocks, or spreading panels are by far the most common motif displayed as single elements or in complex layouts with geometrics. These linear motifs are produced in solid or variegated orange to red color and are placed in the center of vessel side walls or on the interior base of plates. Sometimes, blocks, panels, and thick lines are outlined in black; often, they are bounded by lines that encircle the rim and/or base of the vessels. During the last portion of the Late Classic II (LCIIb), polychrome plates with complex geometric and block design layouts also exhibited notched and appliquéd basal angles. Combining decorative techniques, such as painting, appliquéing, and tooling, on the same vessel appears solely in the Late Classic II.

Tooled designs are typically linear and can be found on both ash or calcite wares along the rim and/or base. The most common technique, incising, is also frequently found on appliquéd ridges, some of which are notched (McRae Impressed Type or Silver Creek Type). Notching is considered a simple design element. Simple impressed designs, such as thumb-nails or cane stamps, are common throughout the sequence, but during the Terminal Classic, pie crust impressions are specifically found on the lips of storage jars.

An important point to recognize is that there exist a wide variety of styles, degrees of skill, and production techniques found in locally produced Upper Belize

Valley pottery. With this range of stylistic variation comes concomitant complexity in the organization of pottery production and networks of distribution, as discussed in the proceeding section. The degree to which elites regulated aspects of procurement, production, and distribution of pottery is important for understanding the sources of power for both elite and commoner groups.

6.3 Methodology

Three major analyses will be conducted on pottery types from household assemblages at Xunantunich and San Lorenzo to determine the degree to which elites regulated raw resources, labor, and iconography. First, the distribution of ash ware will be investigated by viewing the proportion of wares and ceramic groups across residences ranked by social status. If ash ware is restricted to elite households, it can be argued that procurement of ash temper is either prohibitively expensive for commoners or regulated by elite. Second, glyphs and figural scenes are viewed in the same manner. Their distribution illustrates the horizontal and vertical relationships between social groups. Third, an analysis of labor investment in the production of types will be undertaken using a modified version of Feinman's Production Step Measure (Feinman et al. 1981). This analysis will determine the manner and degree to which labor intensive styles were controlled by a single group. The first two analyses are straight forward comparisons of assemblage composition. In these analyses, major methodological concerns involve the comparability of ceramic collections (cultural context, collection strategy, sample sizes, and assemblage homogeneity) and the assignment of social status to residential groups. These issues will be discussed after a review of the Production Step Measure.

Considerable discussion of a revised labor investment index is presented since new variables are introduced and old procedures are modified.

The Production Step Measure

The most popular labor investment index is Feinman's Production Step Measure, an ordinal index of manufacturing costs, which determines the number of tasks required to produce a pottery type (Feinman et al. 1981). The quantification of production costs has produced considerable patterning in ceramic distributions and currently is a favorite method for distinguishing elite and commoner households (Beaudry 1987; Caso et al. 1967; Costin 1986; Feinman et al. 1981; Hagstrum 1987; Upham et al. 1981). In general, these investigations have focused on pottery assemblages composed of relatively similar pottery styles in terms of raw materials, the degree of craftsmanship, and distribution costs. Within Classic Maya assemblages, however, the multitude of pottery compositions, styles, and import wares necessitates a concerted effort to integrate a wider range of attributes into the ranking of pottery types, even though tasks related to these attributes are difficult to quantify. In this research three major characteristics are used to rank the amount of labor invested in pottery production: procurement costs, investment in surface design, and distributional costs. Each characteristic will be quantified for Upper Belize Valley pottery types.

Resource procurement

Recent studies indicate that the cost of raw resource procurement for pottery production is quite variable and can account for more than 30% of manufacturing time (Hagstrum 1989; DeBoer and Lathrap 1979). Disparity between resource procurement

costs of ash and calcite wares in the Belize Valley is hypothesized, however, in order to quantify costs a detailed understanding of petrographic composition and knowledge of the source of clays and tempers is necessary. Given that the location of ash temper remains unknown, it is impossible to assign a set value. In an attempt to acknowledge the importance of procurement in the overall cost of production, the study will rank ash ware types over calcite types when labor investment in surface decorations are equal.

Labor investment

The Production Step Measure assigns points for each production task but heavily focuses on techniques used to produce the final surface appearance of a given type. Generally, it underestimates the cost of producing elaborated decorated types since the index quantifies labor solely in terms of the number of tasks without regard for the complexity of the task. Each design element or layout is scored equally thus negating any consideration of differences in time or skill it took to produce them. In order for a labor investment index to accurately account for the time required to produce the type, it must take into consideration 1) complexity of design motif, 2) number of decorative techniques, 3) number of paints, and 4) quality of surface. In this research, each of these four attribute is recorded for both the interior and exterior of vessels. Some types show substantial variation in motif complexity and many exhibit more than one type of decorative techniques; therefore, types are assigned the maximum rank for each side.

Rather than assigning points like most indices, I prefer to nominally rank types. In production step indices, points are assumed to correspond directly to the time required to execute tasks (Costin and Hagstrum 1995:630). With Classic Maya styles, assigning

points requires considerable speculation concerning how much time was required to produce types. The first problem is the fragmentary nature of the material which directly effects the ability to gage design complexity. Outside of "codex-style" vessels, a study of design layouts and primary motifs has not been undertaken; therefore, we have no corpus of motifs to use as a basis for analyzing design complexity. At Xunantunich, the bulk of well-preserved sherds with intact surface treatments was recovered from the fill of Structure A-1. From these sherds, I have sketched out a description of some basic motifs but also have come to recognize the considerable variation evident in design and layout across and within types. This situation was pointed out by Anna O. Shepard in 1940 when she said:

"In reviewing the polychromes...the fact that a considerable proportion of the sherds cannot specifically be pigeonholed by style, that when viewed together they appear to be a hodgepodge, may be influenced by several conditions -- the fragmentary nature of the material, variety and richness of design in a single style, and the possible representation of many centers of pottery making " (Thompson 1940:17).

Clearly, there is significant differences in painted design layouts and in the amount of time required to produce them. Even with a corpus of design motifs in hand, however, understanding their distribution in household deposits at Xunantunich is nearly impossible. Because of erosion, I am rarely capable of recognizing motifs on individual sherds and therefore can not determine differences in the distribution of motifs which may very well be present in the data.

The second problem in assigning points correlated to labor investment stems from the enormous range of variation in skill and labor necessary to produce types.

Some layouts appear to be exponentially more labor intensive to produce and exhibit exceptional skill than others. One can easily recognize that codex style figural scenes require many more hours than even the most complex local designs. Assigning an additional point or even 10 points for figural scenes does not adequately characterize the amount of time required to produce them. Even within locally produced types, differences in time and skill required to produce various painted motifs may be quite large. And I have yet to resolve the question as to whether painted elements require more skill and time than similar incised or impressed motifs. Rather than speculate and attempt to score types by assigning specific points, I simply lump motifs into three groups: artistic, complex, and simple.

Classic period glyphs and figural scenes found on "codex-style" types would have been produced by highly trained artisans. Knowledge of glyphs, technological expertise to innovate paint colors and slips, and the artistry to create figural scenes would have required apprenticeship with masters. Recognition of prehispanic artistry is based the presence of specific attributes: hieroglyphs, figural scenes, and rare materials. Artistically rendered scenes and glyphs, as found on codex-style vessels are assigned the highest rank (A). These attributes separate-out imported Peten figural types from the bulk of disposal wealth produced by local, part-time specialists. Fine craftsmanship is not evident in Belize Valley types. In terms of skill, types exhibiting complex designs such as pseudo-glyphs or carving techniques are considered noteworthy (N) and rank above those which display complex geometrics or representational themes (C). Simple motifs executed by three or less strokes or actions, such as painted or incised lines, dots,

blocks, notches, or simple geometric elements, rank lowest (S).

The number of decorative techniques are tabulated by side. Many types exhibit composite decorative techniques including painted, incising, modeling and impressing, thus scoring higher than those exhibiting only a single technique. Those techniques requiring advanced skills, such as carving, were assigned to the artistic category (A). Paint colors were counted by side and scores indicate maximum number of paints found on a given type. Rare pigments such as specular red and post-fire blue are categorized as rare (R). The use of rare pigments overshadows the great number of paints and fill colors used on codex-style vessels. Surface quality is scored by surface luster. Luster, the ability to reflect light, is determined by the degree to which clay particles are aligned or compacted across the prepared surface. Matte finishes (1) have a distinct appearance with extremely fine, shallow parallel striations exhibiting rounded edges. Low luster (2) is produced by rubbing the surface with a smooth, hard object which leave tell-tale tool marks that flaw the surface and dull the shine. High luster (3) is achieved by intense polishing that compact and align all clay particles equally. Peten Gloss, the mirror-like finish found on Late Classic figural polychromes, is achieved by extensive preparation of three surfaces -- the original vessel surface, the under slip, and final background -- which adds depth to the luster.

Distribution costs

Distribution systems add to the cost of pottery types because labor expenses increase as pottery travels away from the locus of production (Beaudry 1987:235). Beaudry separates Copan polychromes into three groups based on distribution networks:

local, regional, and imported. The value of imported types are ranked above regional types which, in turn, rank above local types if production costs are similar.

No compositional studies have been conducted on pottery types within the Belize Valley; therefore, little is known concerning the source of Upper Belize Valley types. Many luxury types defined by Gifford are widely recognized by ceramicists working in central Belize from Lamani to Caracol, and these could have circulated regionally by middle-men. Some rare, highly decorated types such as Puhui-zibal Composite and Big Falls Gouge-incised may, indeed, be regional imports. However, it is premature to distinguish between regional verses locally produced types at this time without more specific data. Certainly, codex-style vessels found in Belize were transported long-distances. Imported polychromes are, therefore, ranked above locally produced types that exhibit similar amounts of labor investment.

In summary, pottery types are ranked by labor investment according to three major aspects -- distribution costs, composition, and surface treatment (Table 6.2). Pottery types ranked highest are those imported types displaying high levels of skill and labor investment (Table 6.3). Those ranked second are locally produced types displaying

Table 6.2: Labor investment ranking scheme for pottery types

Distribution	Composition	Surface treatment	Rank
import	calcite	high	1
import	calcite	moderate	2
local	ash	high	2
local	ash	moderate	3
local	calcite	moderate	4
local	ash	low	4
local	calcite	low	5

Table 6.3: Rank of Pottery Types

Type	Distribution	Composition	Motif	Techniques	Paint	Surface	Rank
Palmar unspec.	Import	Calcite	A/S	1/1	R/1	3/2	1
Holmul unspec.	Import?	Calcite	A/S	1/1	R/1	3/2	1
Palmar white slip var.	Import	Calcite	A/S	1/1	3/2	3/2	1
Pabellon Model-carved	Import	Calcite	A/0	A/0	0/0	2/1	1
Puhui-zibal Comp.	Local	Ash	N/0	A/0	2/0	2/1	2
Big Falls Gouged-inc.	Local	Ash	N/0	A/0	1/0	2/1	2
Benque Viejo w/ glyphs	Local	Ash	A/1	1/1	2/0	2/0	2
Cedro Gadrooned	Import	Calcite	S/0	2/0	0/0	2/0	2
Pedergal Modeled	Local	Calcite	C/0	A/0	R/0	2/1	2
Martin's Incised	Local	Ash	N/0	1/0	0/0	2/1	2
Benque Viejo Tooled	Local	Ash	C/S	2/1	2/1	2/2	3
Benque Viejo	Local	Ash	C/S	1/1	2/2	2/2	3
Ash ware white slip	Local	Ash	C/S	1/1	2/2	2/2	3
McRae Impressed	Local	Ash	S/0	3/0	0/0	2/2	3
Gallinero Fluted	Local	Ash	S/0	2/0	0/0	2/2	3
Platon Punct.-incised	Local	Ash	S/0	2/0	0/0	2/2	3
San Lorenzo Black	Local	Ash	S/0	2/0	0/0	2/2	3
Miseria Appliquéd	Local	Calcite	S/0	1/0	?/?	?/?	3
Silver Creek Impressed	Local	Calcite	S/0	2/0	0/0	2/2	4
Chial Polychrome	Local	Calcite	S/0	1/0	2/0	2/1	4
Kaway Impressed	Local	Calcite	S/0	1/0	0/0	2/1	4
Chial Incised	Local	Calcite	S/0	1/0	0/0	2/1	4
Belize Red Incised	Local	Ash	S/0	1/0	0/0	2/2	4
Dolphin Head Incised	Local	Calcite	S/0	1/0	0/0	2/2	4
Belize Red	Local	Ash	0/0	0/0	0/0	2/2	4
Chunhuitz Orange	Local	Ash	0/0	0/0	0/0	2/2	4
Dolphin Head Red	Local	Calcite	0/0	0/0	0/0	2/2	5
Chial Orange-red	Local	Calcite	0/0	0/0	0/0	2/1	5
Vaca Falls Red	Local	Calcite	0/0	0/0	0/0	2/2	5
Garbutt Creek Red	Local	Calcite	0/0	0/0	0/0	2/2	5
Mount Maloney Black	Local	Calcite	0/0	0/0	0/0	2/1	5
Roaring Creek Red	Local	Calcite	0/0	0/0	0/0	2/1	5
Cayo Pie crust Variety	Local	Calcite	S/0	1/0	0/0	1/1	5
Macaw Bank Tooled	Local	Micaceous	S/0	1/0	0/0	1/1	5
Cayo Tooled	Local	Calcite	S/0	1/0	0/0	1/1	5

Legend: Motif codes: (A) artistic, (N) noteworthy, (C) complex, (S) simple, (0) none on exterior/interior
Technique: (A) artistic, (#) number of decorative techniques on exterior/interior
Paint number: (R) rare , (#) number of paints on exterior/interior
Surface quality: (5) Peten Gloss, (3) high luster, (2) low luster, (1) matte surface on exterior/interior.
Note: Exterior and interior values may be reversed on plates and dishes.

high labor investment in surface treatment such as Big Falls Gouge-incised or imported styles such as Cedro Gadrooned. These first two groups display characteristics which make them high status, display items. Types ranked below them are disposable luxury goods illustrating progressively less labor and skill invested in their production.

Comparability of samples

In the following analyses, ceramic collections from households are examined to determine whether differences exist in domestic assemblages ranked by social status. In order for reliable statement to be generated, two issues must be addressed. First, households must be assigned statuses according to architectural features and locations within sites. Second, ceramic collections derived from households must be comparable in terms of cultural context and collection procedures so that analyses measure assemblage differences rather than random processes. The following methodological section reviews the social status of residential groups established in Chapter 4, outlines collection strategies, defines cultural contexts used in analyses, and discusses problems in sample sizes derived from individual residential groups.

Households and social groups

Royal and non-royal elites have been identified at Xunantunich based on proximity to the civic core and architectural complexity and layout (see Chapter 4). The royal residence is defined as the four "palace" structures which surround and create Plaza A-III. Excavations during the 1996 field season did not find any occupation deposits directly associated with royal habitation in Plaza A-III (Leventhal, pers. comm). Apparently, the area was kept very well-swept until the final abandonment of the site.

Substantial midden deposits were recovered immediately east of the compound in Structures A-23 through A-25, which are interpreted as the royal service area (Jamison and Wolff 1994). Although materials from these middens do not directly reflect the full range of royal activities, especially those associated with private wealth displays, they are very useful in comparing both public and private activities related to food. This area would have been utilized to prepare private elite dinning and large-scale community-wide feasting. Additionally, during large rituals, public displays of wealth, especially luxury pottery, would have been evident.

The non-royal, elite sample is derived from Group D, a complex arrangement of fifteen platforms centered around a family shrine (Braswell 1992, 1993, 1994, 1995). Occupation material was recovered from a wide range of areas, including the front of the ancestor shrine and along the base habitation platforms, which can be used to examine public and private activities. Group B is a tightly packed cluster of at least three plazuelas to the west of Group A. Its close proximity to the royal compound suggests residents may have been socially or economically attached to Xunantunich's nobility. A single, large vertical excavation was placed between Structures B-1 and B-2 to recover a termination and dedicatory cache. Pottery recovered reflect ritual activity but may also be useful as evidence of gifting and feasting.

The non-elite ceramic sample is derived from San Lorenzo, a spatially discrete settlement cluster of eight mound groups and 13 isolated mounds (Chase 1992, 1993; Yaeger 1994, 1995). The working model for the social composition of the community is that it consisted of a group of related extended families (Yaeger 1994, 1995; Yaeger and

LeCount 1995). Mounds are divided into two broad residential classes for artifactual analyses -- plazuelas and single mounds -- where plazuelas are interpreted as the residences of developmentally mature households and the homes of patrilineage headmen. Isolated mounds and small mound groups are interpreted as the residences of new families connected to the community by real or fictive kin relations. Excavations were conducted at three plazuela groups -- Sites 22, 24, and 25 -- and three isolated or contiguous mounds without plazas -- Sites 20, 31, and 34. Excavation units were placed in front, beside, and/or behind structures to recover trash. XAP excavators consistently located primary trash deposits in front, beside, and/or behind platforms in all residential groups and mounds except the royal compound. Staircase corners and alleyways between buildings also yielded trash associated with daily domestic activities and public rituals.

Public rituals would have been conducted in plazas, on top of temples, in front of ancestor shrines, and at the residences of head men. Trash generated from feasting would have been dumped close by. Within civic areas, this it presumed that large accumulations would have been cleaned-up sometime afterward, but small piles may have lingered in out-of-the-way places like alleyways or the corners of buildings, sacbes, and staircases. Daily activities occurred in numerous locations including within rooms, along the fronts of buildings, and at various task related locations a short distance from domestic architecture. Given the wide spatial range of day-to-day activities, domestic trash should have a greater distribution than ritual debris and be found throughout the residential area. Trash concentrations behind or beside buildings were caused by

individuals cleaning up well-used activity areas and dumped debris away from work areas. In general, I assume trash found in more public or civic locations has a greater likelihood of reflecting ritual activities than that found near residential platforms.

Pottery collections, attribute coding, and sample sizes

In order to guide analysis, excavators were required to designate the cultural context of each lot. A cultural context designation is a functional interpretation of an excavation deposit. Analyses are conducted on pottery recovered from screened domestic occupation contexts only, not from architectural fill or fall. Material from middens or refuse deposits (XAP cultural context codes 500-590) and occupation material from plaza or structure floors (codes 210-240) were used for the following analyses. Construction material from architectural fill is not included in analyses because it may have been scavenged from neighboring households, therefore, it may not be indicative of activities or status of inhabitant's. Ceramic assemblages are considered archaeologically homogeneous since they have the same depositional history and collections were recovered using the same archaeological techniques (Orton et al. 1993:168).

Rims are sorted by a list of variables (Table 6.4) and the proportion of specific variables or groups of variables (often a stylistic or formal type) within an assemblage is the basis for comparisons across households. Analysis focuses on rims in order to produce more valid frequencies of pottery types within assemblages. Most stylistic types display distinctive stylistic attributes near the rim while the rest of the vessel is generally more simply decorated and shares characteristics with other types. The inclusion of

Table 6.4: Detailed ceramic catalogue attribute list (recorded on rims only)

Provenience

- Operation
- Suboperation
- Lot
- Special feature
- Catalogue Id # links initial and detailed catalogues

Ware and Group

- Hierarchical codes for Barton Ramie ware and groups
  - Paste color (Munsell)
  - Core color (Munsel)
  - Inclusion size
  - Inclusion sort
  - Inclusion type

Form

- Primary form
- Secondary form
- Rim curvature
- Lip and neck detail (recorded only on specific types)
- Ridges and angles

Attachment

- Foot form
- Base

Specific surface treatment

- External Slip
  - Color (Munsell)
  - Quality (matte, low, high luster)
- Internal Slip Quality
  - Same as above
- External paint number
- Internal paint number
- Special paints

Decoration

- Decorative location
- Primary Decorative technique
- Secondary Decorative technique
- Motif elements

Weights and measures

- Rim diameter
- Collar diameter
- Neck height

body sherds would bias assemblage composition toward less-decorated types or those produced in larger sizes. This type of analysis produces an estimate of the maximum number of vessels represented in excavated deposits.

Rims were pulled from previously analyzed lots and re-recorded using a new set of variables (the detailed catalogue). The re-recording of rims was a purposeful strategy in order to make data collected over four years as comparable as possible. The analysis records many attributes which had already been documented by the initial catalogue as well as a set of new variables. Along with basic stylistic and formal characteristics, the detail analysis focuses specifically on gathering two types of data: attributes necessary for the labor investment study and formal measures such as neck height and rim and collar diameters (see Appendix D for details and codes). Number of paints, quality and color of slips, locations of decorative techniques and complexity of design elements were documented to determine the number of tasks required to produce a given type. Paste and slip color were recorded to understand standardization in production. Although temper size, sort, and type can be used for the same purpose, these attributes were recorded in an attempt to recognize the sources of variability within certain ambiguous ceramic wares -- specifically British Honduras and Vinaceous Tawny ash wares -- and red ware groups -- Dolphin Head, Vaca Falls, and Garbutt Creek. Given the success of microseriating Mount Maloney incurving bowls, some common types, such as Cayo Unslipped jars, were also recorded for lip variation.

Rims were aggregated by residential group at Xunantunich and for mound class at San Lorenzo. Aggregation of samples was especially necessary for plazuelas and

small mounds to increase sample sizes and reduce the effects of rare forms. In small mounds, primary occupation contexts are extremely rare and sample sizes very small; excavations recovered fewer than 20 rims from occupation contexts. In small samples, the presence of a single rim significantly alters the percentages of primary forms; therefore, aggregated proportions rather than individual means were used as the unit of analysis.

6.4 Results of Analyses

The results of the three major analyses are presented below. Analyses are presented by phase, although occasionally, analyses utilize material from all late occupation deposits. Using mixed temporal deposits effectively increases sample sizes because many occupation deposits either did not yield critical diagnostics or contained strata which were profoundly commingled. Those analyses performed with mix deposits tend to confound temporal trends and further blur distinctions in the archaeological data; they should be viewed with caution.

The distribution of ash wares

The proportions of three major wares -- plain calcite ware (Uaxactun Unslipped Ware), slipped calcite wares (Pine Ridge Carbonate Ware and Opaque Carbonate Ware), and ash wares (British Honduras and Vinaceous Tawny Ash Wares) -- are tabulated for the Late Classic II and Terminal Classic assemblage (Table 6.5 and Table 6.6). Ceramic groups are listed as proportions of major wares.

A chi-square test for significance indicates Table 6.5 is significant at the .05 level, therefore, differences between household assemblages are not due to sampling

Table 6.5: Comparison of ware frequencies in Late Classic II households

Ceramic Wares and Groups	Group A	Group B	Group D	Plazuelas	Small mounds
Plain wares	**26.8**	**22.8**	**20.4**	**26.9**	**27.1**
Cayo Unslipped	25.7	21.5	18.4	26.9	25.7
Cambio	0.3	0.0	2.0		0.0
Macaw Bank	0.8	1.3			1.4
Calcite wares	**44.1**	**41.8**	**56.0**	**61.5**	**63.6**
Mount Maloney	32.3	32.9	41.8	51.9	59.5
Chial Orange-red	6.3	6.3	2.0	7.7	1.4
Dolphin Head	3.1	1.3	10.2	1.9	
Vaca Falls Red	0.3	0.0	1.0		
Ash wares	**28.5**	**35.6**	**22.4**	**11.5**	**9.5**
Belize Red	12.1	8.9	10.2	9.6	8.1
Chunhuitz Orange	13.6	16.5	9.2	1.9	
Unspec. White-slip	1.3	7.6	1.0		
San Lorenzo Black	0.5				
Other	0.5		1.0		
Total rims	381	79	98	52	74

error. As expected, the most marked differences between households exist in ash ware proportions. Proportions are highest at Group B but this pattern reflects the dedicatory or terminal ritual associated with Structure B-2 which would have entailed sacrificing fine wares to ancestors or gods. Comparisons will, therefore, focus on larger, comparable samples from Group A, Group D, plazuelas and small mounds.

During the Late Classic II period, ash ware frequencies are highest at Xunantunich, ranging between 28% and 22% percent of the assemblages at Group A and D, respectively. San Lorenzo plazuela and small mound assemblages contain roughly half as much ash ware as elites groups at Xunantunich. This difference indicates that elites did have preferential access to fine wares. The discrepancy in ash ware

proportions between plazuelas and small mounds is, however, surprisingly minimal. This suggests distribution of ash ware pottery was along kin lines since residents of San Lorenzo residents were bound together by tight knit kin-organization.

Differential distribution of ash ware groups indicates access to fine wares was not dependent on procurement cost of raw materials, but rather, that certain styles were regulated by elites. Proportions of Belize Red Group, composed predominately of tooled monochrome types, are relatively consistent across all households, ranging from 12% of the assemblage at Group A to 8% of the assemblage in small mounds. This consistency suggests that all households had equal access to certain groups of ash ware pottery and that cost of ash temper was not the critical factor determining distribution. However, significant variation does exists in the distribution of fancy ash ware groups, specifically Chunhuitz Orange, white-slipped varieties, and San Lorenzo Black. These groups contain highly decorated types which display painted or incised glyphs, kin signs and geometric designs. Group A and Group D households have roughly the same amount of fancy ash ware groups-- around 10% of their assemblages. San Lorenzo plazuela assemblages contained less than 2% and small mounds have no ash ware polychromes. Elites appear to have control the distribution of certain styles, especially those with painted designs, but not of others with more minimal decoration. Since both groups were made with the same temper and possibly the same clay, the cost of procuring the raw resources does not appear to a factor in the distribution of fancy pottery.

The distribution of fancy ash ware groups is also variable and illustrates pottery

styles had variable roles and value. The three fancy ash ware groups -- Chunhuitz Orange, white-slipped varieties, and San Lorenzo Black -- are found in increasingly limited contexts. The most restricted group is San Lorenzo Black, a rare, reduced pottery group with well-executed groove-incised designs. These types were found only at Group A. Its highly restricted distribution suggests these vessels were important status items, highly regulated by Xunantunich nobility. Apparently, these vessels did not circulate as disposable wealth to non-royal individuals and may have been produced by individual retainers attached to the royal family. White-slipped varieties are restricted to elite contexts, but their proportions within Group A and D assemblages are nearly identical and indicates elite groups had equal access to this high status wealth item. Many white-slipped varieties found at Xunantunich appear to be locally produced items. Those sherds with recognizable surface designs display two sets of motifs: 1) simple geometric and block designs or 2) Zacatel Cream style designs -- some with pseudo-glyphs. Zacatel Cream series is a Peten-based status item used predominantly for trade and display (Ball 1993). Finally, Chunhuitz Orange, which includes Benque Viejo Polychrome, has the widest distribution of all fancy ash ware groups and appears to have been widely circulated as a disposable wealth item. The presence of Chunhuitz Orange Types in San Lorenzo plazuelas may have been the result of elite redistribution.

During the Terminal Classic, the distribution of ash ware groups appears to have been more equitable (Table 6.6). Although sample sizes are very small, it appears that the relative frequencies of Belize Red Group pottery within assemblages are similar across residential groups with moderate to large samples. A chi-square test for

Table 6.6: Comparison of ware frequencies in Terminal Classic households

Ceramic Wares and Groups	Group A	Group B	Group D	Plazuelas
Plain wares	**27.2**	**54.6**	**28.9**	**28.6**
Cayo Unslipped	24.2	36.4	28.9	26.2
Cambio		9.1		
Macaw Bank	3.0	9.1		2.4
Calcite wares	**42.4**	**36.4**	**54.4**	**50.1**
Mount Maloney	36.4	36.4	51.0	40.5
Chial Orange-red	3.0		2.0	1.2
Dolphin Head			0.7	
Vaca Falls Red	3.0			4.8
Garbutt Creek				2.4
Ash wares	**30.3**	**9.1**	**16.9**	**21.5**
Belize Red	18.2	9.1	12.8	16.7
Chunhuitz Orange	9.1		3.4	2.4
San Lorenzo Black	3.0			
Total rims	33	11	149	84

significance indicates the table is not significant at the .05 level, therefore, there is no significant difference between household assemblages or percentages may be due to sampling error.

Although Group A has substantially more Chunhuitz Orange pottery, this does not mean it has a significantly higher amount of polychromes. During the Terminal Classic, the Chunhuitz Orange Group is made up of both monochrome and polychrome types, but polychromes are extremely rare. When the relative frequencies of monochrome and polychrome types within the Chunhuitz Orange Group are compared, all groups appear to have relatively equal amounts of polychrome pots. A total of six ash ware polychrome were found in Terminal Classic occupation deposits: one at Group A, three at Group D, and two at San Lorenzo plazuelas. Group A does have the highest

frequency of Chunhuitz Orange Group types, but, only one rim is a Chunhuitz Orange polychrome variety. The lack of polychromes, in general, argue for decreased competition for, and display of, luxury pottery.

In conclusion, data suggest access to, and ownership of, raw ash deposits for pottery production was not regulated by elites during either the Late Classic II or Terminal Classic periods. The relatively equal access to Belize Red Group types in the Late Classic II and all ash ware groups in the Terminal Classic indicates that procurement of tephra was unregulated and costs were relatively low. I suggest potters may have lived relatively close to the source of ash, possibly in the foothill zones of the northern Maya mountains where ash deposits may have accumulated and were mined by ancient Maya. Rather than transporting raw resources, potters preferred to ship finished vessels to consumers during the Late Classic and Terminal periods. Further, the procurement of ash temper does not appear to have been affected by the reorganization of polities or the weakening of elite lineages during the Terminal Classic. Although the production of Chunhuitz polychrome was dramatically reduced, Belize Red manufacture appears to continue. As an interesting aside, if tephra was traded into the Upper Belize Valley, weakening of elite networks in the Terminal Classic did not curtail the trade.

Elites did not appear to regulate production or distribution of minimally decorated ash ware types. Belize Red Group has very similar frequencies in household assemblages during both the Late Classic II and Terminal Classic periods. This pattern suggests Belize Red types could have been redistributed along kin lines, but there is no reason to negate the possibility that it was made available through pottery markets where

anyone who had the resources was able to barter for it. The differential distribution of ash ware groups in the Late Classic II and the decline in polychrome varieties in the Terminal Classic, however, does indicate elites had substantial influence in either the production or distribution of painted types.

Differential distribution of ash ware groups argues decidedly for elite control of fancy pottery with elaborate designs. Among Xunantunich elite, the close similarity in polychrome ash ware proportions brings us back to the question of who controlled, and what degree did they control, aspects of production and distribution of highly decorated pottery. It can be argued that nobility tightly regulated the production (in the form of labor but not resources) and distribution of certain fancy ash ware types. This scenario implies that Group D received polychrome pots as payment for services, as gifts, or possibly through close kin-ties with the noble lineage. Commoners received polychrome pots as gifts as they trickled down through at least two sets of hands. However, since it appears that elites did not control the actual procurement of resources and that production was performed by village-level part-time specialists, it may be argued that no single elite group regulated production or distribution of painted pots. I suggest the minor differences evident in the proportions of Chunhuitz Orange and white-slipped varieties in elite household assemblages are indicative of rather loose control of pottery wealth with considerable rivalry in amassing goods. Within the redundantly organized and highly competitive social milieu of the Late Classic, elites actively vied for access to, and display of, ash ware polychromes, since no elite group had exclusive control over the production nor distribution of fancy pottery. If fancy pottery was provided to elites

as tribute, heads of both royal and subordinate elite lineages would have received polychrome pottery from dispersed or nucleated corvée potters who were members of their lineage. In return, elites sponsored ceremonies, granted favors, and provided other types of support to their partisan members who lived in dispersed villages. Royalty garnered the largest volumes of tribute from across the polity, given their political and ideological supremacy. Subordinate elite received tribute, albeit in smaller quantities, especially from lineage members and allies. They, too, used it as disposable wealth. In this scenario, pottery wealth would have been more actively circulated down into the hands of commoners.

The distribution of glyphs and pseudo-glyphs

After five years of excavations, 22 sherds with glyphs or figural scenes have been found at Xunantunich and San Lorenzo. Some glyphs may be pseudo-glyphs, but, because of their eroded surfaces, they were included in the list. Of these sherds, only two have been found in occupation deposits; the rest were recovered from fill or fall (Table 6.7). The distribution of sherds with recognizable pseudo-glyphs also mirrors this pattern (Table 6.8). Ceramics from fill are often better preserved than those from occupation debris because they are protected from water percolation. Stylistic analysis of sherds from occupation deposits is nearly impossible because weathering is especially hard on painted designs. A contextual analysis of motifs comparable to those presented elsewhere in this chapter is, therefore, unfeasible.

Having said this, what can we say about the distribution of glyphs at Xunantunich and San Lorenzo? Sherds with glyphs are more consistently found in fill at

Table 6.7: Distribution of glyphs and complex thematic scenes*

Structure	Type-variety	Context	No.
Str. A-25	Saxche-Palmar groups	Fill	1
Saddle B-1&2	Pabellon Model-carved	Midden/fill	1
	Unspecified White-slip	Midden/fill	1
Saddle B-6&7	Pabellon Model-carved	Unknown	2
Group C	Vinaceous Tawny Ware	Fill	1
Str. D-7	Pabellon Model-carved	Surface	1
	Pabellon Model-carved	Fall	1
Site 22	Pabellon Model-carved	Fall	1
	Pabellon Model-carved	Surface	1
	Pabellon Model-carved	Midden	1
	Vinaceous Tawny Ware	Burial	1
Structure A-1	Saxche-Palmar Groups	Fill	4
	Holmul	Fill	2
	Vinaceous Tawny Ware	Fill	2
	Unspecified White-slip	Fill	1
Structure A-6	Holmul	Midden/fill	1

* some eroded hieroglyphs may be pseudo-glyphs

Xunantunich than at San Lorenzo where they are found in a wider variety of contexts, including middens and a burial. The fill of Structure A-1 has yielded the largest number of glyph and figural sherds, including Saxche-Palmar polychromes, Holmul style sherds, and local Vinaceous Tawny polychromes. What is interesting about the small number of glyph and figural sherds at Xunantunich is the association, or, actually, the lack of association, between Xunantunich nobility and Peten states. Codex-style polychromes date to around 600 to 800 A.D. -- a period immediately before the decline of central Peten states and the rise of secondary polities. That Xunantunich has yielded so few Peten polychromes suggests intimate connections with Peten states were few and far between during the Late Classic I period. Xunantunich must have played a very small role in the political theater of the central Peten during that time. The presence of Pabellon Modeled-carved, the Terminal Classic model-carved figural style from the

Usumacinta Valley, however, argues that Xunantunich did have trade connections with Peten states but it appears late, not during the fluorescence of the center in the Late Classic II period. I suggest that the presence of Pabellon Model-carved vessels says more about the power and influence of the Petexbatun Confederation in western Peten than that of Xunantunich (Foias and Bishop 1995, 1996).

The surprising number of glyph and figural types at Site 22 at San Lorenzo suggests that gifting of disposable wealth was relatively substantial during the Late Classic I and Terminal Classic periods. Before and after the fluorescence of Xunantunich, elites highly valued individuals who had access to lands along the Mopan River. Heads of lineages received gifts from elites in order to keep them well integrated in the political system or as payment in patron-client relationships. Gifting of imported "codex-style" vessels is much less obvious in the Late Classic II period. This pattern may be caused by poor visibility of painted vessels or the actual lessening or weakening of vertical ties.

Pseudo-glyphs are just as sparse as codex-style sherds. Group D, Group B, and San Lorenzo's Site 22 assemblages contain pseudo-glyph styles suggesting they may have circulated as gifts to lineage heads. Group D appears to have more pseudo-glyph vessels that all other households. It is interesting that the royal service area contains none of these locally produced luxury goods. This pattern may signal disinterest by the Xunantunich royalty in displaying local symbols or a lack of kinship or political ties with regional elite. However, it also should be noted that the data is ideal for comparing how or to what degree elite groups competed in the display of luxury items. Group A'

Table 6.8: Distribution of pseudo-glyphs

Structure	Type-variety	Context	No.
Saddle B-1&2	Big Falls Gouged-incised	Cache	1
Str. D-7	Martin's Incised	Surface	1
Str. D-7	Martin's Incised	Fall	1
Str. D-10	Martin's Incised	Fall	1
Site 22	Puhui-zibal Composite?	Surface	1
	Martin's Incised	Fall	2
Structure A-1	Vinaceous Tawny Ware	Fill	1
	Unspecified White-slips	Fill	4
Structure A-3	Martin's Incised	Fill	1
Structure A-6	Unspecified White-slip	Midden/fill	1

sample is derived from the royal service area and not from residential contexts where elite luxury items, especially those exclusive markers of status and prestige, would have been more conventionally exhibited.

Ranked types

The relative frequencies of pottery types ranked by labor investment indicates late assemblages were dominated by minimally decorated types (Table 6.9). Approximately 50% of the assemblage is composed of Rank 5 types which are either slipped calcite vessels with no additional decoration, such as Mount Maloney Black, Chial Orange-red and Dolphin Head Red Plain bowls, or impressed, unslipped types, such as Cayo Unslipped Type jars with pie crust lips or thumb-nail impressed necks. Along with undecorated plain ware, these types are predominately large bowls and jars. Rank 4 types make up 15% of the domestic assemblage and can be characterized as slipped and minimally decorated small bowls and dishes. Decoration is limited to simple incising or notching along the rim or basal angle. The stability of their relative

frequencies across the Late Classic II and Terminal Classics period indicates continuity in small-scale serving related to household feasting or daily dining. Plain wares, slipped wares, and minimally decorated "luxury" items make up the bulk of the assemblage and do not vary substantially across households.

High ranked types -- those above Rank 4 -- show the most fluctuation in frequency through time. Rank 3 types show the greatest amount of change with a nearly three-fold decrease in production during the Terminal Classic. These types are highly decorated, locally produced serving vessels, censers, and display items. The trend toward decreased labor investment in luxury pottery production is also evident in Rank 2 types which are highly decorated, locally produced vessels displaying pseudo-glyphs, advanced production techniques, or rare materials. Their production is cut in half during the Terminal Classic period. Rank 1 types -- imported vessels with glyphs or scenes -- appear relatively stable over time, a subject I will address shortly. Overall, there is a two-fold reduction in the amount of labor intensive pots (Rank 1, 2, and 3 types) produced in the Terminal Classic period. During the Late Classic II, nearly 14% of the

Table 6.9: Relative frequencies of labor intensive pottery types in late assemblages

Pottery rank	Late Classic II	Terminal Classic
1	0.5	0.7
2	0.8	0.4
3	12.4	5.0
4	15.6	15.1
5	46.1	50.2
Plain ware	24.6	28.7
Total rims*	629	279

* from occupation contexts only

assemblage is composed of highly decorated, labor intensive pottery; this pattern stands in contrast to the Terminal Classic, where only 6% of the assemblage consists of fancy pottery. The reduction indicates a major shift in large-scale feasting and ostentatious displays of wealth during the Terminal Classic.

Spatial distribution of ranked types

During the Late Classic II, the distribution of ranked types manifest patterns similar to those presented earlier for ash wares (Table 6.10). When sherds from single component occupation contexts only are used for analyses, elites appear to have had exclusive access to all high ranking styles (Rank 1 and 2 pottery types). Similarly, San Lorenzo plazuelas have far fewer locally produced labor intensive styles (Rank 3 types such as Benque Viejo polychromes) than elites at Xunantunich. The absence of high ranking pottery at San Lorenzo is not, however, as absolute as it appears from this analysis. At San Lorenzo, highly decorated types are found in mixed occupational deposits and architectural fill. In fact, when mixed occupation lots are included in the analyses, San Lorenzo appears somewhat similar to Group D in terms of the relative frequency of Rank 1 and Rank 3 types. High ranking styles found in architectural fill and mixed occupation deposits at many San Lorenzo sites argue for a greater degree of wealth circulation than evident in single occupation statistical analyses. This methodological dilemma, nonetheless, does not argue for abandoning single component, occupation material as the unit of analysis. In general, occupation deposits have substantially greater amounts of Terminal Classic sherds than Late Classic II types, presumably because Late Classic II material was utilized for architectural fill. Using

mix deposits, therefore, skews results towards Terminal Classic patterns. Since I have already determined that Terminal Classic luxury pottery distributions are more egalitarian than those found in Late Classic II times, using temporally mixed lots would tend to make San Lorenzo appear more wealthy than it was. However, using single occupation deposits alone makes it appear more impoverished than it was. Clearly, the pattern lay somewhere in between the two.

Table 6.10: Relative frequencies of ranked types in Late Classic II household assemblages

Rank	Group A	Group D	Plazuelas	Small mounds
1	0.3	1.0	0.0	0.0
2	0.5	2.0	0.0	0.0
3	13.9	10.2	1.9	0.0
4	15.3	16.3	13.5	9.5
5	43.7	52.0	57.7	63.5
Plain Ware	26.3	18.4	26.9	27.0
Total rims	380	98	52	74

The distribution of ranked types does indicate a significant difference in access to pottery wealth between Xunantunich and San Lorenzo residential groups. A chi-square test of significance indicates Table 6.10 is significant at the .05 level, therefore differences between household assemblages is not due to sampling error. Group D and San Lorenzo plazuelas appear to have had equal amounts of Rank 4 types only. These types are predominantly slipped and simply incised serving vessels and apparently, all households had access to these items. Like patterning found among ash ware groups, differential distribution of high ranking types indicates elites must have regulated the

distribution of labor intensive luxury pottery types during the Late Classic II in small polities such as Xunantunich.

Patterning within the elite faction is more difficult to interpret given differences in the types of activity areas sampled by excavations. Group A exhibits far fewer elite luxury items used predominately for display and ritual (Rank 1 and 2 types) than Group D, but this is to be expected in a service area. Concomitantly, elaborately decorated serving vessels (Rank 3 types) exhibit their highest proportions at the royal service area. This patterning has more to do with differences in ritual and feasting than with control of production or distribution of labor intensive pottery. If royal residential trash could be located, proportions of Rank 1 and 2 pottery types is expected to exceed those found at Group D.

This pattern brings up a problem with labor investment studies of pottery. These indices rank types based solely on labor investment and disregard the social uses of these vessels. Results, therefore, are prone to confound social status with social activities. Although they have a close correlation, the context of those activities related to status -- public display of wealth objects, sponsorship of feasts, and private commemorations -- are not relegated to a single location, but can be quite disparate, especially in complex societies. In other words, feasting areas always will appear higher in status than areas used predominantly for domestic activities. Care much be taken to compare like activity areas or to restrict analysis to a certain class of vessels, such as serving bowls. This situation is well-illustrated at Xunantunich, where Pedregal Modeled censers with their modeling, molding, and rare post-fire blue pigment have the same relative rank as a

Martin's Incised pseudo-glyph barrel-shaped vase. However, the contexts of their uses are quite different and often restricted to specific areas.

With the weakening or collapse of royal power during the Terminal Classic, wide-spread access to trade ware (Rank 1 types) and a more equitable distribution of local disposable wealth (Rank 3 types) is suggested by the proportions of pottery types (Table 6.11). Group D and plazuela assemblages appear to be very similar, even in terms of imported pottery. A chi-square test of significance indicates that Table 6.11 is not significant at the .05 level, therefore, there is no difference between household assemblages or percentages are due to sampling error. The greatest degree of difference appears to be between Group A and other residences. The Group A assemblage has changed considerably and appears more similar to other households. The assemblage difference is so dramatic that it suggests activities around Structure A-23 through A-25 were not same as in the Late Classic II.

Equity in the distribution of luxury pottery could be caused by multiple factors. Jason Yaeger and I argue that during the Terminal Classic, populations declined by half and the range of statuses was truncated (Yaeger and LeCount 1995). At the bottom of the social continuum, small families abandoned their single mounds at San Lorenzo, leaving a community that consisted solely of large, developmentally mature extended households. At the top of socio-political scale, Xunantunich royalty severely curtailed their political activities. Elites -- whether they were weakened nobility or newly empowered subordinate elite -- may have attempted to consolidate the remaining populace into a tight knit socio-political group by widely gifting available wealth items.

Table 6.11: Relative frequencies of ranked types in Terminal Classic household assemblages

Rank	Group A	Group D	Plazuelas
1	0.0	0.7	1.2
2	0.0	0.7	0.0
3	6.1	4.7	5.9
4	27.3	12.0	16.5
5	39.4	53.3	49.4
Plain Ware	27.3	28.7	27.1
Total rims	33	150	85

Elites also may have cut-back much of their conspicuous consumption of wealth and attempted to demonstrate their political power by sponsoring public-oriented events such as feasts. During economically stressful times, this type of fundamental redistribution would help bind lineages together without attracting attention to disparities in economic resources and wealth.

Conclusions

Analysis of luxury pottery at Xunantunich and San Lorenzo clearly illustrates changing political strategies of elites as they vie for social power. Markedly different patterns in the control of wealth emerge for the Late Classic II and Terminal Classic periods.

Peten-based status symbols and elite trade items never were widely available to Xunantunich royalty. The few pieces of trade ware which have been found at Xunantunich indicate that the site must always have been on the periphery of Late Classic political activities. During the Late Classic II period, locally produced pseudo-glyph styles found among subordinate elite and commoner households reflect the

importance of local lineage authority. The nobility, however, may have shunned the display of indigenous symbols which suggested that the source of their social power lay outside Xunantunich, probably in the direction of Naranjo. During the Terminal Classic, the relatively wide-spread distribution of Pabellon Model-carved Type in less privileged households suggests this imported style was a popular trade-good rather than a marker of high status exclusively traded between ruling elite. Like imported Ulua pottery at Copan, Pabellon Model-carved vessels portray distinct ethnic iconography and were visible symbols of participation in Peten Maya society. Their wide-spread circulation within less-privileged households at Xunantunich implies that they were popular gift items exchanged between local lords and their constituency. The fact that these vessels were readily gifted down-through the social hierarchy suggests they were not imbued with explicit meaning like indigenous symbols or ranked insignia.

Locally produced disposable wealth is the best indicator of the sources of social power at Xunantunich. Access to minimally decorated "luxury pottery" (Rank 4 and 5 types) does not appear to have be constrained by elite activity. Their production fits a model of community craft specialization and these wares were circulated along kin lines or through local markets. The highest ranking local pottery types are found predominately at the regional center and this argues for elite regulation of either their production or distribution. Since production areas have not been found at Xunantunich, nor have workshops been found in small villages, the bulk of fancy luxury pottery (Rank 3 types) probably was manufactured in household settings suggestive of nucleated corvée labor. Since creation of these vessels required no special facilities or advanced

skill, finding their production loci is difficult because the sites are nearly indistinguishable from the facilities of other part-time potters. These factors also suggest nucleated corvée potters were somewhat difficult to control and could produce wares that circulated through different networks. Potters could provide items as tribute for regional political nobility or for elite members of their own lineages who may have been subordinate to paramount rulers. Social obligations and political duty need not have funneled all the wares of a potter to the same location, especially if a elite kinsmen acted as the middleman for its aggregation and distribution. The minimal differences in Rank 3 types between elite contexts at Xunantunich supports this interpretation and suggests that there was considerable competition in the access to, and display of, fancy luxury pottery. Although royalty accumulated the highest volume of pottery tribute, subordinate elite had their own sources, probably through lineage connections. This scenario suggests elites did not directly control neither the procurement of raw materials nor the production of most luxury pottery types. Further the distribution of luxury pottery was rather loosely regulated through social and political obligations.

Nevertheless, some very noteworthy vessels may have been produced by individual retainers. Pseudo-glyph vessels are time consuming to manufacture, require a certain amount of skill, and finished as part of small production lots. San Lorenzo Black, a rare reduced type found only in the royal compound, may also have required technological innovation and advanced skill. However, with the data currently in hand, it is difficult to understand the degree to which elites regulated the production and distribution of pseudo-glyph and other highly decorated types. Many vessels, such as

those assigned to Puhui-zibal Composite, Big Falls Gouge-incised Types may have been produced outside the Upper Belize Valley and circulated as elite trade items. This suggests that they were predominantly high status display items and that their production and distribution was closely monitored. Production may have taken place in special settings or facilities, though work areas need not have been large or physically attached to elite households.

Nucleated corvée potters, or possibly individual retainers, may have manufactured Late Classic censers and figurines which required some advanced molding and modeling skills and knowledge of postfire pigments and application techniques. Potters, who were members of elite corporate groups, would have produced censers which portrayed the family's ancestors, gods, or even current lord. These ritual items were for use by the head of the maximal lineage, but also may have been gifted to other heads of patrilineages within the clan, including commoners. This would have reinforced the status, position, and ideological power of the maximal lineage lord. At Xunantunich, Structure D-7 -- a low platform just to the east of the sacbe entrance to the elite corporate group -- yielded both figurine molds and high frequencies of hollow figurines indicative of production. In all other aspects, however, the pottery assemblage from Structure D-7 appears very domestic, with typical frequencies of jars, large bowls, and serving vessels. Again, in archaeological contexts, small-scale nucleated corvèe individual retainer production may appear indistinguishable from other types of craft organization or even from domestic households where potters work directly out of their homes.

During the Terminal Classic, disposable wealth became relatively wide-spread, with remaining residential groups having equal access to luxury pottery. Plazuelas and Group D assemblages exhibit similar proportions of highly ranked styles, and the royal service center has only slightly higher amounts of fancy serving vessels than other residences. I suggest this equalization of wealth indicates that the remaining elites abandoned many of the costly or ostentatious displays of power and focused on consolidating and integrating the remaining populace into a tightly knit socio-political group.

Leventhal argues, however, that the noble assemblage cannot be used to validate this scenario. He contends that the function of Structures A-23 through A-25 changed through time from a multi-function service area to one focused almost exclusively on private activities. In his reconstruction of public civic space, the area in front of the royal residence, Plaza A-II, was cut off from the public, and the center of ritual activity was moved to Plaza A-I along the north face of El Castillo, where rituals and feasting continued into the Terminal Classic. However, feasting in Plaza A-I has yet to be confirmed since midden accumulations at the edges of plaza have not been found. The assemblage of the service area does have slightly higher relative frequencies of Rank 3 and 4 types which indicate continued elite activity. However, the very small sample size argues for a severe reduction in domestic service. In fact, I have argued that the service area may have been totally abandoned by the royalty and that the remaining debris could have been produced by squatters or former clients who scavenged fancy vessels.

During the Terminal Classic, pottery production was reorganized and simplified.

Locally produced luxury pottery became scarce after the decline or demise of ruling elites. The assemblage is characterized by a lack of labor intensive styles, such as polychrome types, and by a reduction in serving forms such as plates and cylinder vases for feasting. Many ceramic groups became less diverse losing numerous types and forms. For example, Mount Maloney Group which consisted of 9 forms during the Late Classic II was reduced to 4 forms in the Terminal Classic. Those forms lost were predominately serving and ritual vessels. The reduction in diversity is especially striking in ceramic groups made up of elite display items, such as Chunhuitz Orange. The remaining Terminal Classic types and forms show less effort in their manufacture, as typified by the sloppy production of Mount Maloney incurving bowls.

The truncation of social classes and the concomitant decrease in demand for luxury goods was the main cause of assemblage simplification. Potters, who typically are located in marginal agricultural areas and supplement their subsistence by craft production (Arnold 1985), are exactly the type of families which would have been under severe hardship during the politically and economically unstable Terminal Classic period. Reduction in labor invested in pottery production signals decreased time spent in pottery production. With a lack of demand for fancy luxury pottery, potters who produced for elites may have relocated to more stable areas, effectively eliminating or reducing the size of craft villages. Those who were left diminished the scale and scope of their production and cut-back on time allocated to produce pottery. Like the social organization, craft production became smaller in scale and less organizationally complex during the Terminal Classic.

Chapter 7: The Role of Feasting in Late and Terminal Classic Maya Social and Political Organization.

> "These are the days for giving thanks to the ancestors for all that one has received from them, for one's land and possessions, and especially for the ceremonies which have come from ancient times, and for the sacred bundle...I get up, light the candles and the copal, pour out the *aguardiente* into a glass and put it on the altar. Yes, World, this is the day." (An obligatory act of faith recorded by R. Bunzel at Chichicastenango, Guatemala 1952:310).

7.1 Introduction

If food is the language of social relations (Douglas 1984; Feeley-Harnik 1985; Hocart 1970; Richards 1960) then feasting must be considered the sustenance of political power. As an integrative mechanism, feasting gathers together individuals to partake in both a fundamental and symbolic life-giving activity which effectively consolidates and stabilizes group relations. As a mediated social exchange, feasting is an acknowledgment of economic power and a statement of political relations reifying the positions of giver and the receiver in the social order. Lastly, as a promotional strategy, the sponsorship of opulent festivals with lavish displays of food and copious amounts of alcoholic beverages is used by leaders to recruit followers and influence allies. In essence, feasting is a perishable form of wealth and its socio-political significance is directly comparable to the role wealth plays in promoting, building, and maintaining social power (Brumfiel and Earle 1987).

Among the modern Maya, feasting is the focal activity at public and private events (Redfield and Villa Rojas 1934; Wisdom 1940; Bunzel 1952; Vogt 1976). Food is consecrated, offered to ancestors or gods, and later consumed by participants in a series of sacramental meals marking ceremonial activities and ritual time (Bunzel 1952:

43: Vogt 1967:42). In the 16th-century, Bishop Diego de Landa documented analogous food offerings and feasts at public ceremonies held among the Yucatec Maya (Tozzer 1941:135-169). This chapter develops a model of feasting based on ethnographic and ethnohistoric data and explore archaeological evidence for such activities among the Classic Maya. Ultimately, I demonstrate how feasting maintained and expanded social power of different factions in prehistoric Maya society.

7.2 Ethnographic Data

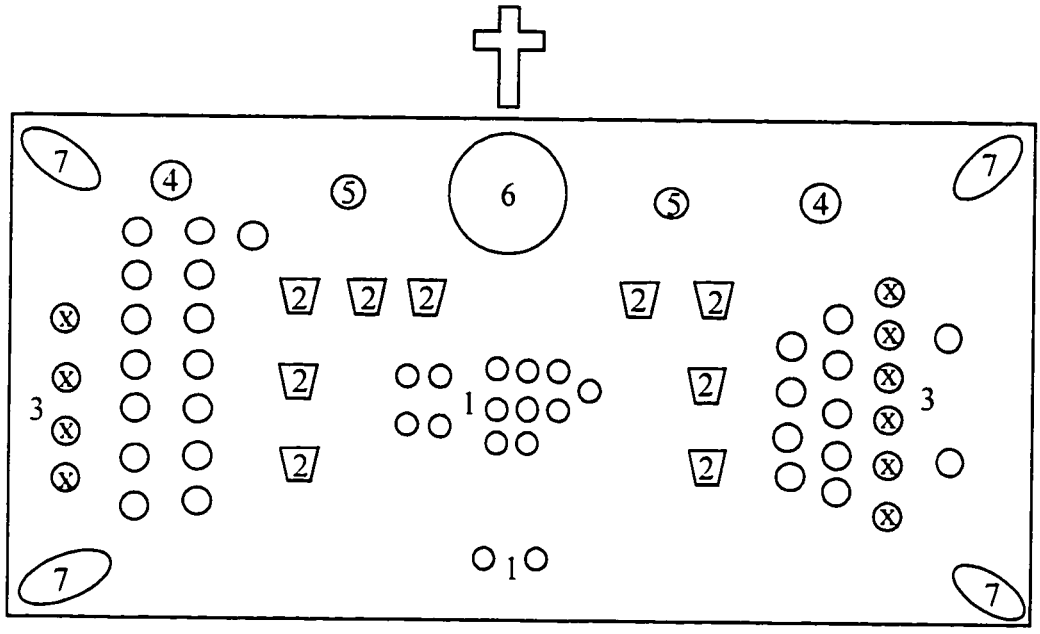
At the heart of modern Maya ceremonies, prayers, processions, food offerings, and meals are dedicated to gods or ancestors (Vogt 1976:34; Redfield and Rojas 1934; Bunzel 1952:45). Priests, public leaders, and the pious faithful worship and perform essential rituals associated with the religious occasion. Ritual observances are held by *padrinos* -- head men -- or ritual specialists who secretly conduct solemn ceremonies before and after public events (Widsom 1940:434). Often, ceremonies take many holy days to complete. Revolving around these solemn religious acts is the village festival which features markets, bullfights, dances, public performances, and, of course, feasting and heavy drinking. The last day of any religious occasion is the principal day of feasting and community-wide celebrations (Wisdom 1940:433). Although there is a religious veneer that shrouds these public events, apart from the main ritual ceremony, festivals are holidays and a time for renewing friendships, engaging in sport and profit, and indulging in special food and drink. Each religious occasion has its own particular mix of ritual and secular aspects. Like the ritual itself, the types of food consumed, the way these are prepared, and how they are served can be divided into two distinct

categories: sacramental meals and celebratory feasting.

Sacramental meals

With little variation between rituals, all modern Maya ceremonies are divided into three parts: an invitation to gods or ancestors to receive offerings, the actual delivery of consecrated foods or offerings such as blood, and the subsequent dining on the food sacrificed to the gods (Wisdom 1940:305; Redfield and Rojas 1934:140; Bunzel 1952:226). In highland rituals, part of the ceremony is a veneration for the food items themselves -- maize and chocolate (Bunzel 1952:45). Food is not merely eaten in commemoration to saints, gods, or the dead, rather, it is sacrificed and transformed into sacred elements which are later eaten by ritual participants, much like the sacrament of the Eucharist among Christians.

During festivals, sacramental offerings and meals are often performed repeatedly, as illustrated in the modern Yucatec Maya Chaac ceremony. Rain ceremonies are elaborate and demand three full days of ritual activities (Redfield and Rojas 1934:140). On the first day, ritual specialists erect an altar a slight distance from the public plaza. There men of the village congregate and will partake in the ceremony. On the second day, food is arranged in a specific manner on the mesa by ritualists who offer food to the gods at dawn, noon, three o'clock in the afternoon, seven in the evening, and twice again before two in the morning (Figure 7.1). After each offering, ritualists distribute consecrated drink to every man "some distance from the altar, keeping complete silence so as not to interrupt the feasting of the gods" (Redfield and Rojas 1934:142). Later,



1. Thirteen homa (small bowls) and two shallow gourd dishes of balche
2. Nine pails of soup
3. Thirty-six yal-uah (ritual bread-stuff)
   (those marked with a cross were surmounted by dishes of chicken-meat)
4. Two bolontaz-uah (ritual bread-stuff)
5. Two noh-uah (ritual bread-stuff)
6. One holche-uah (ritual bread-stuff)
7. Four yaxche-uah (ritual bread-stuff)

Redrafted from Redfield and Villa Rojas (1934:f.14)

Figure 7.1: Chan Kom Cha-chaac ceremony illustrating prescribed arrangement of food offerings on ritual mesa.

sacred breadstuffs and soups are divided among all men present and a little rack is built to hold minor food offerings. Women are not allowed near the ritual activity but are inside the houses preparing maize dough and ground squash seed for the sacred meals. What is important to note is the endless small portions of food presented to the gods and the consumption of sacred meals a short distance from the shrine -- patterns which may be evident in the archaeological record.

Public Feasting

The final day of large festivals, such as those associated with patron-saint days, is conventionally a time of public feasting, dancing, and heavy drinking (Wisdom 1940:433-6; Redfield and Rojas 1934). Village-wide feasting is the responsibility of the principal organizer -- either the *cargador* (Redfield and Rojas 1934:157), the *mayordomo* (Wisdom 1940:450), or the *cofradia* (Bunzel 1952:165). At the festival of Santiago, a group of about fifty Chorti women are appointed by the *mayordomos* to cook *chilate*, *atol*, coffee, and tortillas in large ovens and fireplaces located in the *cofradia* courtyard (Wisdom 1940:450). Most of maize and coffee is contributed by individual families but a great deal is purchased by *mayordomos*. In order to defray the expense of fiestas, sponsors solicit food from community members and sponsor dances where they sell alcohol (Bunzel 1952:169, 255); in general, however, they absorb most of the cost themselves as this is one of the primary responsibilities and prestige enhancing characteristics of the office.

Individual families may host public feasts at their own homes after marriages (Wisdom 1940:300), funerals (Wisdom 1940:305; Bunzel 1952:153), first fruit

ceremonies (Redfield and Rojas 1934:144), *novenas* -- personal events -- (Redfield and Rojas 1934:150), and days of dead (Redfield and Rojas 1934:202-3). The male head of the household organizes the feast and women with her kinfolk prepare the foods. The family strives to provide the best fiesta they can. Among the Maya of Chichicastenango, abundant meat and *aguardiente* is offered to officials, extended family, community members, and distant visitors (Bunzel 1952:153). During community festivals, every family puts aside several ollas of *chicha* and prepares extra food to be served to visitors who may call on the family.

Bishop Diego de Landa (Tozzer 1941: 134-167) documents analogous rituals and food-related activities among the 16th-century Yucatec Maya (Table 3.3). Like modern rituals, all historic ceremonies featured a mix of food offerings, feasting, and prestation. The distinction between family and public feasting was clearly recognized by Bishop Landa who stated that the Maya had two ways of celebrating rituals: non-reciprocating feasts sponsored by kinsfolk when "they marry their children or celebrate the memory of the deeds of their ancestors" and competitive events sponsored by nobles and principal people where gifts of cloth and polychrome pottery accompanied lavish feasts of roasted fowl, bread, and cacao (Tozzer 1941:91). These two types of food related activities also are associated with specific cuisines and the manner in which they are served.

Maya Cuisine

Among the modern Yucatec Maya, sacramental meals center around *zaca* and *kol* (maize based soups and gruels), *balche* (fermented honey and tree bark), and *tuti-uah* (varieties of baked breads which are crumbled into *zaca* thus thickening it with maize

Table 7.1: Chan Kom Cuisine*

Name	Preparation
atole	Lime soaked, cooked, maize meal boiled in water, sometimes with sugar or honey.
pinole	Toasted maize with cinnamon and other spices is ground, boiled like coffee, and sometimes beaten with cacao.
tortillas	Maize is shelled, boiled overnight in lime and water, rinsed, ground, reground and sprinkled with water, shaped, and then toasted.
pozole	Coarsely ground, cooked maize meal mixed with cold water.
beans	Boiled overnight.
meat	Boiled.
tamales	Nixtamal is strained and cooked till thick, mixed with lard and meat, wrapped in banana leaves, and boiled in chicken broth.
zaca	Grounded, cooked corn (without lime) stirred into cold water.
balche	*Lonchocarpus* tree bark is pounded, placed in jar with water and honey, and left for three days to ferment.
kol (yach)	Chicken soup seasoned and thickened with cornmeal bread (*uah*) baked in a *pib*.
tuti-uah	Seven types of cornmeal breads make with ground squash seeds baked in a *pib*.
chocolate	Cacao powder and water is beaten up in wooden vessel with wooden beater and sweetened either with sugar or honey; milk is not used.

* compiled from Redfield and Villa Rojas 1934:37-41

meal) (Table 7.1). During festivals, tortillas, *atole*, bowls of cooked fowl, roast pig, chocolate, and, occasionally, tamales, are served to guest and honored officials. Daily fare, on the other hand, is very simple consisting of tortillas, maize gruels, beans, and chile as a condiment.

Like the Yucatecanos, highland Maya focus on maize based gruels -- *atol* and *chilate* -- as the sacred food offered to the gods (Table 7.2). Cacao, however, is central to festivals and is widely served to guests and honored officials (Bunzel 1952:44; Wisdom 1940:60). As a drink, chocolate is never sacrificed, instead, whole cacao beans are consecrated and offered to the gods (Wisdom 1940:387). In addition to chocolate, tamales, tortillas, and a special type of *atol* containing cocoa butter and *sapuyul* are served at public feasts (Bunzel 1952:41). With the exception of chocolate, festival

Table 7.2: Chorti Maya Cuisine*

Name	Preparation
tortillas	Same as above.
atol	Maize is ground raw, boiled with sugar and cinnamon, and strained.
chilate	Toasted ripe maize is ground and boiled with sugar.
atolagrio	unsweetened *atol.*
pinols	*Chilate* flavored with cacao, pork, greens, etc.
tamales	Maize paste, seasonings, and achieve shaped, wrapped in banana leaf and boiled.
beans	Boiled overnight.
cacao	Beans toasted with maize kernels, ground, boiled with sugar, strained, and frothed.
chicha	Sugar and water are added, ferment for 3 days, strained and transferred to another bongo.
orchata	Soaked dry ground maize is sweetened and strained.

*from Wisdom 1940: 87-107

foods and daily fare are extremely similar -- consisting of tamales, tortillas, and maize gruels (Wisdom 1940:87-107).

Differences between highland and lowland cuisine is most evident in foods served as daily fare. Highland Maya have a more varied diet than lowland groups with the addition of tamales. Sacred foods, however, always revolve around maize based soups and gruels with the addition of special breadstuffs among the Yucatec Maya. Further similarities are evident in festival food which always emphasize chocolate drinks. Chocolate, therefore, may be the most universal marker of feasting, while, maize based foods epitomizes sacramental meals.

Reconstructing prehistoric lowland cuisine

Cuisine is a rapidly changing aspect of culture (Mennell 1985; Goody 1982; Mintz 1985) which can not be expected to have remained stable during the 1000 years between the Late Classic and the ethnographic present. This was a time span which brought major demographic shifts, socio-political reorganization, and the loss of elite

culture to the Maya. Like material culture, cuisine undergoes processes of intensification and extensification (Mintz 1985:122). New foods are grafted onto current patterns of consumption while preserving the conventional meaning of the dish. For example, after Spanish contact, pork spread rapidly throughout Latin America and supplemented fowl as a festival food. Foods also change meaning and their contexts are recast when they become widely available, thus secularizing their consumption. During the Postclassic, tamales may have become less restricted to noble banquets and more common as daily food, as seen today in modern Maya groups. Although ethnohistoric and ethnographic foods can be used to construct a general model for prehispanic cuisine, Classic Maya cuisine is expected to have differed with regard to daily and some types of festival foods.

Despite changes in daily diet, the sacred nature of maize should have remained constant. Sacramental meals would have centered around maize based soups, gruels, and breadstuffs. Some festival foods are apt to change because they are more secular. Given the ritual significance of cacao, however, festival drinks with cacao should be evident in the Classic period. Differences between ethnographic and Classic daily diet is expected given the impact of Spanish cuisine and the loss of elite culture. Classic period vases show elite individuals offering chocolate and tamales to honored officials (see Coe 1978:f. 7; S. Coe 1994). Although elites may have consumed tamales and chocolate on a daily bases outside festival contexts, commoners may not have consumed them regularly given their special ingredients and labor intensive preparation. If tamales were commonly eaten in the central lowlands as daily fare, tamaleros should be abundant and

widespread. Tortillas, the main food of modern Mayas today, were not eaten in the central lowlands until the late 9th century (Taube 1989). Archaeologists (Brainerd 1958; Harrison 1970; J. Thompson 1938; R. E. Smith 1971) note comals are exceedingly rare in southern lowland Classic period sites. Examples are found in Classic period highland or Yucatecan Postclassic sites indicating the comal's late introduction into the lowlands by Central Mexican groups. Its presence signals elite status and connection with foreign elite. Generally, commoner daily fare is expected to be redundant and focused predominantly on maize based gruels.

7.3 Archaeological Markers of Feasting

The question remains whether the different cuisines, and therefore the two types of rituals, can be identified archaeologically. Preparatory vessels offer little help in distinguishing sacramental foods from festival or daily cuisine. Although ritual foods are clearly differentiated, the major ingredients and cooking techniques used to produce them are common to secular foods. Like daily fare, the basis of sacred soups and gruels is boiled corn meal or fowl. Their ritual significance derives from adding spices, seeds, sugar, chocolate, and cacao butter. Ritual breadstuffs are prepared by men and baked in *pib tah* -- earthen pits located in the house yard near the altar (Redfield and Villa Rojas 1934:71,134). This form of cooking leaves no discernible archaeological traces except for the burnt pit feature.

Festival foods, on the other hand, required special vessels. Tamales are steamed in tamaleros and tortillas are toasted on comals. Tamales, however, may have been commonly eaten as daily fare, thus their preparation is not necessarily indicative of

festival cooking. In addition, festival foods are often donated by kin and community members, reducing the signs of mass preparation (Wisdom 1940:385). Alcoholic beverages -- *chicha* and *balche* -- require fermentation in large ollas. *Chicha* production in Andean societies has been identified (LeCount 1988, 1989; LeCount and Hagstrum 1990) and some progress has been made on documenting its production in southern (Honduras) Maya sites (Fung 1996). However, currently no **specialized** olla for its production has been identified in the central lowland (Wisdom 1940:105; Redfield and Villa Rojas 1934:38). Chocolate, the most significant festival food, is generally mixed with *chilate* and frothed. Ethnographically, chocolate is whipped with a wooden beater, however, illustrations on a prehistoric vase indicate froth may have been achieved by repeated pouring the liquid from a vase into a jar or tall bowl (S. Coe 1994:142). If this was indeed the case, the presence of vases in the archaeological record indicate both chocolate production and serving and may be one of the best indicators of festival feasting and possibly daily elite dinning.

Serving vessels remain the best markers of feasting (M. E. Smith 1987). Among the Classic Maya, iconographic and epigraphic data indicate foods can be distinguished by serving vessel shape and form (Houston, Stuart, and Taube 1989). Hieroglyphic texts along the rims of cylinder vases identify them as drinking vessels for cacao (Houston, Stuart, Taube 1989). Chemical analyses of organic residences found on the interior of cylinder and globular vases in an elite tomb at Rio Azul further indicate these vessels contained chocolate (Stuart 1988). Lastly, pictorial scenes painted on Classic period vases illustrate elites holding cylinder vases with frothed cacao (see Coe 1978:f. 7; S.

Coe 1994).

Plates and dishes frequently appear in scenes painted on Classic period vessels as serving vessels for tamales (Taube 1989; Chase 1985, f: 3,5; Coe 1978:54). Scenes depict elite individuals seated on benches being offered or, conversely, offering tamales to standing figures. Using linguistic, iconographic, and epigraphic information, Taube (1989) argues convincingly that plates and dishes were used to serve tamales in elite domestic contexts. Further, globular small bowls contained liquid refreshments such as *atol(e)* (maize gruel) that the Maya wished to keep cool (Houston, Stuart, and Taube 1989:722). In the ethnographic literature (Redfield and Villa Rojas 1934:128), sacramental offerings -- especially *atole* -- were served in small gourds and placed on the ceremonial mesa. Similarly, *chicha* and *balche* were served in perishable gourds. In the more socially complex Classic period, vessels likely were made of ceramic rather than perishable gourds. Lastly, large bowls were quite common in the Yucatan during the 1950's as cooking pots, water basins, and serving bowls used to hold festival foods (R. E. Thompson 1958:112-120).

7.4 The Prehistoric Formal Assemblage

The function of prehistoric vessels types found at Xunantunich will be reconstructed and hypotheses concerning their distribution will be forwarded in order to test the model of Classic period feasting. The most widely used archaeological model for understanding vessel function is based on the assumption that pots are tools (Braun 1980). A container's ability to perform tasks is conditioned by three major aspects: shape, composition, and surface treatment (Rice 1987b; Halley 1983). Shape, especially

near the orifice, determines access to and security of the contents (Braun 1983; Halley 1986; M. F. Smith 1985). For example, an open jar with a wide mouth and low neck allows easy manipulation of the contents; however, this type of vessel is not as secure as those with taller, narrower necks. Water carrying jars, therefore, are assumed to have narrower orifices than cooking ollas. Thermal stress also determines function. Paste and temper composition as well as surface treatments are the primary factors for conditioning durability (Rice 1987b:406; Schiffer et al. 1994). Hard, well-fired, polished vessels retain water and are good for serving, but they perform poorly as cooking pots because they do not allow for expansion and contraction of the vessel during heating and cooling. Functional interpretations of Late and Terminal Classic forms focus on these physical attributes and correlate ethnographic, ethnohistoric, and iconographic information concerning vessel functions.

Jars

Ethnographically, jars are divided into three functional groups: narrow mouth jars for carrying water; wide mouth jars for storage; and ollas for cooking (R. E. Thompson 1958:121-3; Reina and Hill 1978:26). Narrow mouth jars -- cantaro or *p'ul* -- are water carrying vessels with constricted collar diameters ranging from 5 to 12 cms and high necks generally above 5 cms in height (1958:123-131). Smaller varieties are used as water bottles around the house (Reina and Hill 1978:25). Differences in shape, slip, and decoration are good visual markers for identifying village affiliation (R. E. Thompson 1958:123). Wide mouth jars -- tinajas, *nohoch p'ul*, or *calam cat* -- are used in the Yucatan for storing drinking water, maize, seed, and wide variety of other things.

Storage jars have wide collars with a mean diameter of 19 cms and their neck are tall, ranging from 6 to 15 cms in height. These large jars rest on the floor around the inside walls of houses and generally display less decoration than water jars. The large mouth permits individuals to ladle out water or other contents with ease (1958:123). Cooking pots in the Guatemala highlands are small jars with an open mouth and short neck (Reina and Hill 1976:26). These coarsely textured vessel are made with equal proportion of *chistun* (talc chlorite schist) and clay, which provide important thermal properties (Reina and Hill 1978:148). All jars have a close correlation between rim and collar diameter, with rims only a few centimeters larger than the collar diameter. Collars diameters appear to be the defining characteristic. There is no overlap in collar diameter between narrow and wide mouth jars.

Table 7.3: Dimensions of modern jar types *

Jar type	Mean	Stand. Dev.	Range	Number
Narrow mouth				
Rim diameter	10 cms	1.4 cms	8 - 14 cms	N=18
Collar diameter	8 cms	1.8 cms	5 - 12 cms	
Neck height	9 cms	2.9 cms	2 - 13 cms	
Wide mouth				
Rim diameter	23 cms	8.6 cms	15 - 30 cms	N=9
Collar diameter	18 cms	6.1 cms	13 - 23 cms	
Neck height	10 cms	2.6 cms	8 - 15 cms	
Cooking olla	no data			

* compiled from R. Thompson (1958)

Classic period jars are expected to exhibit similar shapes and characteristics as modern jars (Table 7.4). Jars with collar diameters less than or equal to 13 cm and neck heights of greater than 3 cms are classified as narrow mouth jars probably used for water

Table 7.4: Dimensions of Late and Terminal Classic jar types

Jar type	Mean	Stand. Dev.	Range	Number
Narrow mouth				
Rim diameter	15 cms	3.2 cms	10 - 24 cms	N=77
Collar diameter	9 cms	1.8 cms	6 - 13 cms	
Neck height	4.7 cms	1.3 cms	2 - 11 cms	
Wide mouth				
Rim diameter	28 cms	7.6 cms	16 - 61 cms	N=86
Collar diameter	20 cms	5.9 cms	13 - 43 cms	
Neck height	6.2 cms	2.1 cms	1 - 16 cms	
Cooking olla				
Rim diameter	22 cms	5.0 cms	15 - 32 cms	N=9
Collar diameter	15 cms	3.5 cms	10 - 20 cms	
Neck height	4.1 cms	1.8 cms	2.1 - 7.2 cms	

transport and serving. Wide mouth storage jars are defined as those vessels with collar diameters greater than 13 cms. Neck heights vary greatly but generally are above 3 cms and can be as tall as 16 cms thus indicating a range sizes and possibly functions. Wide mouths make vessels' more multi-functional. These jars could have been used to storage water, grains, brew *chicha*, and other storage, cooking, or preparatory tasks. Ollas, defined primarily by their material composition, are small size vessels exhibiting wide collar diameters and low necks. At Xunantunich, Macaw Bank Ceramic Group, a micaceous ware is the most obvious choice for cooking ollas. One jar shows extensive burning and organic residue on the interior of the pot. I was, however, struck by the general lack of obvious cooking ollas in the Late and Terminal Classic assemblages. Cooking may have been performed in incurving bowls, as suggested by Joyce (1991) and Hendon (1987) working at Copan, but Xunantunich large bowls rarely exhibit sooting on the exterior and never contain organics on the interior of vessels.

In general, the division of formal types by collar diameter and composition has

produced very good patterning in the prehispanic assemblage. Like ethnographic jars, prehistoric jars show high degree of correlation between rim and collar diameter and rim to collar ratio is a good relative measure of vessel size (Figure 7.2). Collar diameter plotted against neck height illustrates a break between jars with neck diameters below 13 cms and those with more open collars (Figure 7.3). Micaceous jars are generally very open but their proportion can be found scattered across smaller varieties of both narrow and open mouthed jars. The most defining formal characteristic of micaceous jars is their low necks which allow easy access; differences in constriction may be related to the manner of cooking. Food items requiring lengthy boiling, such as hydrated maize kernels or maize meal, may require more closed vessels than foods such as vegetables or meat for which cooking time is shorter.

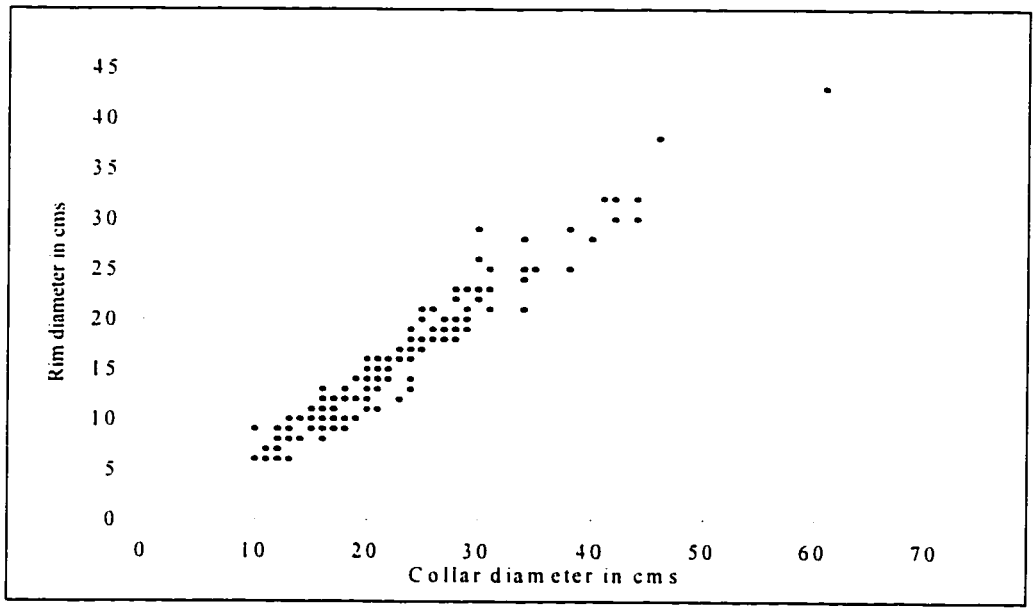
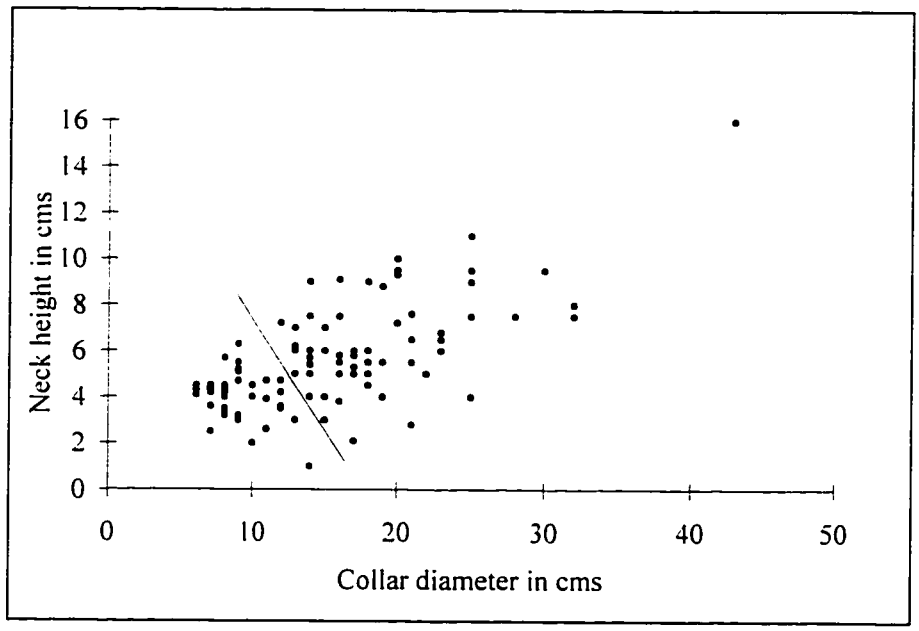


Figure 7.2: Plot of jar rim and collar diameters

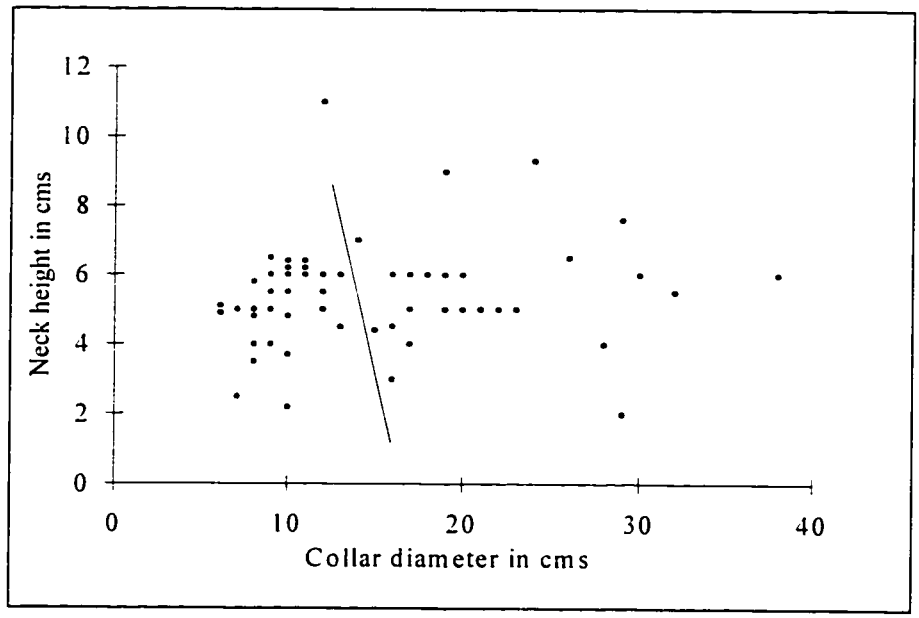
Decoration and formal characteristics also correlate on prehispanic jars. Late and Terminal Classic narrow mouth jars display more decoration than open storage jars. Narrow mouth jars were produced in Garbutt Creek Red, Mount Maloney Black, Chial Orange-red, and both Belize Red and Chunhuitz Orange Ash Ware types, although some were produced in Unslipped Cayo varieties. Wide mouth jars are restricted to Cayo Unslipped types, although, a few vessels of Mount Maloney Black were produced in wide mouth forms. Their lack of decoration is in keeping with their stationary, household role. During the Terminal Classic, however, wide mouth jars are highly diagnostic, displaying appliquéd pie crust rims. The sudden application of stylistic information on this form may suggest the importance of domestic activities, family integration, and lineage affiliation during this stressful time. The Macaw Bank Ceramic Group exhibits a fair amount of stylistic information with occasional punctations, incising, or raised ridges along the shoulder of cooking ollas.

Open forms

Open forms are classified as plates, dishes, or bowls according to an archaeological convention based on the ratio of vessel height to maximum width (Rice 1987b:216). Plates have height less than one-fifth their maximum diameters; whereas, dishes are slightly deeper with heights between one-fifth and one- third their maximum diameters. Bowls can be either restricted -- exhibiting short necks and collars -- or unrestricted with heights varying between one-third to equal their maximum diameters. Bowl depths offer more security to their contents, making them more multi-functional



a.



b.

Figure 7.3: Plots of collar diameter to neck height for Late Classic II (a) and Terminal Classic (b) jars. To the left of the diagonal lines are constricted jars and to the right are open jars.

than plates and dishes, which are strictly serving vessels.

Plates and Dishes

Plates and dishes were used by the Maya to serve tamales in elite domestic contexts and public feasts (Taube 1989); therefore they were probably functionally equivalent. At Xunantunich, Late Classic plates and dishes are nearly identical in surface treatment and decorative motifs, strengthening the arguments that they were used for the same function. Plates and dishes were produced in several ceramic groups, including Dolphin Head Red, Belize Red, Chunhuitz Orange, Vinaceous Tawny Natural and white slipped ash ware varieties. These highly decorated vessels are always slipped and decorated with incising, tooling, or painting, and often are supported by tripod feet. Generally, plates are restricted to elite contexts, whereas, dishes are more widespread.

Table 7.5: Plate and dish diameters

Type	Mean	Stand. dev.	Min. diameter	Max. diameter	Number
Plates	35 cm	7.4 cm	22 cms	62 cms	N=41
Dishes	27 cm	4.8 cm	17 cms	36 cms	N=47

Given their nearly identical styles and production costs, plates appear to have been reserved for large-scale feasting, which occurred mainly in elite contexts. This interpretation is strengthened by textual information encoded in the Primary Standard Sequence which often names the owners of vessel (Houston, Stuart, and Taube 1989).

Bowls

Bowls are divided into two sizes based on ware and rim diameters: large calcite

bowls and small ash ware bowls (Table 7.6). Calcite ware bowls can withstand heavier use than ash ware bowls since calcite wares absorb shock better than thin, highly friable ash wares. Calcite wares are thus more multi-functional, going from kitchen to the table with greater ease than ash wares, which are restricted to serving small portions of food. This dichotomy also is evident in the amount of decoration applied to each type; large bowls are predominantly undecorated, while small bowls often display incising or painting.

Large bowls

Large bowls were produced in Mount Maloney, Dolphin Head, and Vaca Fall Ceramic Groups. Together the different types of large bowls made up between 20% to 40% of the household assemblage during the Late to Terminal Classic periods. This high frequency was unexpected and prompted investigation into the function of this popular form.

Table 7.6: Large and small bowl diameters

Type	Mean	Stand. dev.	Min. diameter	Max. diameter	Number
Large bowls	30 cms	9.6 cms	10 cms	66 cms	N=481
Small bowls	18 cms	5.6 cms	8 cms	36 cms	N=117

Large calcite bowls provide easy access and moderate security to the vessels' contents and can withstand heavy use, making them suitable for a wide variety of domestic tasks. Ethnographically, large bowls were quite common in Yucatan during the 1950's as cooking pots, water basins and ceremonial bowls (R. E. Thompson 1958:112-120). These pots share physical and formal similarities to Mount Maloney,

Dolphin Head, and Vaca Falls large bowls.

In the 1950's, the Yucatec Maya called a cooking pot, *cum*. These vessels were placed on three stones above the hearth and used to boil foods. Each pot was used to cook a particular food ..."one pot is reserved for boiling water, one for cooking beans, one for meat and stews" (Thompson 1958:115). In the absence of a water basin, a *cum* stored water for cooking and washing, was used to prepare nixtamal, and contained feed and water for animals (Thompson 1958:117). Cooking vessels were slipped with organic stain on the interior and often displayed appliquéd fillets near their exterior rims. Given its diverse functions, this form dominated the modern kitchen assemblage of the Yucatec Maya (Saville 1921:163).

A water basin -- *cat* -- exhibited the same shape as a *cum*, however, their bases were flatter and they were slipped red. Used to store water, mix *atole*, and for general storage, these large bowls were the second most common pot found at Chan Kom (Redfield and Villa Rojas 1934:36). Like *cums*, individual basins were reserved for a particular use..."maize was stored in one, lime in another, maize and lime were mixed with water in a third, and lime-soaked maize washed in a fourth" (Thompson 1958:117). The complex sequence of tasks associated with maize processing accounts for the high frequency of *cats* in the Yucatec Maya household assemblage.

Ceremonial basins -- *oclizes* -- held food offerings at rituals. References to *oclizs'* physical shape and the presence of feet are very ambiguous. An *ocliz* has been described as 1) anything with feet, 2) a flat, wide and shallow bowl with an outcurved rim, and 3) a very large bowl lacking feet (Thompson 1958:119). The confusion over its

appearance is probably due to the fact that very few *ocliz* were in use at the time of the ethnography study. *Oclizes* and newly made *cums* were used to cook and serve ritual dishes (Thompson 1958:117-120). During religious ceremonies, a special type of *cum*, called an *xuolcum*, was used to make -- *dzanchac* -- the ritual soup or stew. The meat for this dish was first cooked in a earth oven -- *pib* -- and then boiled with vegetables and seasonings in an *xuolcum*. *Oclizes* held turkey and pork offerings on ritual mesas and displayed pig heads during dances and feasts (Redfield and Villa Rojas 1934:193-4).

Formal characteristics of ethnographic and prehistoric large bowls are very similar. Like modern incurving bowls, the conical shape of prehistoric bowls facilitates both rapid heating and moisture loss if the pot was used for cooking, and particle settling if it was used for water storage and washing. Clearly, incurving bowls are multi-functional tools and their body shape does not help distinguish specific functions for particular bowl types. Decorative techniques and base morphology, therefore, may be better indicators of function for prehistoric bowls.

Ethnographic cooking and preparatory pots exhibit slips, although the *cum* slip is a durable organic stain, whereas, the *cat* and *ocliz* have a clay-based red slip. Mount Maloney incurving bowls, the most common bowl type, have black slipped interiors, scraped exteriors, and flattened bases, indicating they were used for maize preparation and water storage, rather than cooking. However, some Mount Maloney bowls show signs of sooting caused by prolonged contact with fire and occasionally may have been used to boil foods.

Mount Maloney bowls are also the most common vessels found in termination

and dedication deposits at Xunantunich. Whole bowls, probably as containers for dedicatory offerings, were placed amidst broken sherds beneath the south construction stairs of Structure A-1 and on a west facing terrace of Structure A-4 (Lewis 1995). Large rim fragments were found wedged into the Castillo's eastern frieze (Robin 1994) and burnt on a bench in Structure D-7 (Braswell 1993) as part of termination rituals. I suggest, therefore, Mount Maloney bowls found in ritual contexts were ceremonial bowls used for holding offerings during sacramental meals, serving festival foods, and sacrificed to the gods during termination or dedicatory rituals. This multi-functional aspect would explain their domination of Xunantunich and San Lorenzo pottery assemblages. However, it also makes them poor indicators of feasting since their presence within all contexts, domestic and ritual - public and private, is all but assured.

Mount Maloney incurving bowls are not the only form of large bowls. Dolphin Head Red and Vaca Falls Red bowls are slipped on both the interior and exterior and are smaller, more finely made vessels. Often they have tripod feet or countersunk circle bases and were probably reserved for serving rather than cooking or preparing maize.

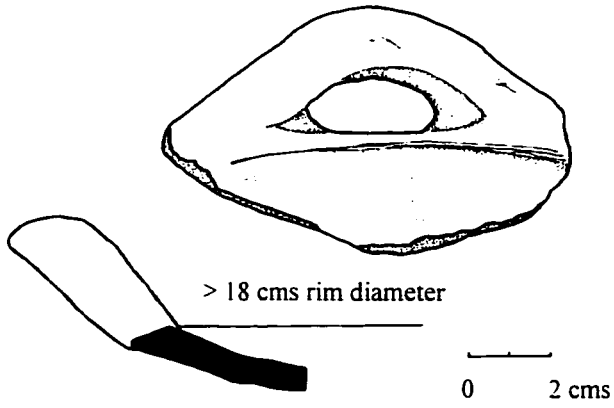
Small bowls

At Xunantunich, small bowls are predominately Belize Red and Chunhuitz Orange types. They often are decorated with incised, impressed, appliquéd, or painted motifs. These ash ware bowls are thin walled, well-fired, and extremely friable. Ethnographic and epigraphic data suggest small globular bowls functioned as serving vessels for individual portions of food. Small bowls with flaring or slightly outcurving presumably had the same basic function, although there is no textual nor iconographic

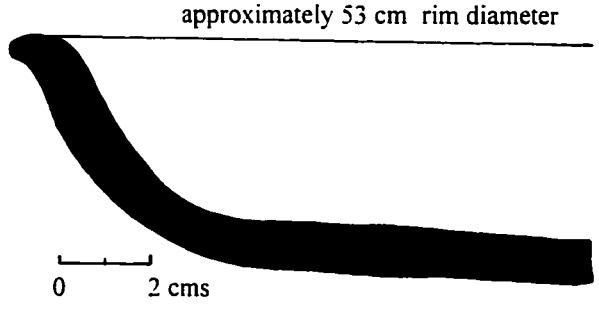
information linking these vessels with a particular function. Flaring rimmed small bowls have an average rim diameter one cm greater than those with round or globular sides; thus both exhibit nearly the same volume and containment security. Stylistically, flaring rimmed small bowls are more similar to plates and dishes, yet, their steep sides would have prohibited them from being used to serve tamales or ritual breadstuffs -- unless they were stacked end to end. I suggest they were formal or elite serving vessels for liquid gruels. This may account for their lack of representation on Classic period vessels, which typically show the serving of solid food or chocolate.

Tamaleros, comals, and cajetes

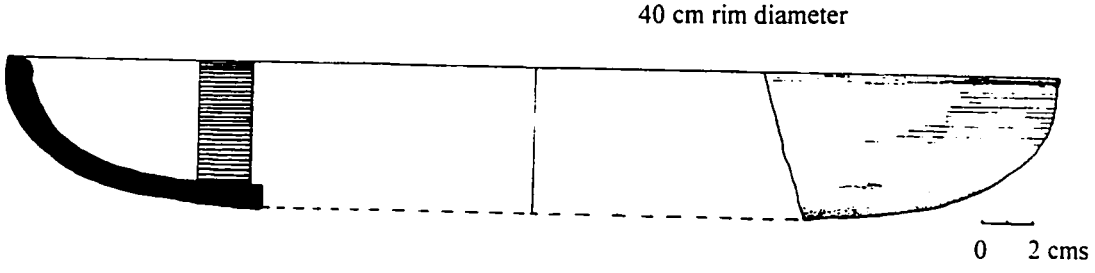
In the Guatemalan highlands, tamaleros and comals are specialized vessels for steaming tamales and toasting tortillas (Reina and Hill 1976:26). Cajetes are Terminal to Postclassic plates for serving liquid (pers. comm. George Bey III). At Xunantunich, closed ollas are similar in form to tamaleros. Mount Maloney and Cayo Unslipped closed ollas are not found in high frequencies indicative of every day use. One possible comal rim and two possible cajetes have been found in excavations at Structure A-25, the front platform associated with the royal service area (Figure 7.4). The comal rim is a thick walled, nearly flat vessel with a round, vertical strap handle. The cajetes have large rim diameters; one measures approximately 53 cms and was produced in Mount Maloney Black. Like the morphology of the Castillo, these rare vessels signal ties with northern polities.



a.



b.



c.

Figure 7.4: Comal and cajetes. Cayo Unslipped Type comal (117L/2.12978) a.; eroded cajete (117I/3.10644) b.; and Mount Maloney Type cajete (123 A/10.11272) c.

Vases

Late to Terminal Classic vases are divided into three secondary forms: cylinder, barrel-shaped, and pyroform. Cylinder vases were used to drink chocolate, and barrel-shaped and pyroform vases are suggested to have the same function. Although all forms are contemporaneous, barrel-shaped vases are the predominant form in the Terminal Classic period in the Belize Valley, whereas, cylinder vases predominate in the Late Classic. Given that chocolate drinks were still popular after the Late Classic period, barrel-shaped vases presumably were used for serving cacao. This form, however, may have been less prestigious and likely used by less-privileged individuals throughout the Late and Terminal Classic periods.

Cylinder vases are common in the central Peten and barrel-shaped vases are popular in the Belize Valley. Pyroforms -- an ovaloid form with a slender, slightly outcurving, conical neck and pedestal base -- are rare in both areas (Table 7.7). Vases are produced in a number of ceramic groups including Altar (Pabellon Modeled-carved Type), Belize Red, Chunhuitz Orange, Chial Orange-red, San Lorenzo Black, Homul, and the occasional Mount Maloney Black. Vases are the most diagnostic form for identifying celebratory feasting and elite dinning in the prehistoric record.

Table 7.7: Vase diameters

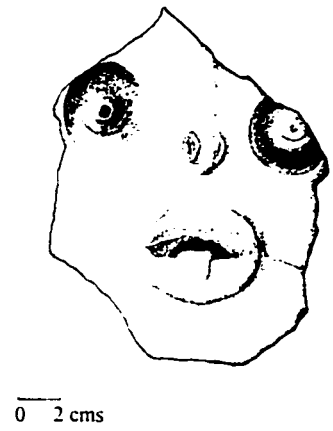
Type	Mean dia.	St. dev.	Min. diameter	Max. diameter	Number
Cylinder	15 cms	2.6 cms	10 cms	20 cms	N=32
Barrel	11 cms	3.6 cms	7 cms	18 cms	N=19
Pyroform	14 cms	4.7 cms	6 cms	21 cms	N= 7

Ritual forms: censers, drums, and miniatures

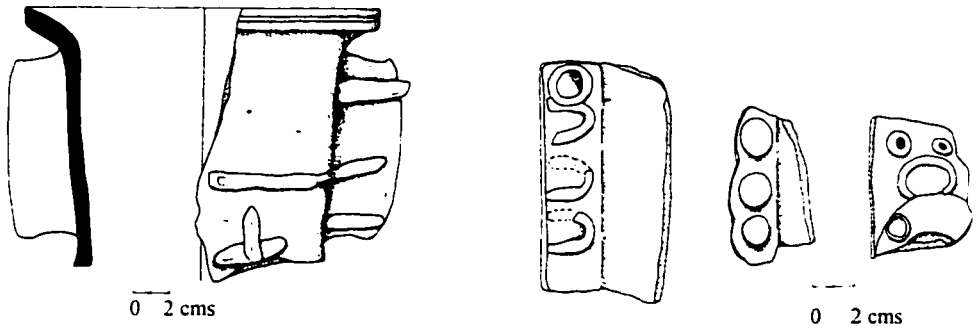
Pottery censers were used to burn copal incense which was an integral part of Maya rituals (Tozzer 1941:144). On festival days, censers which were modeled to represent gods or venerated ancestors were offered food, blood, and other sacrifices; sometimes human bones were burnt or stored in them (Tozzer 1941:129-31). This explains the Spaniards destruction of these "idols". McAnany contends that censers were critical to ancestor veneration among the Maya because they were physically representations of important gods or ancestors (1995:37).

In the 16th century, censers were inherited property. This practice is still evident among the Chorti Maya (Wisdom 1940:381). In the Guatemalan highlands, incense burners are owned by the headman who controls all ceremonial objects such as effigies of saints, drums, altar candles, and other sacred objects (ibid:279). Placed on the altar table or floor of altar-house during ceremonies, they seldom are taken out of ritual contexts.

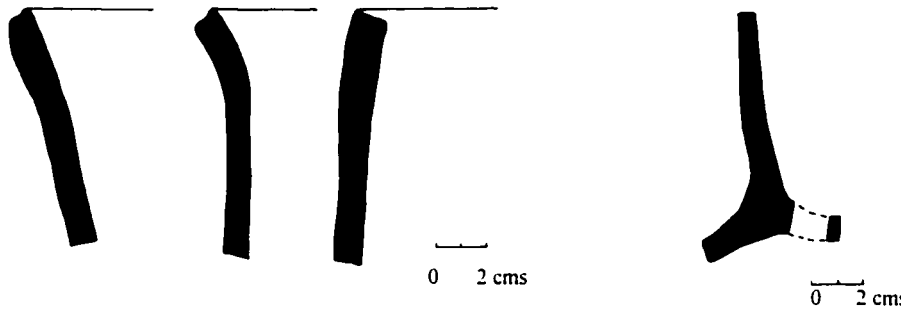
At Xunantunich, Late and Terminal Classic censers are effigies of humans, gods, or other sacred objects. Late Classic censers were produced in tall vase-like forms with molded and appliquéd faces and large ear flanges which appear to represent lords in full regalia. Censers were slab made, modeled, or molded and appliquéd to represent human forms They were then stucco washed with white slip and painted with post-fire blue pigment (Figure 7.5). During the Terminal Classic, large bowl forms displayed spikes interpreted as sacred ceiba tree spines. Rarely are whole examples found; generally, they are encountered smashed in termination rituals or in caches (D. Chase 1986). XAP has



a.



b.



c.

Figure 7.5: Pedregal Modeled Type censors. God Head face (14Y/4) a.; ear flanges, back view (130A/2.12041) and front views (14MM/2.13164; 22H/3.13162; 122A/5.15137) b.; rims (74U/1.11706; 74O/5.11648; 110C/5-P1.12135) and pedestal base (76G/1.13160) c.; left to right. God head illustration courtesy of Sydney Cosselman.

encountered pieces in middens, on the top of temples, or in termination ritual deposits.

Lip-to-lip vessels are cache vessels -- distinctive containers used to hold offerings or intentionally sacrificed as offerings themselves (D. Chase 1986:83). As their name implies lip-to-lip vessels were placed lip-to-lip in caches to seal the contents and were made especially for the occasion. At Xunantunich, Group D's ancestor shrine has the best examples of cache vessels which are small, rather crude, Unslipped Cayo bowls.

Drums were played by musicians during ritual processions (Sharer 1994:255). Like censers, they are considered sacred objects among the modern Maya and are owned by the family headman (Widsom 1940: 279) Thompson excavated fine examples of drums at Xunantunich (Thompson 1940, Gifford 1976); however, XAP has not encountered any whole examples. Drums were made in Opaque Carbonate Ware and unspecified red wares. Lastly, miniatures are small vessels found in both cache and midden deposits (Gifford 1976:314). Given their size, it is assumed they held valuable objects, powders, or oils. Miniatures were produced in Cayo Unslipped, Cambio, Belize Red, and Mount Maloney Groups.

7.5 A Model of the Dual Roles of Feasting

Based on ethnographic analogy, Classic feasts are expected to fall into two categories: sacramental meals centered around small-scale religious rituals, and large-scale, often competitive, public feasts celebrating the general religious holidays. Classic period activities, however, probably were larger, more centralized, and more complex than ethnographic examples. Royal lineages likely sponsored community-wide feasts in

accordance with calendric events. Among the ancient Maya, these large-scale feasts were also a competitive mechanisms used by leaders to maintain and expand their social prestige, as well as for promoting community or lineage-wide integration. Subordinate elite lineages hosted competing ceremonies in order to establish their own personal ties to the ritual and to rival those events sponsored by the nobility in their attempt to expand prestige. Like elites, commoner lineage heads provided feasts in order to demonstrate ancestral property-rights and integrate related families into the group. All lineages, elite and commoner alike, engaged in small-scale, household-based, religious ceremonies centered around sacramental dinners.

In the archaeological record the two types of rituals -- non-reciprocating, small-scale religious ceremonies and community-wide, competitive public feasting -- can be distinguished by the manner of food presentation. Sacramental meals would have focused on maize based soups and breads offered to the gods and participants in small bowls. Since small bowls were also used for daily meals, sacred dinners may not be recognizable unless conducted in special locations away from typical household activity areas, such as ancestor shrines. Festival foods -- tamales and chocolate -- were served on status marking platters and vases. These forms should exhibit their highest frequencies in elite and public feasting localities. This dual model of feasting will be applied to the archaeological record at the Late to Terminal Classic lowland site of Xunantunich, Belize.

Samples and units of analysis

Rim sherds from household occupation deposits were used to tabulate the

percentage of primary forms -- jars, open forms, vases, and ritual vessels -- within household assemblages from Groups A, B, and D at Xunantunich, and for large plazuelas and small, mound sites at San Lorenzo. Secondary forms, such as plates, dishes, and bowls, are presented as a percentage of forms within each primary category, a format used in analyses presented in chapters 5 and 6. Proportions are derived from rim sherds recovered from occupation contexts only, not from fill or fall. Aggregate samples for plazuelas and small mounds are used to increase sample sizes and reduce the effect of rare forms. In small mounds, primary occupation contexts are extremely rare and sample sizes very small -- single mounds have fewer than 20 rims. In small samples, the presence of a single rim significantly alters the percentages of primary forms; therefore, aggregate proportions rather than individual means were used.

First, assemblage variation across households will be presented and the spatial distribution of forms within households viewed in order to locate feasting areas and compare feasting activities within factions. Ceramic collections from all occupation contexts dated to the Late and Terminal Classic period are combined to increase sample sizes. Second, temporal variation in feasting activities will be examined using only single occupation, primary contexts. Feasting, as a competitive strategy, may indicate shifts in social power between the Late and Terminal Classic.

7.5 Results of Analyses

Variation across households

Significant variation exists in household assemblages (Table 7.8). A chi-square test for significance indicates these differences are significant at the .05 level. However,

not all forms show variation. The portion of jars and open forms are relatively consistent across households presumably because they compose the standard domestic assemblage (Figure 7.6). Jars show the least variation, and most residential groups have equal portions of open and constricted jars (Table 7.8). Disparity in household proportions exist in open forms, as well as, vases and ritual vessels.

Small mounds at San Lorenzo are totally lacking in ritual forms, plates, and dishes; however, one vase was found in Site 21, a single mound located directly behind Site 22 -- a large plazuela group. Given these data, Jason Yaeger and I have concluded that the full range of serving and ritual activities at San Lorenzo occurred exclusively at developmentally mature, higher ranking households which had both the authority and social status, as well as the economic resources needed to sponsor such rituals and celebratory feasting (Yaeger and LeCount 1995). Pottery assemblages at San Lorenzo's

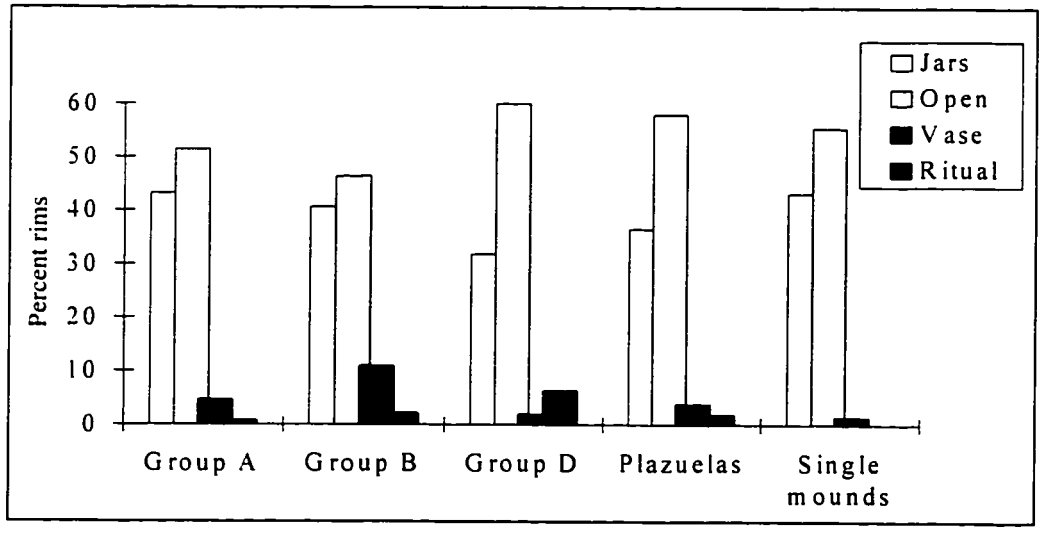


Figure 7.6: Comparison of primary form relative frequencies by household

Table 7.8: Comparison of relative frequencies of primary and secondary forms from late occupation households

Primary Forms & Secondary forms **	Group A	Group B	Group D	Site 22	Plazuelas*	Small mounds
Jars	**43.2**	**40.6**	**31.8**	**38.8**	**36.5**	**43.2**
Unspecified jars	43.9	46.4	59.5	59.0	61.8	78.1
Open jars	28.3	35.7	19.0	18.0	15.3	6.3
Restricted jars	24.7	14.3	20.7	17.0	18.8	12.5
Ollas	3.1	3.6	0.9	6.0	4.2	3.1
Open forms	**51.4**	**46.4**	**60.0**	**54.3**	**58.0**	**55.5**
Unspecified form	15.8	9.4	16.4	17.9	19.1	12.2
Plates	7.9	3.1	5.9	0.0	0.9	0.0
Dishes	7.6	4.7	5.5	6.4	4.8	0.0
Small bowls	17.5	18.8	13.7	12.9	9.6	4.9
Large bowls	48.8	59.4	57.1	57.1	61.1	78.0
Closed ollas	1.7	4.7	1.4	5.7	4.4	4.9
Comals or cajetes	0.7	0.0	0.0	0.0	0.0	0
Vases	**4.6**	**10.9**	**1.9**	**5.0**	**3.8**	**1.4**
Unspecified forms	14.8	0.0	14.3	15.4	13.3	0.0
Cylinder vases	66.7	60.0	42.9	7.7	13.3	0.0
Barrel-shaped vases	11.1	20.0	28.9	69.2	66.7	100
Pyroforms	7.4	20.0	14.3	7.7	6.7	0.0
Ritual forms	**0.8**	**2.2**	**2.2**	**1.9**	**1.8**	**0.0**
Censers	20.0	66.7	87.0	60.0	42.9	0.0
Drums	40.0	33.3	0.0	0.0	0.0	0.0
Lip-to-lip vessels	0.0	0.0	13.0	20.0	14.3	0.0
Miniatures	40.0	0.0	0.0	20.0	42.9	0.0
Rim number	590	138	365	258	395	74

* includes Site 22

* * tabulated as percent of primary form

plazuelas appear similar to household groups at Xunantunich.

San Lorenzo plazuelas and Xunantunich residential groups exhibit significant variation in the proportion of forms related to feasting. Group B has the highest relative number of vases. However, this pattern is not directly comparable to other residences since the small scale excavation was directed specifically toward recovering a termination and/or dedicatory ritual deposit associated with Structure B-2. The following discussion therefore, is limited to the three groups with comparable contexts and sample sizes: Structures A-23 through A-25 -- interpreted as the royal service area;

Group D -- the subordinate elite corporate group; and Site 22 -- one of the largest plazuelas at San Lorenzo.

Site 22

Site 22 exhibits an assemblage similar to those from Group A and D at Xunantunich. However, looking closely at forms related to feasting, Site 22 lacks status marking serving vessels. Plates are totally absence from occupation deposits, and vases are predominately barrel-shaped rather than cylinder vases which are concentrated at Group A. Further, although relative frequency of ritual vessels appears comparable to Xunantunich residential groups, Site 22 lacks drums which are found solely at Xunantunich. These data suggests that although feasting, chocolate drinking, and ancestor worship occurred at this large San Lorenzo household, polychrome plates and cylinder vases -- the highest ranking pottery status markers -- rarely were available to

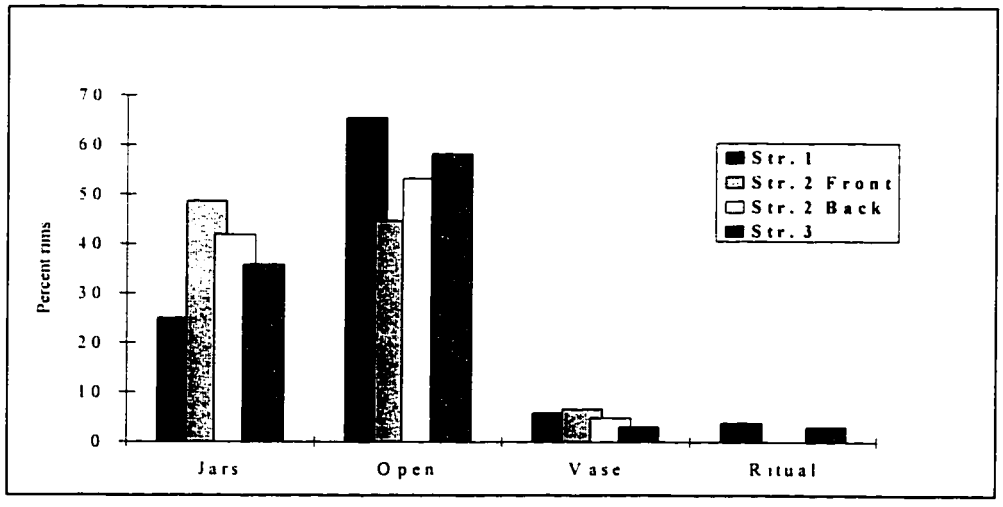


Figure 7.7: Distribution of primary forms at Site 22

serve festival foods. Processions, which included musicians, also were restricted to the regional center.

Within the plazeula of Site 22, ritual forms are concentrated in front of Structures 1 and 3, the north and south buildings respectably (Figure 7.7). Dishes and bowls were discarded predominantly in the plaza area rather than behind the buildings -- this is especially true of small bowls. Small bowls were never discarded behind Structure 2. This pattern supports the interpretation they were used for sacramental dinning. The highest relative frequencies of small bowls are found at Structure 3 -- the largest, vaulted building. This pattern suggests that sacred meals were consumed in front of the structure by the lineage head and his invited guests. The presence of incensarios at Structure 3 supports this interpretation. The occurrence of ritual forms at Structure 1, the low northern platform, denotes ritual or ancestral significance of this structure.

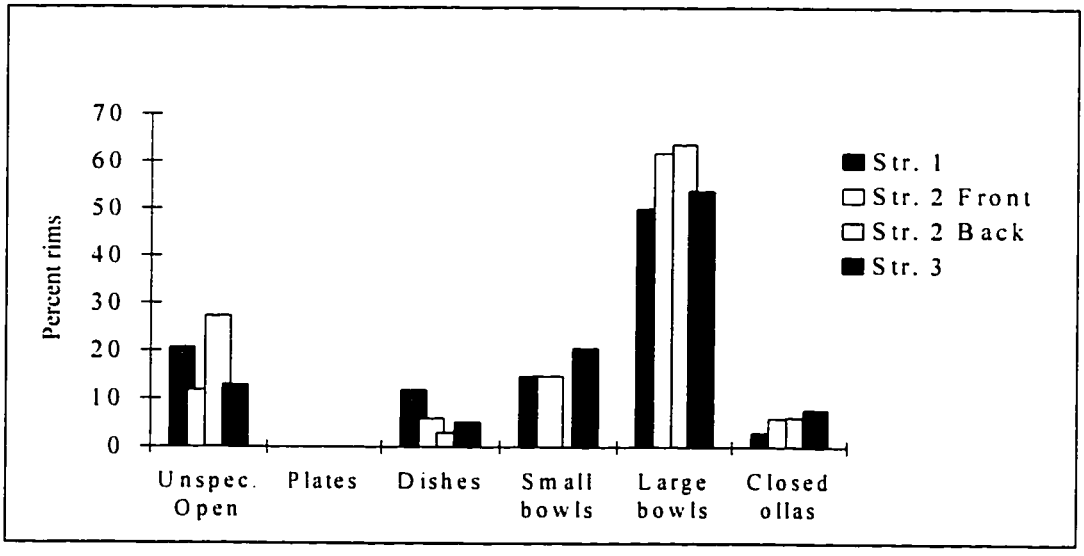


Figure 7.8: Distribution of open forms at Site 22

Group A

At the royal compound, the service area exhibits an assemblage with the highest proportion of jars and serving vessels, and lowest relative frequency of ritual forms (Table 7.7). Comals and cajetes -- serving forms associated with elite foreign foods -- are restricted to this area. This patterning suggests substantial storing, cooking, and serving of festival foods occurred in this area, whereas ritual activities associated with burning incense, caching ceremonial objects, and other sacred activities were performed elsewhere.

The even distribution of jars suggests cooking and storing occurred across the

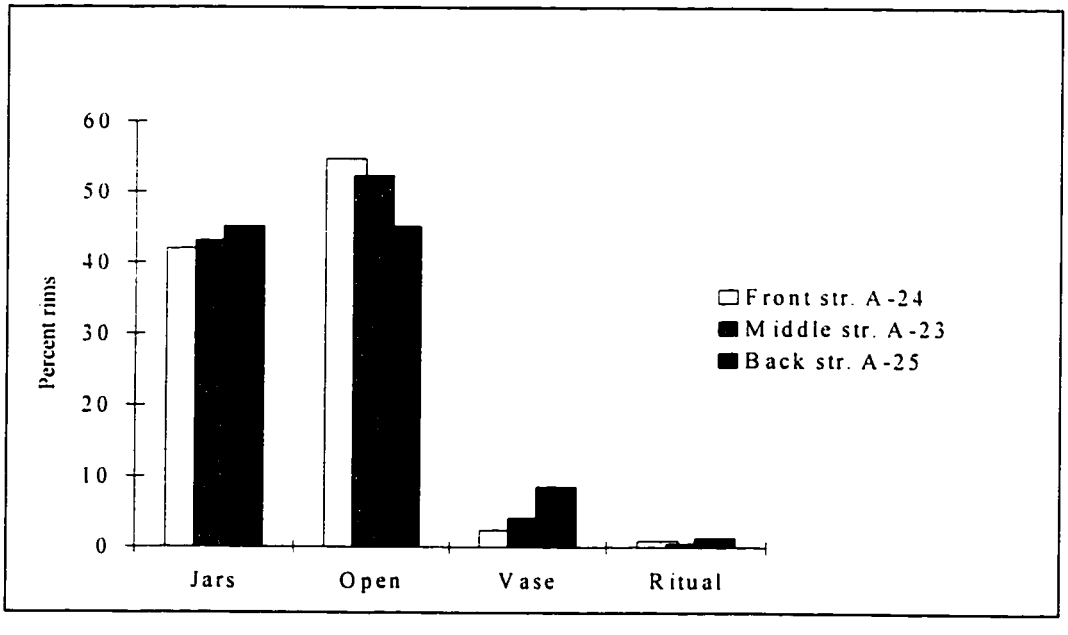


Figure 7.9: Distribution of primary forms at Group A

three platforms (Figure 7.9). Looking closely, at the types of jars found across these platforms shows that constricted jars used for liquid transportation and serving are concentrated in the front two structures, while the back platform has predominately open storage jars (Table 7.9). Fung (1996) suggests that open storage jars were used to brew alcoholic beverages at Copan. Thus open jars in the back platforms could indicate both storage and *chicha* or *balche* production. The presence of both open and constricted jars at the most forward structure indicates a full range of activities occurred in front of the public. Here, both large open mouth and smaller constricted jars may have been used during large-scale feasts to dispense food and beverages. Plates and dishes show an even distribution, but small bowls are found more often in the front platforms where individual serving of liquid gruels would have occurred. Vases show a similar pattern of public feasting located toward Plaza A-II and private preparation towards the rear of the complex (Figure 7.10). Although vases appear scattered across all platforms, they are

Table 7.9: Relative frequency of jar types by structures at Group A

Jar types	Str. A-24 (Front)	Str. A-23 (Middle)	Str. A-25 (Back)
Unspecified	35.6	46.1	52.9
Open	36.8	19.1	32.4
Constricted	24.1	31.5	11.8
Ollas	3.4	3.4	2.9
Number	87	89	68

most frequently found at Structure 25 -- the platform farthest from Plaza A-II. Their unlikely presence across the rear platform may indicate the preparation of chocolate drinks. Closed ollas and large bowls associated with cooking are consistently higher in

frequency towards the rear. I suggest these patterns are in keeping with the interpretation of this complex as the royal service area. The combination of storage, preparation, and public feasting activities accounts for the high volume of ceramics, and the distribution of forms indicates platforms were relatively segregated in function. Storage and cooking were concentrated toward the back, while, serving of festival foods during public festivals occurred in the front. Presumably, royalty dined in more intimate locales within the royal compound.

Group D

Group D illustrates a markedly different pattern. Open forms and rituals vessels exhibit their highest proportions here (Table 7.8). The relative frequency of plates,

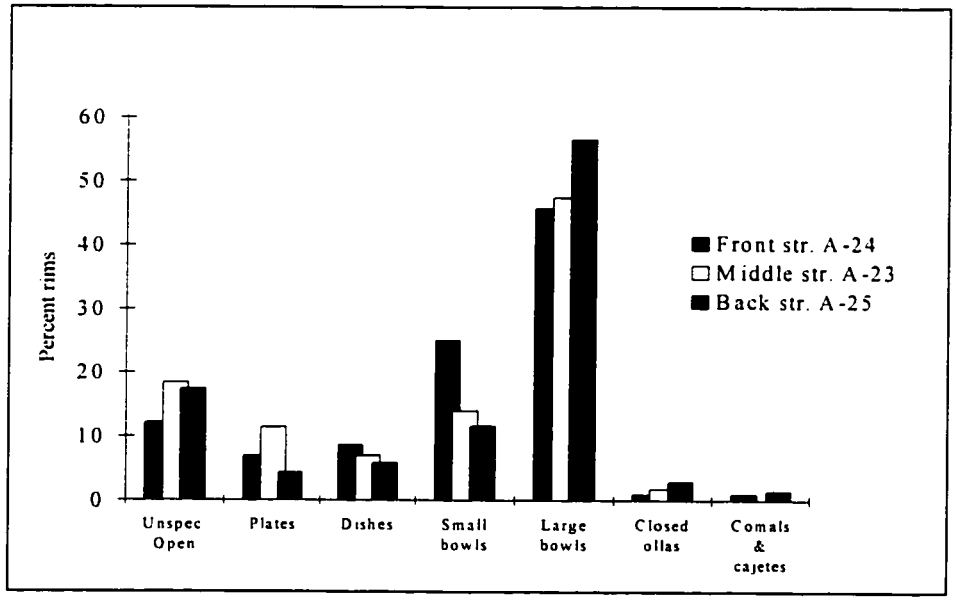


Figure 7.10: Distribution of open forms at Group A

dishes, and cylinder vases rival those found at Group A's service area. Unlike at the service area, however, ritual and serving forms in Group D are concentrated in the same area indicating that small-scale religious ceremonies and public feasting occurred together. Sacramental meals and celebratory feasting occurred specifically in front of the shrine on the central platform. These activities were focused specifically around worshipping ancestors.

It is not surprising that ritual vessels are found predominately in front of Structures D-6, the ancestor shrine, and D-5, a small mound at the southern edge of the central platform (Figure 7.11). Nor is it unexpected that certain structures close to the central platform display typical domestic assemblages. Structure D-7, located just to the east of the sacbe entrance and north of the ancestor shrine, contains high relative frequencies of jars, open forms, and a few ritual vessel, This assemblage suggests Structure D-7 may have been the residence of the patrilineage head. Structure D-14, set

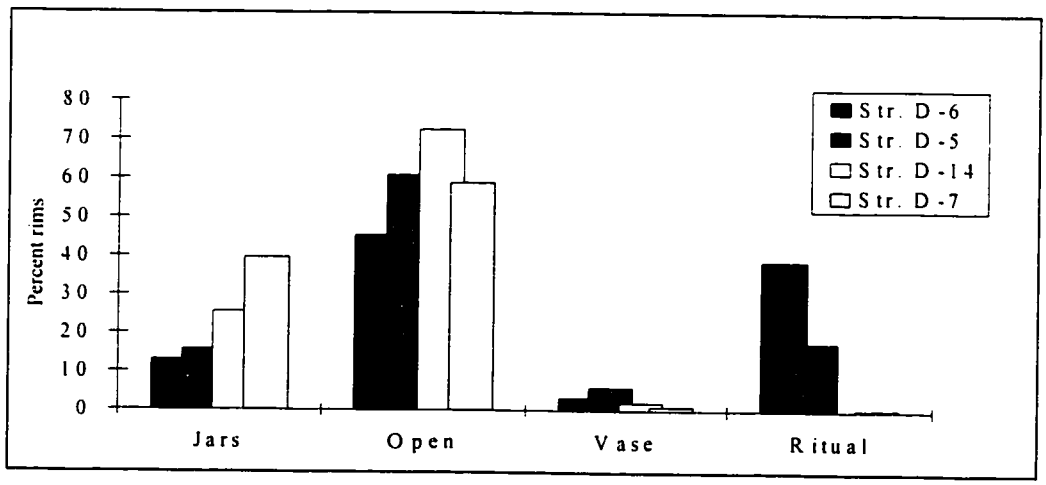


Figure 7.11: Distribution of primary forms at Group D.

away from the central platform to the southeast, also exhibits a typical domestic assemblage, but, it lacks ritual forms. Given its high relative frequency of dishes and large bowls, this structure may have been a staging area for serving food.

What is most intriguing at Group D, however, is the distribution of open forms (Figure 7.12). In front of the ancestor shrine, the assemblage is dominated by bowls, especially small bowls, and it is totally lacking in large serving plates and dishes. The latter, instead, are concentrated at Structures D-5 and D-14 just to the south of the shrine. I suggest, therefore, we can clearly see the two types of ritual feasting. Solemn, household level ritual ceremonies were performed directly in front of the ancestor shrine, where small bowls of food were offered to the gods, consecrated, and later consumed by the participants. Larger, public feasting also was held on top the platform, but just to the right of the shrine. Here, large plates and dishes stacked with festival foods and vases

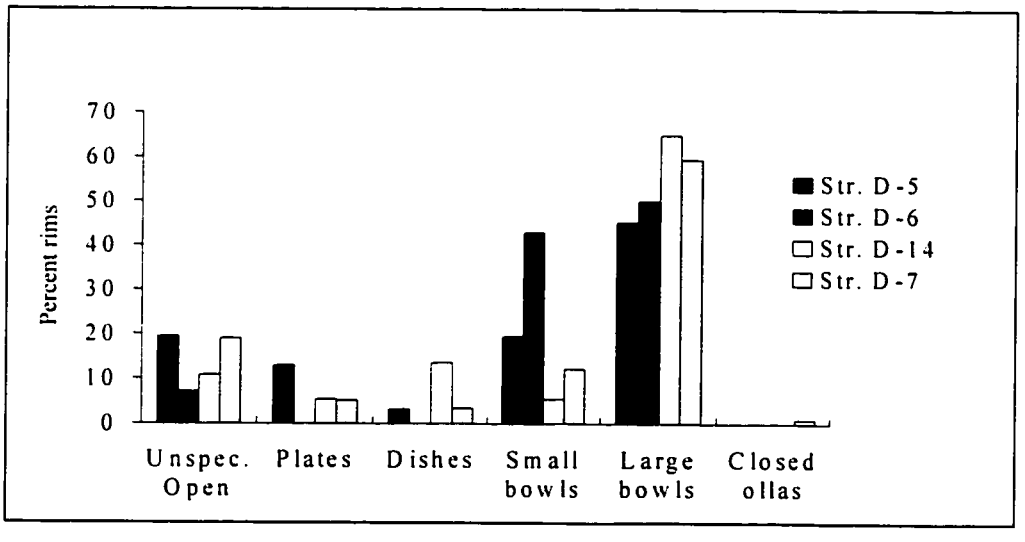


Figure 7.12: Distribution of open forms at Group D

full of chocolate were consumed. That the two types of feasting occurred together near the shrine indicates that much of Group D's social activities and social power derived from their connection with venerated ancestors. Feasting with the ancestors was both a mechanism to integrate lineage members and a competitive strategy to gain prestige and power. At the royal service area, feasting was relatively detached from ancestor worship and was directed toward annual calendric events and prestige enhancing events which attempted to attract many local lineages into the polity. Presumably, ancestor worship and other small-scale religious ceremonies performed by the noble family occurred at their private ancestor shrine -- somewhere within Structure A-6.

Public works

Evidence of feasting is not restricted to residential complexes. Surprisingly, the greatest concentration of serving vessels is found in the fill of Structure A-1. This late building, constructed in one massive operation, contains what Leventhal previously has called ritual fill (Leventhal et al. 1993). During excavation, it was noted that construction material placed within buttressing chambers was segregated by color. Given the significance of color and directionality in Maya cosmology, Leventhal suggests that Structure A-1 was internally arranged during construction to reflect the symbolic structure of the Maya cosmos. The ceramics included in the fill also reflects the performance of dedicatory rituals and feasting during temple construction. A total of 83% of all fill sherds recovered are plates, dishes, and bowls. Consistent with household excavations, fill material from Structure A-1 was screened. This pattern, therefore, is

attributable neither to the random collection of construction debris nor to incomparable samples. Whether this assemblage indicates food offering to the gods or ancestors, the feeding of corporate laborers, or ceremonial feasting during construction, it suggests that large scale feasting was an integral part of temple construction. Community wide feasting during the construction of Structure A-1 may be viewed as another opportunity for the royalty to have consolidated their ideological power.

Temporal Variation

During the Late Classic II period, Xunantunich and San Lorenzo reached their largest aerial extent, their greatest social complexity, and their most competitive phase in the struggle for power. During the Terminal Classic, populations may have dropped fifty percent and single mounds and most smaller groups at San Lorenzo were abandoned (LeCount 1994; Yaeger and LeCount 1995). Higher status families at San Lorenzo remained during the Terminal Classic period, probably because of their long-term investment in, and privileged access to, land and homes along the Mopan river. A similar scenario appears to have applied to Xunantunich. There is clear evidence that the site closed in on itself. Blocked entrances and newly built walls restricted access to Plaza A-II in front of the royal residence. The royal lineage may have suffered the same severe blow as those in Peten states, and their power was noticeably weakened. Group D, on the other hand, appears to have challenged the authority and power of the ruler by aggressively expanding its residential group and producing lordly figurines. Like the families living in plazuelas at San Lorenzo, Group D's investment in the site and their long-term relationships promoted them to remain in the Belize Valley. The role of

feasting during this period of social and political reorganization may help determine the kinds of strategies involved in the intra-site competition for power and community survival.

Group A

Forms related to feasting disappear at the royal service area during the Terminal Classic (Table 7.10). Plates, dishes, closed ollas, comals, and cajetes are no longer present in the assemblage which consists solely of bowls and jars -- the basic domestic assemblage associated with small habitation mounds. The frequency of open jar forms increase by half and ollas become more common, indicating increased concern for storage and obtaining the most nutritional value from food high in complex carbohydrates. Boil maize foods, like *atol(e)*, take less time to prepare than tamales and may contain higher nutritional value since they are hydrated more fully. A chi-square test of significance, however, indicates that the temporal differences are not significant at the .05 level. I suggest the statistical test actually indicates that the percentages may be due to sampling error. There is a dramatic drop in the amount of occupation material in the Terminal Classic at Group A and the sample size decreases by more than 90%. The small Terminal Classic collection may introduce errors in the statistical test.

Leventhal suggests the service area was still utilized by the royal family for basic domestic cooking and storage but feasting was either curtailed or its preparation and serving moved to different location. Public feasting would have been performed in Plaza A-I at this time since access to Plaza A-II was restricted to the royal family. This may be a valid hypothesis, but where was the preparation of large-scale feasts and the

Table 7.10: Temporal variation in Group A's formal assemblage

Primary and Secondary Forms*	Late Classic II	Terminal Classic
Jars	**42.4**	**31.3**
Unspecified jars	40.5	30.0
Open jars	29.8	40.0
Restricted jars	27.8	20.0
Ollas	1.9	10.0
Open forms	**50.7**	**68.8**
Unspecified form	16.9	18.2
Plates	8.5	0.0
Dishes	8.5	0.0
Small bowls	17.5	22.7
Large bowls	45.0	59.1
Closed ollas	2.6	0.0
Comals or cajetes	1.1	0.0
Vases	**5.6**	**0.0**
Unspecified forms	14.3	0.0
Cylinder vases	71.4	0.0
Barrel-shaped vases	9.5	0.0
Pyroforms	4.8	0.0
Ritual forms	**1.3**	**0.0**
Censers	20	0.0
Drums	40	0.0
Lip-to-lip vessels	0	0.0
Miniatures	40	0.0
Rim number	373	32

*tabulated as percentages of primary form

aftermath of feasting? No evidence of debris has been found along Plaza A-I edges. Although there is a slightly higher number of luxury pottery vessels found in the royal service area than found in Group D, the complete absence of large serving vessels and the more than 90% decrease in the number of sherds recovered from the area indicates a major curtailment of food-related activity -- even domestic cooking and private elite feasting. Given this rather ambiguous data, I suggest that the royal service area was not, in fact, utilized by the royalty during the Terminal Classic at all. It could have been

Table 7.11: Temporal variation in Group D's formal assemblage

Primary and Secondary Forms*	Late Classic II	Terminal Classic
Jars	**22.7**	**42.9**
Unspecified jars	63.6	50.8
Open jars	13.6	22.2
Restricted jars	22.7	27.0
Ollas	0.0	0.0
Open forms	**69.1**	**55.1**
Unspecified form	20.9	16.0
Plates	6.0	3.7
Dishes	9.0	2.5
Small bowls	9.0	11.1
Large bowls	55.2	65.4
Closed ollas	0.0	1.2
Comals or cajetes	0.0	0
Vases	**2.1**	**0.7**
Unspecified forms	0.0	0.0
Cylinder vases	50	0.0
Barrel-shaped vases	50	100
Pyroforms	0	0
Ritual forms	**6.2**	**1.4**
Censers	83.3	100
Drums	0.0	0.0
Lip-to-lip vessels	16.7	0.0
Miniatures	0.0	0.0
Rim number	97	147

*tabulated as percentages of primary form

occupied by previous royal clients or possibly even by "squatters". There is also the possibility that the royal lineage abandoned the site altogether, leaving it's rulership to Group D. The lack of Terminal Classic occupation debris within the royal compound can be used to support almost any hypothesis.

Group D

Overall, the pottery assemblage of Group D illustrates continuity of activities, especially those centered around feasting. Plates, dishes, vases, and closed ollas are present, albeit in quantities indicating a reduction in the scale or frequency of public

feasting (Table 7.11). This difference is statistically significant at the .05 level, based on a chi-square test for significance. Like the Group A assemblage, there is an increased emphasis on jars, suggesting concern for water and food storage. Open jars specifically gain in relative frequency. The high number of censers indicates that ceremonies continued to center around ancestors in the Terminal Classic. The absence of cache vessels is surprising and may be due to the decrease in ritual activities similar to the scaling back of feasting.

Site 22

The pottery assemblage at Site 22 illustrates the greatest degree of assemblage stability and a chi-square test of significance indicates there is no statistical difference between Late Classic II and Terminal Classic assemblages. However, few conclusions may be drawn about these assemblages given the extremely small sample sizes (Table 7.12). In the Terminal Classic, dish frequencies drop by half and open storage jars and large bowls dominate the assemblage. Like Group D, these patterns suggest increased concern for storage and decreased frequency or scale of feasting.

Household consolidation and reduction in the scale of public activities is in keeping with the general view of the Terminal Classic as a period of population decline and nucleation in the central lowlands. Commoner populations remained in the areas long after the fall of Classic period polities and the exodus or demise of elites. At Xunantunich, the local subordinate elite at Group D may have gained control of social power for a short time until its total abandonment.

Table 7.12: Temporal variation in Site 22's formal assemblage

Primary and Secondary Forms*	Late Classic II	Terminal Classic
Jars	**55.9**	**42.3**
Unspecified jars	78.9	51.5
Open jars	5.3	24.2
Restricted jars	15.8	18.2
Ollas	0.0	6.1
Open forms	**41.2**	**52.6**
Unspecified form	14.3	12.2
Plates	0.0	0.0
Dishes	14.3	7.3
Small bowls	0.0	19.5
Large bowls	57.1	58.5
Closed ollas	14.3	2.4
Comals or cajetes	0	0.0
Vases	**2.9**	**5.1**
Unspecified forms	0.0	0.0
Cylinder vases	0.0	25.0
Barrel-shaped vases	0.0	75.0
Performs	100	0.0
Ritual forms	**0.0**	**0.0**
Censers	0.0	0.0
Drums	0.0	0.0
Lip-to-lip vessels	0.0	0.0
Miniatures	0.0	0.0
Rim number	34	78

* tabulated as percentages of primary form

Conclusion

In conclusion, evidence for ritual meals and ceremonial feasting is well-documented in Late to Terminal Classic Maya households at Xunantunich and San Lorenzo. As expected, large-scale, community-wide feasting during the Late Classic was sponsored by royalty and took place in public areas adjacent to the royal compound or in the center of the civic plaza. Subordinate elites at Group D hosted competitive feasts located near their ancestor shrine. After the weakening or fall of the royal lineage during the Terminal Classic, leaders at Group D and San Lorenzo continued their pattern

of sacramental meals and public feasting, albeit at a smaller scale or more infrequently.

I suggest the dual pattern of small-scale sacramental dinning and large-scale celebratory feasting illustrate two different socio-political aspects associated with group-level rituals. Small-scale rituals focus on sacramental meals centered around personal events, ancestor worship, and lineage integration. These activities publicly demonstrate ties to ancestral land and social rights, the traditional power base for all Maya lineages (McAnany 1995). Large-scale feasting is best viewed as a competitive strategy used by leaders in much same role as wealth exchanges to expand their social prestige, gain allies or followers, or pay labor, as well as for polity-wide integration during annual festivals. Feasting, as a promotional strategy, is well documented at Xunantunich where elite lineages had specific locations near their residences for preparing and serving large-scale feasts. Hosting feasts also was a mechanism to formally aggrandize ancestors, especially in association with temple construction. Thus public feasting can be viewed as yet one more major strategy for maintaining and strengthening the ideological power of Classic period Maya elite.

Feasting among commoners was equally, or possibly more important in establishing ties to ancestral lands and promoting group integration. For commoners, food is more accessible and plentiful than costly gifts. Furthermore, feasting is a traditional and fundamental symbol of life, prosperity, and good-will. The ideology embedded in the gift of food is less focused on gaining prestige or political power and more centered around aspects of economic security and social stability. As illustrated in this study, feasting took precedence over prestation as the major mechanism to

consolidate commoner lineages. During the Terminal Classic, elites recognized the unifying aspect of feasting and continued to sponsor large-scale feasting in order to maintain social power.

Chapter 8: Conclusions: Shifting Strategies and Power Among the Late and Terminal Classic Lowland Maya

> "We had another long journey before us. Our next move was for Yucatan. Don Santiago sent me a farewell letter, enclosed a piece of silk, meant as a pledge of friendship, which I reciprocated with a penknife. The prefect was kind and courteous to the last; even the old alcalde, drawing a little daily revenue from us, was touched. Before starting we rode round and exchanged adios with all the good, kind, and quiet people." (John Lloyd Stephens remarked upon leaving the ruins of Palenque in 1841.)

This dissertation investigates three anthropological questions. First, it addresses the role of primitive wealth as a means to negotiate social power. Political strategies used to gain power revolve around mechanisms that create, stabilize, and expand social relations, specifically gift exchange, status displays, and feasting. In each case, wealth plays a mediating role in cementing alliances and waging political contests. The study looks at wealth within a social framework in which the units of analysis are competing social factions. The view point differs from many investigations because it considers competition to be more prevalent among groups within a faction than across them. Internal competition is especially relevant in complex societies, like the Late Classic Maya, where elites competed for access to rulership and commoners struggled for land and access to elite favors.

Second, this dissertation questions the conventional use of wealth as a static indicator of socio-political standing within societies, especially within those societies based on ascribed status. Within ascribed societies, political position and social status are not **created** by amassing wealth; rather, they are relatively fixed and status is based on descent from lineages ranked by distance from venerated ancestors. This is not to say

there can not be substantial movement within a social faction. It is the political strategies, especially those centered around wealth, that individuals use to place themselves in positions of influence that is at the center of this research. In highly competitive milieus, individuals circulate gifts and conspicuously consume luxury items to gain prestige and allies. In these situations, wealth distributions merge within groups of a given faction. Wealth, therefore, is not a static indicator of status but fluctuates in frequency and distribution depending on its underlying roles as political currency, marker of social affiliation, and exclusive status symbol. The distribution of wealth items helps distinguish the level of competition and the strategies used by leaders as they compete for social power.

Third, the study investigates how and to what degree Classic Maya elites regulated raw resources, labor, and the display of symbols in loosely integrated polities. The model of Maya socio-political organization used in this dissertation views the Late Classic lowland landscape as divided into two types of polities: numerous small segmentary states (or smaller polities) of relatively equal power interspersed between and around the periphery of a few large archaic states. Although the upper echelons of large states may have been organized in a hierarchical and centralized manner, provincial governments are characterized as a set of economically independent and politically redundant groups. These groups were loosely integrated at the mechanical level. The polity centered at the site of Xunantunich is used to test this model of small, loosely integrated, provincial polities. Because pottery manifests three aspects of social power -- control of economic resources, display of ideologically powerful symbols, and

the workings of political strategies -- its analysis can lead to a better understanding of the sources of social power within the loosely integrated polities in the Late Classic and how these power sources changed during the turbulent Terminal Classic.

8.1 Competitive Strategies to Create, Maintain, and Expand Social Power

Interregional gifting or exchange of exclusive symbols was wide-spread in the central Peten among paramount rulers during the Classic period. At Xunantunich, 90 years of intermittent excavations have recovered only a handfull of "codex-style" sherds. This suggests interaction between Xunantunich and the Peten states was never substantial. This pattern of interaction may hold true for many other small, peripheral polities in Belize. Internal rather than external ties was critical for maintaining social power. Locally produced pseudo-glyph styles found among subordinate elite and commoner households reflect the importance of provincial lineage authority. The nobility, however, appears to have shunned the display of regional indigenous symbols found on ceramics and maintained the illusion that the source of their social power lay outside the valley, probably in the direction of Naranjo -- a large Peten state.

Minimal differences in the proportion of high ranking pottery types within elite assemblages indicates considerable rivalry in the display of fancy pottery. Although royalty accumulated the highest volume of pottery tribute, subordinate elite had their own sources through lineage connections. Since it appears that elites did not control the actual procurement of resources and that production was performed by village-level part-time specialists, it may be argued that no single elite group regulated the production or distribution of painted pots. I suggest that minor differences in the proportions of

Chunhuitz Orange and white-slipped varieties in elite household assemblages are indicative of rather loose control of pottery wealth. Within the redundantly organized socio-political system of the Late Classic, elites actively competed for access to, and display of, ash ware polychromes since no elite group had exclusive control over the production nor distribution of fancy pottery.

During the Terminal Classic, disposable wealth becomes relatively wide-spread with remaining residential groups maintaining equal access to luxury pottery. Plazuelas and Group D assemblages exhibit similar proportions of high ranking styles. Even the royal service center has only slightly higher amounts of fancy serving vessels than less-privileged residences. I suggest this equalization of wealth indicates that the remaining elites abandoned many of the ostentatious displays of power and focused on consolidating and integrating the remaining populace into a tight knit socio-political group. Although exchange and display of wealth continued, the goal of these strategies was not predominately political rivalry nor prestige building; rather it was community consolidation. The relatively equal distribution of Pabellon Model-carved vessels -- even in commoner households -- suggest this imported type was an abundant trade commodity and disposable wealth item rather than a marker of high status exclusively exchanged between ruling elite.

Feasting also illustrates shifting strategies from elite rivalry to community consolidation. I have constructed a dual pattern of small-scale sacramental dinning and large-scale celebratory feasting to illustrate two different socio-political aspects associated with group-level rituals. Small-scale rituals focus on sacramental meals

offered to gods and later consumed by extended family members and selected lineage members. These rituals effectively demonstrated ties to ancestral land, transferred social status and rights, and documented personal events -- the sources of social power among all Maya groups. On the other hand, large-scale feasting is best viewed as a competitive strategy used by leaders to expand social prestige, gain allies or followers, and pay labor, as well as to prompt polity-wide integration during annual festivals. Religious feasting could enhance personal power, since successful performances and rituals guaranteed good relations with the gods. Although some feasts would have displayed a veneer of ritual significance and obvious touting of ancestors, many elevated personal prestige and social power.

Both types of feasting are well documented at Xunantunich. Among non-royal groups, both large and small scale rituals were performed in the residential patio or on central platforms associated with ancestor shrines. The critical connection between domestic contexts and public feasting lay in creating a "genealogy of place" which reinforced ties with ancestors buried in adjacent shrines or family homes and thus secured inheritance of social rights and property (McAnany 1995). However, among the ruling elite, public and private feasts were not necessarily tied to ancestors and could be physically removed from sacred shrines or familiar residences. At Xunantunich, nobles staged feasts in front of a service center just off a civic plaza. This not to say that all public rituals were blatantly political or aimed at gaining personal power, obviously annual calendrical festivals and those which celebrated patron-deities were critical in maintaining social realities, cosmologies, and community integration.

I also have made the case that feasting was more important for maintaining social relations among commoners than gifting wealth. For commoners, food is more accessible and plentiful than costly gifts. Strategies to consolidate family, lineage, and community members likely centered around basic assistance in the form of food or labor rather than the exchange of frivolous material goods used solely for display. Gifts, such as polychrome pottery that conveyed overt or even subtle symbols associated with dominant ideologies, probably were not acceptable to some commoners. To exchange such items would have suggested an individual's desire to buy into the dominant political system; their display indicated an acceptance of subordinate status and elite ideologies. Feasting, on the other hand, is a traditional and fundamental symbol of life, prosperity, and good-will. Sharing food at a common table manifests feelings of economic security and social cohesiveness. As illustrated in this study, feasting took precedence over prestation as the major mechanism to consolidate commoner lineages.

Lastly, pottery is one of the most pervasive symbols of social affiliation in prehistoric cultures. Like cloth, it is an item which moves between domestic/ritual and private/public contexts. Since these items intimately represent family and their worldly attachments, they are extremely sensitive markers of social relations.

At Xunantunich, locally produced fancy pottery illustrates the emulation of Peten styles, even though, strong, physical connections appear lacking between polities. Upper Belize Valley pottery types attempted to signal connections between local and Peten ideology and power. Incensarios were produced in Peten styles both in the Late and Terminal Classic. Many special function serving vessels, such as cylinder vases for

drinking chocolate or oven-footed dishes and plates for serving tamales, copy pan-lowland Maya forms. Effigy spouts on ash ware jars, which could have been used to serve *balche* or *chicha* during festivals, are molded in the form of howler monkeys and appear to be exactly like those found at Uaxactun (Smith 1955: figure 24/11b, 12b). These types are found both at the regional center and in hamlets suggesting wide-spread assimilation of Peten political and ideological symbols.

Upper Belize Valley assemblages also display distinct regional styles which pertain to local social groups up and down the Valley. At Xunantunich, the most common painted designs are repeating geometrics -- specifically triangles, blocks of color, and spreading panels -- on ash ware vessels. I suggest these relatively simple motifs are related to specific lineage groups and produced by potting communities near Xunantunich. The symbols are placed on serving vessels -- plates, dishes, bowls, and barrel-shaped vases -- and displayed in the most public of contexts -- ritual feasts and ceremonies. Their prominent usage indicates they have critical social meaning to the participants. That these motifs are obviously lacking in Gifford's Barton Ramie ceramic collections reinforces the idea that they are internal references to social groups around Xunantunich. Incurving bowls also appear to have social significance. These bowls are the most common domestic pot in archaeological and ethnographic households because of their role in maize processing. Daily domestic activities center around maize -- growing, harvesting, storing, preparing and consuming maize meal. This focal activity creates an intimate association between maize as a sacred plant symbolizing Maya mother/father, the pottery bowls used to transform it into food, and the extended family

it supports. Common pottery bowls, therefore, stand as a symbol of daily life, family prosperity, and group solidarity. Like painted motifs on serving bowls, incurving bowl surface color is regionally distinct and may pertain to specific social groups. Therefore, specific varieties of Benque Viejo Polychrome and common domestic bowls types such as Mount Maloney Black, Yalbac Brown, Garbutt Creek Red, and Dolphin Head Red are the best archaeological markers of social and political affiliation. Regional analysis of Benque Viejo Polychrome varieties and incurving bowl styles should lead to a better understanding of the units of social and political organizations within the Upper Belize Valley.

8.2 The Multiple Roles of Primitive Wealth

All wealth items are not the same in either value or function and many items play overlapping but distinctly different roles in societies. Wealth is used as a marker of social status, as insignias of political office, a means to wage political contest, and a currency to pay labor. Within a given society, there are many types of luxury goods that serve as wealth and their distribution is conditioned by their role(s). Distinguishing differences between wealth items can lead to a greater understanding of how groups negotiate social relations.

A small portion of wealth items are unique status items or insignias used to proclaim social position or political position. They are rare, highly regulated objects that circulate within a very limited social circle. They proclaim status through the prominent display of symbols that are imbued with specific meaning. A larger and more diverse class of wealth objects, what I call disposable wealth, are less precise in the manner in

which they define group inclusion. Meaning is derived from a variety of aspects including overt or subtle aspects of decorative style, labor invested in production, the nature of their distribution, and historical or mythical associations. Through their significant social meaning, they possess exchange value which can be used for overtly political means. Elites accumulate disposable wealth to display status, pay labor, support specialists, establish ties with allies, and wage competitive contests. Disposable wealth items thus circulate more freely in society. Their accumulation is less a marker of social status than a symbol of social relationships.

Creation and manipulation of wealth is an effective means for self and group promotion. Therefore, these items are prone to inflation during times of rapid political expansion and fierce competition for power. This pattern is especially evident in complex societies, where rewards of political office are greatest. Among the lowland Maya of the Late Classic period, individuals representing the middle level of society adopted many of the trappings once only associated with the elite (Chase 1992:45). Specifically, there was a widespread adoption of tombs as places of burials and the use of special ceremonial ceramic cache vessels in burials and ritual offerings.

Among the Aztecs, especially during the reign of Montezuma I, craft goods bore symbols that communicated ideology and rank (Brumfiel 1987:114). Achievements, especially those related to military success, were marked by specific insignias on costumes and jewelry. In order to retain their value, Montezuma instituted a series of sumptuary laws limiting the display of many items to particular groups.

The creation and circulation of luxury goods for social and political means in

competitive situations effectively merges the distribution of wealth with social strata. Specific ranks within groups are increasingly defined by insignias and more subtle material markers of status. The degree to which distinctions between factions are marked by gaps in the distribution of wealth items depends on the perceived economic, political, or social value of that faction. This value clearly can change through time.

Disposable wealth traditionally has been used by archaeologists as a marker of social status. This methodology is especially troublesome because of two aspects of disposable wealth: inflation and portability. Wealth in the form of luxury pottery is especially prone to inflation because of its relatively simple production techniques and the ability of potters to copy styles. Luxury pottery styles change rapidly in order to maintain their value. Like jewelry and cloth, pottery's portability makes it amenable to public displays, competitive consumption, and gifting. Among the Late Classic Maya, inflation and portability is seen in the wide-spread distribution of codex-style pottery in household and funerary contexts (Brumfiel 1987; Beaudry 1987; A. Chase 1985; Hansen, Bishop and Fahsen 1991; R. E. Fry 1979). At Xunantunich, the inflationary use of polychrome pottery is clearly evident among elite groups during the Late Classic II period. Minimal differences in polychrome proportions among Group A and D assemblages indicate considerable competition in the access to and display of luxury pottery within the elite faction. The use of wealth items alone does not effectively separate the nobility (Group A) from subordinate elite (Group D) in times of intense factional rivalry.

However, the gap between Xunantunich elite and commoner factions was quite evident during the Late Classic II. Commoners appear to have had minimal access to highly decorated "luxury pottery." Horizontal rather than vertical circulation of wealth characterized the political strategies of leaders, both elites and commoners, during the Late Classic II period. What this distribution suggests is that while competition for rulership and prestige was rampant within the elite faction, the need to solidify outside support was minimal beyond garnering accepted levels of tribute and labor. Thus, the distribution of wealth is more indicative of social, political, and economic conditions within societies than as a static index of social status.

The distinct gap in wealth distributions between Xunantunich elites and commoners can be explained by the social and political milieu of the Late Classic period. Competition for power among elites rested on the maintenance of social relations which required relatively little validation and support from commoners. The elite power base was predominantly founded on ideological constructs and political maneuvering rather than economic relationships. Nor was elite power outside of the Peten founded on military actions which required substantial man-power. Commoners also were struggling to retain economic self-sufficiency and political autonomy. Attempts to establish vertical ties with Xunantunich elites through lineage connections or patron-client relationships appear to have been ineffectual since luxury pottery did not trickle down into their hands. Of course, these ties may have been built, but material evidence for such relations are obviously lacking during the Late Classic II period.

During the Terminal Classic, wealth differentials equalized, wealth consumption

dropped, and group relations become more egalitarian. In this situation, inter-factional competition appears to have been minimal and intra-factional relations became more critical for survival. Commoners, or people in general, became critical resources. Conspicuous consumption and other forms of political contests were replaced with attempts to stabilize and consolidate relations across all groups. Vertical alliances and gift exchanges increased and feasting was vital for social cohesion. In this situation, wealth differentials alone did not separate social statuses. The role of wealth was one of social integration and consolidation rather than social differentiation.

Contrary to other Maya studies, this research found a striking difference between elites and commoners, with little gradation or blurring between the two strata during the Late Classic II. Sharer (1993:94), on the other hand, suggests that the actual dividing line between Maya elite and non-elite is seldom explicit when class is based on distributions of wealth artifacts (Sharer 1993:94). This disagreement can be explained two ways. First, there may have been a real difference between the control of wealth production and distribution in large states than in smaller polities. This possibility will be discussed shortly in the following section. Second, differences between studies may be due to the way data are collected and analyzed. This study investigates one class of wealth, luxury pottery, and views its distribution across two very distinct social levels. Unlike some larger, long-term research projects (like investigations at Copan), this study does not sample the entire continuum of architectural variability evident in the Belize Valley. Instead, ceramics were taken from two sites -- Xunantunich and San Lorenzo -- which are located only 1.5 kilometers apart and do not represent the entire range of

social variability. Leventhal suggests that the relatively late and rapid development of the polity may have produced a social community where long-term ties were never fully established and relations had not matured to the point where complex social obligations were actively being negotiated. Gifting and political favors involving gifts were therefore held to a minimum. On a positive note, the study does not confound spatial variation nor temporal shifts in the use of wealth. Great pains were taken to separate out Late Classic II from Terminal Classic assemblages because it is quite apparent that strategies in the production and distribution of wealth changed between the two periods. The mixing of Late Classic II and Terminal Classic deposits creates the illusion that wealth differentials in the Late Classic were more balanced. By controlling both variation evident in wealth items themselves and temporal shifts in production and distribution, there emerges a clear picture of how wealth was used as a political strategy.

8.3 Sources of Social Power Among the Classic Maya

Maya polities were unstable and had the propensity to collapse. Political instability was caused by the type of social power elites were able to create and maintain. Among the Maya, social power and authority were derived by descent from ranked and stratified lineages. The royal lineages formed the top of an elite stratum and derived the bulk of their social power from ideological sources. However, even elite maximal lineages or clans consisted of family lineages that were ranked and contained commoner lines. Lineage groups, therefore, cross-cut social groups (Roys 1943:35).

When political authority is bound together with kinship ties and ritual obligations, as in Late Classic Maya society, the relations that are formed between leader

and members are called multiplex (Bailey 1969:47). Group activities are tightly bound together and lend strength to the entire relationship. Social ties have a moral foundation making obligations extremely difficult to ignore. Leadership founded on moral authority is relatively decentralized -- what Weber called patrimonial or traditional authority (1968:1006). As both Weber and Bailey suggest, in these systems leaders have little actual control over the running of economic activities since their leadership is neither highly specialized nor hierarchically structured. In this situation, leaders find it difficult to siphon off their supporters' economic resources in an effort to establish surplus as with which to perform political activities. Tribute generally takes the form of labor and foodstuffs (Service 1963). Therefore, leaders expend much of their own resources and a large portion of any surplus garnered from their followers maintaining the ideological bases of authority and building prestige rather than funding activities to expand their political and economic power (Bailey 1969).

Among the Maya, tropical agriculture and the relatively homogeneous distribution of raw resources, with some important exceptions, promote economic independence and kin-based power rather than hierarchical, centralized power structures. This is especially true in central Belize but less so in the Peten where water and prime agricultural land is more limited. Economic power -- control over land and property -- was initially monopolized by the first families who colonized a given area. Within a fixed-plot, reduced fallow subsistence system, individual fields were claimed by families or lineages and they tended to stay in the same family for generations through inheritance. The extensive and demanding nature of tropical agriculture, with its far-

flung fields, rotating fallow, and low productivity, necessitated co-operation within extended families to survive. This subsistence strategy exerts a decentralizing force on settlement which is illustrated by the dispersed pattern of settlement through the lowlands. Long-term storage of subsistence goods is nearly impossible and the production of subsistence surplus is kept to a minimum. This dispersed, labor intensive, surplus deficient subsistence system rarely creates an opportunity to monopolize economic resources. Although some prosperous first families parlayed their economic resources into political and ideological power, many other families retained substantial economic independence and socio-political autonomy.

Maya elites relied heavily on social obligations created through ideological constructs to garner food as tribute and labor for building civic architecture and waging war. The relative disinterest by ruling elite in expropriating land through conquests indicates the difficulties in controlling land and garnering agricultural surplus in the tropics. With the exception of high quality lithic material such as Colha chert (McAnany 1989), semi-precious stones such as jade, and possibly feathers, Maya elites were also apparently disinterested in controlling raw resources. This is especially true with regard to material to make fine-ware pottery. In this study, variation within ash ware groups indicates procurement of raw materials was not regulated by elites. The Belize Red Ceramic Group, composed predominately of tooled monochrome types, is relatively consistent across all households. This pattern suggests that elites and commoners had equal access to ash tempered pottery. Elites were, however, interested in regulating symbols of social affiliation and ideological power. At Xunantunich,

Group A and Group D households are roughly similar with around 10% of their assemblages composed of ash ware polychromes. However, commoner plazuelas at the hamlet of San Lorenzo contained less than 2% ash ware polychromes types, and small mounds had no ash ware polychromes. Regulating the distribution of fancy pottery, therefore, were considered critical in maintaining and expanding social power.

The similar relative frequency of fancy luxury pottery in elite households, however, is indicative of relatively loose control of its distribution. Since high rank was not limited to the ruling lineage, no elite lineage had exclusive rights to locally produced ash ware polychrome pottery. If fancy pottery circulated as tribute, elites would have received polychrome pottery from their immediate lineage as well as lineages of lower rank. All lineages would have had members who were potters and resided in communities specializing in pottery production. Potting villages would have contained both potters who produced commodities for general consumption and a number of skilled individuals who were tied to elites to which they owed tribute in the form of highly decorated pottery. Royalty garnered the largest volume of tribute from across the polity, although, subordinate elite also would have received tribute, albeit in smaller quantities, especially from lineage members. Since elites possessed similar social and ideological status, political power was manifested through prestige systems and the strength of their relations. Symbols of social affiliation were thus critical markers of the extent of elite political power.

That there may have been real differences between the control of production and distributional of pottery within small centers such as Xunantunich and larger capitals

such as Tikal, Palenque, or Copan comes as no surprise if you reconstruct Maya political organization based on a two-tiered model. If a few large Peten-based states were slowly becoming hierarchically and centrally organized, these polities would have possessed exhibit specialized institutions to perform tasks of control and management at capitals. Within large states, like Tikal and Calakmul, elites would have been unrelated by kinship to the populations they governed and their ideological power would have been reinforced by economic control of trade and land, military conquests, and institutionalized political bureaucracies. Urban populations, disenfranchised from corporate land, likely were involved in increasing specialized economic pursuits. A "middle class" in accumulated wealth but not formalized social status would have emerged.

Although the display of disposable wealth items and their conspicuous consumption were important mechanisms for funding political ambitions, exclusive status symbols in the form of ranked insignia would have effectively separated statuses in archaic states. The social significance of exclusive status symbols was maintained through the control of both their production and distribution. Some subset of codex-style vessels were critical in documenting genealogies and social histories and were, therefore, exclusive status items. However, some were used as disposable wealth, as evidenced by their wide-spread distribution in middens and burials. I suggest that those vessels displaying iconography which pertained to general ideological constructions rather than personal events were more likely disposable wealth items. Disposable wealth also proliferated. Fancy pottery, especially serving plates, dishes, and vases,

made up at least 40% of the collections from Tikal and intersite areas; even small households had substantial access to fancy pottery (Fry 1979). Fry suggests that the circulation of serving vessels became increasingly disembedded from socio-political networks of redistribution and, instead, became part of a separate marketing system. "Middle class" urban populations had greater access to disposal wealth through non-kin based commodity exchange.

This socio-political and economic situation contrasts markedly with that found in provincial governments where polities were composed of economically independent and politically redundant groups. Social position was ascribed, kin-based, and conservative, with sharp and unwielding lines drawn between class privileges and power. Community integration occurred along ideological lines rather than through military conquest or the monopolization of land or resources. Some charismatic leaders would have consolidated provinces or towns. Symbols of ideological power, even if they were simple lineage markers, were critical in documenting social background and consolidating lineage members. Competitive displays of wealth at public rituals elevated prestige and were used to wage political contests. Elites monopolized through kinship obligations and rights the distribution and display of pottery imbued with socially powerful symbols. Luxury pottery was, therefore, a powerful marker of social relations which demanded regulation in order to maintain their meaning and value.

Bibliography

Adams, R. E. W.

1968 *Implications of a Maya Elite Class Funeral at Altar de Sacrificios, Guatemala.* Paper presented at the 1968 Annual Meeting, Society for American Archaeology, Santa Fe.

1971 *The Ceramics of Altar de Sacrificios.* Papers of the Peabody Museum of Archaeology and Ethnology, Vol. 63(1), Harvard University Press, Cambridge, Mass.

1977 *Prehistoric Mesoamerica.* Little, Brown, and Company, Boston.

Adams, R. E. W. and R. C. Jones

1981 Spatial Patterns and Regional Growth Among Maya Cities. *American Antiquity*: 46:301-22.

Anawalt, P.

1980 Costume and Control: Aztec Sumptuary Laws. *Archaeology* 33(1): 33-43.

Anderson, D. G.

1994 Factional Competition and the Political Evolution of Mississippian Chiefdoms in the Southeastern United States. In *Factional Competition and Political Development in the New World*, edited by E. M. Brumfiel and J. W. Fox, pp. 61-76. Cambridge University Press, Eng.

Andrews, E. W. IV

1969 *The Archaeological Use and Distribution of Mollusca in the Maya Lowlands.* Middle American Research Institute Publication No. 34, Tulane Univ., New Orleans.

Andrews, E. Wyllys V

1990 The Early Ceramic History of the lowland Maya. In *Vision and Revision in Maya Studies.* edited by F. S. Clancy and P. D. Harrison, pp. 1-20. Albuquerque, University of New Mexico Press.

Appel, J.

1982 *Political and Economic Organization in the Late Postclassic Valley of Oaxaca, Mexico: An Evolutionary Perspective.* Ph.D. dissertation, Department of Anthropology, Purdue University.

Arnold, D. E.

1985 *Ceramic Theory and Cultural Process.* Cambridge University Press, Cambridge.

Ashmore, Wendy
1989 Construction and Cosmology: Politics and Ideology in Lowland Maya Settlement Patterns. In *Word and Image in Maya Culture: Explorations in Language, Writing, and Representation*, edited by, W. F. Hanks and D. S. Rice, pp. 272-286. University of Utah Press.
1995 Settlement Archaeology at Xunantunich, 1995. In *Xunantunich Archaeological Project: 1995 Field Season*, edited by R. M. Leventhal, pp. 10-25. Los Angeles, CA. and Belmopan.

Ashmore, W., S. V. Connell, J. J. Ehret, C. H. Gifford, L. T. Neff, and J. C. VandenBosch
1994 The Xunantunich Settlement Survey. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 248-284. Los Angeles, Ca. and Belmopan.

Ashmore, W. and R. M. Leventhal
1993 *Xunantunich Reconsidered.* Paper presented at the Belize Conference, University of North Florida, Jasonville, March 4-6, 1993.

Ashmore, W., and R. J. Sharer
1978 Excavations at Quirigua, Guatemala: The Ascent of a Maya Elite Center. *Archaeology* 31 (6):10-19.

Bailey, F. G.
1970 *Stratagems and Spoils*. Blackwell, Oxford.

Ball, Joseph
1993 Pottery, Potters, Palaces, and Polities: Some Socioeconomic and Political Implications of Late Classic Maya Ceramic Industries. In *Lowland Maya Civilization in the Eighth Century A.D.*, edited by J. A. Sabloff and J. S. Henderson, pp. 243-272. Dumbarton Oaks Research Library and Collection, Washington D. C.

Ball, J. and J. Taschek
1989 *Secondary Centers and Classic Maya Political Organization: The Mopan-Macal Triangle Project.* Paper presented at the 54th Annual Meeting of the Society for American Archaeology, Atlanta, April 1989.
1991 Late Classic Lowland Maya Political Organization and Central-place Analysis: New insights from the Upper Belize Valley. *Ancient Mesoamerica* 2:149-165.

Barth, F.
1959 Segmentary Opposition and the Theory of Games. *Journal of Royal anthropological Institute* 89:5-21.

Bateson, J. H., and I. H. S. Hall
1977 *The geology of the Maya Mountains, Belize.* Institute of Geological Sciences, Overseas Memoir 3, Her Majesty's Stationery Office, London.

Beaudry, M. P.
1987 Interregional Exchange, Social Status, and Painted Ceramics: The Copan Valley Case. In *Interactions on the Southeast Mesoamerican Frontier*, edited by E. J. Robinson, pp. 227-46, BAR International Series 327, Oxford.

Becker, M.
1973 Archaeological Evidence for Occupational Specialization Among the Classic Period Maya at Tikal. *American Antiquity* 38 (4):396-406.
1979 Priests, Peasants and Ceremonial Centers: The Intellectual History of a Model. In *Maya Archaeology and Ethnohistory*, edited by N. Hammond and G. R. Willey, pp. 3-20. University of Texas Press, Austin.

Berdan, F. F.
1982 *The Aztecs of Central Mexico.* Holt, Rinehart, and Winston, New York.

Bishop, Ronald L.
1992 Compositional Analysis of Pre-Columbian Pottery: Research in the Maya Region. Manuscript in possession of author.

Bishop, R. L., G. Harbottle, D. J. Reents, E. V. Sayre, and L. van Zelst
1983 *Compositional Attribution of Non-provenienced Maya Polychrome Vessels.* Paper presented at the 5th International Seminar, Applications of Science in Examination of Works of Art, Museum of Fine Arts, Boston.

Bishop, R. L., Garman Harbottle, and Edward V. Sayre
1982 Chemical and Mathematical Procedures Employed in the Mayan Fine Paste Ceramics Projects. In *Excavations at Seibal. Analyses of Fine Paste Ceramics*, edited by J. A. Sabloff, pp. 272-282. Memoirs of the Peabody Museum of Archaeology and Ethnology, Vol. 15, No. 2. Harvard University, Cambridge, MA.

Bishop, R. L. and R. L. Rands
1982 Maya Fine Paste Ceramics: A Compositional Perspective. In *Excavations at Seibal. Analyses of Fine Paste Ceramics*, edited by J. A. Sabloff, pp. 272-282. Memoirs of the Peabody Museum of Archaeology and Ethnology, Vol. 15, No. 2. Harvard University, Cambridge, MA.

Bishop, R. L., Robert L. Rands, and George R. Holley
1982 Ceramic Compositional Analysis in Archaeological Perspective. In *Advances in Archaeological Method and Theory*, edited by M. B. Schiffer, Vol. 5, pp. 275-330. Academic Press, New York.

Blanton, R. E.
1978 *Monte Alban: Settlement Patterns at the Ancient Zapotec Capital.* Academic Press, New York.

Blanton, R. E. and G. Feinman
1984 The Mesoamerican World System: A Comparative Perspective. *American Anthropologist* 86:673-82.

Blanton, R. E., S. A. Kowalewski, G. Feinman, and J. Appel.
1981 *Ancient Mesoamerica: A Comparison of Change in Three Regions.* Cambridge University Press, Cambridge.

Brainerd, G. W.
1958 *The Archaeological Ceramics of the Yucatan.* Anthropological Records No. 19. University of Oklahoma Press, Norman.

Braswell, J. B.
1992 The Excavations at Group D. In *Xunantunich Archaeological Project: 1992 Field Season,* edited by R M. Leventhal, pp. 56-73. Los Angeles, Ca. and Belmopan.
1993 The 1993 Excavations at Group D, Xunantunich, Belize: Defining the Corporate Group. In *Xunantunich Archaeological Project: 1993 Field Season,* edited by R. M. Leventhal, pp. 65-85. Los Angeles, CA. and Belmopan.
1994 Investigations at Group D, Xunantunich, Belize: A Nonroyal Elite Corporate Group. In *Xunantunich Archaeological Project: 1994 Field Season,* edited by R. M. Leventhal, pp. 214-47. Los Angeles, Ca. and Belmopan.
1995 *Social and Economic Behavior of the Maya Nobility at Xunantunich, Belize.* Paper presented at the 61st annual meeting of the Society of American Archaeology, New Orleans.

Braun, D. P.
1980 Pots as Tools. In *Archaeological Hammers and Theories,* edited by J. A. Moore and A. S. Keene, pp. 107-134. Academic Press, New York.
1983 Experimental Interpretation of Ceramic Vessel Use on the Basis of Rim and Neck Formal attributes. In *The Navajo Project Archaeological Investigation, Page to Phoenix 500 KV Southern Transmission Line,* edited by D. C. Fiero, pp. 171-134. Museum of Northern Arizona Research paper No. 11, Flagstaff, AZ.

Braun, D. P. and S. Plog
1982 Evolution of "Tribal" Social Networks: Theory and Prehistoric North American Evidence. *American Antiquity* 47 (3):504-525.

Brown, James A.
1986 The Beginning of Pottery as an Economic Process. In *The Social and Economic Contexts of Technological Change,* edited by Sander Van der Leeuw and Robin

Torrence, World Archaeological Congress. University of Southampton, London.

Brumfiel, E. M.
n.d. Tribute Allocation and the Organization of Rural Labor in the Aztec State. In *New Models for the Political Economy of Pre-Columbian Polities*, edited by P. J. Netherly and D. A. Freidel.
1987 Elite and Utilitarian Crafts in the Aztec State. In *Specialization, Exchange, an Complex Societies*, edited by E. M. Brumfiel and T. K. Earle. pp. 102-118. Cambridge University Press, Cambridge.
1994 Factional Competition and Political Development in the New World: An Introduction. In *Factional Competition and Political Development in the New World*, edited by E. M. Brumfiel and J. W. Fox, pp. 1-14. Cambridge University Press, Eng.

Brumfiel, E. M. and T. K. Earle
1987 Specialization, Exchange, and Complex societies: An Introduction. In *Specialization, Exchange, an Complex Societies*, edited by E. M. Brumfiel and T. K. Earle, pp. 1-9. Cambridge, Cambridge University Press.

Bullard, W. R., Jr.
1960 Maya Settlement Pattern in Northeastern Peten, Guatemala. *American Antiquity* 25:355-72.

Bujura, Janet M.
1973 The Dynamics of Political Action: A New Look at Factionalism. *American Anthropologist* 75:132-52.

Bunzel, R.
1952 *Chichicastenango, a Guatemalan Village*. American Ethnological Society Publication 22. Locust Valley, NY.

Calnek, E. E.
1978 The City-state in the Basin of Mexico: Late Pre-Hispanic Period. In *Urbanization in the Americas from its Beginning to the Present*, edited by R. P. Schaedel, J. E. Hardoy, N. S. Kinzer, pp. 463-70. Mouton, The Hague
1982 Patterns of Empire Formation in the Valley of Mexico, Late Postclassic Period 1200-1521. In *The Inca and Aztec States, 1400 - 1800: Anthropology and History*, edited by G. A. Collier, R. I. Rosaldo, J. D. Wirth, pp. 43-62. Academic Press, New York.

Carneiro, R. L.
1970 A Theory of the Origin of the State. *Science* 169:733-38.

Carrasco, Pedro
1982 The Political Economy of the Aztec and Inca States. In *The Inca and Aztec States, 1400 -1800: Anthropology and History*, edited by G. A. Collier, R. I. Rosaldo, J. D. Wirth, pp. 23-42. Academic Press, New York.

Caso, A., I. Bernal, and J. R. Acosta
1967 *La Cerámica de Monte Albán.* Insituto Panamericano de Geografiá e Historia, Publication 21, Mexico.

Chang, K. C.
1980 The Chinese Bronze Age: A Modern Synthesis, edited by W. Fong, pp. 35-50. The Metropolitan Museum of Art and Alfred A. Knopf, New York.

Chase, Arlen F.
1985 Contextual Implications of Pictorial Vases from Tayasal, Peten. In *Fourth Palenque Round Table, 1980*, edited by M. G. Robertson and E. P. Benson, pp. 193-210. Pre-Columbian Art Research Institute, San Francisco.

Chase, A. F. and D. Z. Chase
1992 Mesoamerican Elites: Assumptions, Definitions, and Models. In *Mesoamerican Elites: An Archaeological Assessment*, edited by D. Z. Chase and A. F. Chase, pp. 3-17. University of Oklahoma Press, Norman and London.

Chase, D. Z.
1985 Ganned but Not Forgotten; Late Postclassic Archaeology and Ritual at Santa Rita Corozal, Belize. In *The Lowland Maya Postclassic*, edited by A. R. Chase and P. M. Rice, pp. 104-125. University of Texas Press, Austin.
1986 Caches and Censerwares: Meaning form Maya Pottery. In *A Pot for All Reasons: Ceramic Ecology Revisited*, edited by C. C. Kolb and L. M. Lackey, pp. 81-104. A special publication of *Ceramica de Cultura Maya*, Garrison Printing Company, Inc., Philadelphia.

Chase, D. Z, A. F. Chase, and W. A. Haviland
1990 The Classic Maya City: Reconsidering the "Mesoamerican Urban Tradition." *American Anthropologist* 92:499-506.

Chase, Sabrina
1992 South Group Plaza 1 and Nabitunich Plaza Group. In *Xunantunich Archaeological Project: 1992 Field Season*, edited by R M. Leventhal, pp. 35-55. Los Angeles, Ca. and Belmopan.
1993 Excavations at the San Lorenzo Group: The 1993 Testing Program and Plaza Group I. In *Xunantunich Archaeological Project: 1993 Field Season*, edited by R. M. Leventhal, pp. 128-147. Los Angeles, CA. and Belmopan.

Claessen, H. J. M. and P. Skalnik
1978 The Early State: Models and Reality. In *The Early State*, edited by H. J. M. Claessen and P. Skalnik, pp. 3-30. Mouton Publishers, The Hague.

Coe, Michael D.
1965 A Model of Ancient Community Structure in the Maya Lowlands. *Southwestern Journal of Anthropology* 21:97-114.
1973 *The Maya Scribe and His World* The Grolier Club, New York.
1975 Death and the Ancient Maya. In *Death and the Afterlife in Pre-Columbian America*, edited by E. Benson, pp. 87-104. Dumbarton Oaks, Washington D. C.
1978 *Lords of the Underworld.* The Art Museum of Princeton University, Princeton Press, N.J.

Coe, Sophia
1994 *America's First Cuisines.* University of Texas Press, Austin.

Coggins, Clemency C.
1975 *Painting and Drawing Styles at Tikal: An Historical and Iconographic Reconstruction.* Ph.D. Dissertation, Department of Fine Arts, Harvard University.

Collier, G. A., R. I. Rosaldo, and J. D. Wirth (eds.)
1976 *Inca and Aztec states 1400-1800.* Academic Press, Cambridge.

Connell, S. V.
1994 Research at Chaa Creek: 1994 In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 148-168. Los Angeles, Ca. and Belmopan.

Conrad, Geoffrey W.
1992 Inca Imperialism: The Great Simplification and the Accident of Empire. In *Ideology and Pre-Columbian Civilizations*, edited by A. A. Demarest and G. W. Conrad, pp. 159-174. School of American Press, University of Washington Press.

Conrad, G. W. and A. A. Demarest
1984 *Religion and Empire: The Dynamics of Aztec and Inca Expansionism.* Cambridge University Press, Cambridge.

Costin, C. L.
1986 *From Chiefdom to Empire State: Ceramic Economy Among the Prehispanic Wanka of Highland Peru.* Ph.D. dissertation, University of California, Los Angeles. University Microfilms, Ann Arbor.
1991 Craft Specialization; Issues in Defining, Documenting, and Explaining the Organization of Production. In *Archaeological Method and Theory*, vol.3, edited by M. B. Schiffer, pp. 1-56. university of Arizona Press, Tucson.

Costin, C. L. and T. K. Earle
1989 Status Distinction and Legitimization of Power as Reflected in Changing Patterns of Consumption in Late Prehispanic Peru. *American Antiquity* 54(4): 691-714.

Costin, C. L. and M. B. Hagstrum
1995 Standardization, Labor Investment, Skill, and the Organization of Ceramic Production in Late Prehistoric Highland Peru. *American Antiquity* 60 (4): 619-639.

Cowgill, G. L.
1979 Teotihuacan, Internal Militaristic Competition, and the Fall of the Classic Maya. In *Maya Archaeology and Ethnohistory*, edited by N. Hammond and G. R. Willey, pp. 51-62, University of Texas Press, Austin.

Culbert, T. P.
1973 Introduction: A Prologue to Classic Maya Culture and the Problem of its Collapse. In *The Classic Maya Collapse*, edited by T. P. Culbert, pp. 3-10, SAR University of New Mexico Press, Albuquerque.
1988 Political History and the Decipherment of Maya Glyphs. *Antiquity* 62:135-152.

Culbert, T. P. and L. A. Schwalbe
1987 X-ray Fluorescence Survey of Tikal Ceramics. *Journal of Archaeological Science* 14:635-57.

D'Altroy, T. N.
1992 *Provincial Power in the Inka Empire*. Smithsonian Institution Press, Washington, D. C.
1994 Factions and Political Development in the Central Andes. In *Factional Competition and Political Development in the New World*, edited by E. M. Brumfiel and J. W. Fox, pp. 171-188. Cambridge University Press, Cambridge, Eng.

D'Altroy, T. N. and R. A. Bishop
1990 The Provincial Organization of Inka Ceramic Production. *American Antiquity* 55:120-38.

D'Altroy, T. and T. K. Earle
1985 State Finance, Wealth Finance, and Storage in the Inka Political Economy. *Current Anthropology* 26: 187-206.

David, Nicholas and H. Hennig
1972 *The Ethnography of Pottery: A Fulani Case Seen in Archaeological Perspective*. A McCaleb Module in Anthropology from the series Addison-Wesley Modular Publications, Module 21, Addison-Wesley Publishing Company, Inc.

DeBoer, W. B., and D. Lathrap
1979 The Making and Breaking of Shipibo-Conibo Ceramics. In *Ethnoarchaeology: Implications of Ethnography for Archaeology*, edited by C. Kramer, pp. 102-138. Columbia University Press, New York.

Demarest, Arthur A.
1992 Ideology in Ancient Maya Cultural Evolution: The Dynamics of Galactic Polities. In *Ideology and Pre-Columbian Civilizations*, edited by A. A. Demarest and G. W. Conrad, pp. 135-158. School of American Press, University of Washington Press.

DeMarrais, E., L. J. Castillo, and T. Earle
1996 Ideology, Materialization, and Power Strategies. *Current Anthropology* 37 (1):15-31.

Demas, Martha
1993 Report on the Activities of the Getty Conservation Institute at Xunantunich. In *Xunantunich Archaeological Project: 1993 Field Season*. edited by R. M. Leventhal, pp. 262-8. Los Angeles, CA. and Belmopan.

de Montmollin, O.
1989 *The Archaeology of Political Structure: Settlement Analysis in a Classic Maya Polity*. Cambridge University Press, Cambridge.

Douglas, M.
1967 Primitive Rationing: A Study in Controlled Exchange, In *Themes in Economic Anthropology* (A.S.A. Monographs 6), pp. 119-47. Tavistock, London.
1984 *Food in the Social Order: Studies of Food and Festivities in Three American Communities*. Russell Sage Foundation, New York.

Douglas, Mary and Baron Isherwood
1979 *The World of Goods*. New York: Basic Books, Inc., New York.

Drennan, R. D.
1976 Religion and Social Evolution in Formative Mesoamerica. In *The Early Mesoamerican Village*, edited by K. V. Flannery, pp. 345-68. Academic Press, New York.

Dreyfus, Hubert and Paul Rabinow
1983 *Michel Foucault: Beyond Structuralism and Hermeneutics*. Second Edition. University of Chicago Press, Chicago

Durkheim, Emile
1915 [1974] *The Elementary Forms of the Religious Life*. Translated by Joseph Swain.

Free Press, Glencoe.

Earle, T. K.
1978 *Economic and Social Organization of a Complex Chiefdom: The Halelea District, Kaua'i, Hawaii.* Anthropological Paper, No. 63. The University of Michigan Museum of Anthropology, Ann Arbor.
1982 The Ecology and Politics of Primitive Valuables. In *Culture and Ecology: Eclectic Perspectives*, edited by J. G. Kennedy and R. B. Edgerton, pp. 65-83 (Special Publication, No. 15) American Anthropology Association, Washington, D. C.
1987 Specialization and Production of Wealth: Hawaiian Chiefdoms and Inka Empire. In *Specialization, Exchange, and Complex Societies*, edited by E. M. Brumfiel and T. K. Earle, pp. 64-75. Cambridge University Press, Cambridge, Eng.
1991 The Evolution of Chiefdoms. In *Chiefdoms: Power, Economy, and Ideology*, edited by T. K. Earle, pp. 1-15. Cambridge University Press, Cambridge Eng.

Edmonson, Munro S.
1979 Some Postclassic Questions about the Classic Maya. In *Tercera Mesa Redonda de Palenque*. Vol. 4, edited by M. Greene Roberston and D. C. Jeffers, pp. 9-18. Herald Printers, Monterey, California.

Eggan, Fred
1934 The Maya Kinship System and Cross-cousin Marriage. *American Anthropologist* 36:188-202.

Ehert, J. J.
1995 The Xunantunich Settlement Survey Test-Pitting Program. In *Xunantunich Archaeological Project: 1995 Field Season*, edited by R. M. Leventhal, pp. 164-192. Los Angeles, CA. and Belmopan.

Ethridge, B.
1995 Excavations at Group B, Structure A-2, A-3, A-4, and the Stela House (A-16). In *Xunantunich Archaeological Project: 1995 Field Season*, edited by R. M. Leventhal, pp. 71-82. Los Angeles, CA. and Belmopan.

Fallers, Lloyd A.
1956 *Bantu Bureaucracy*. University of Chicago Press, Chicago.

Farriss, N.
1984 *Maya Society under Colonial Rule*. Princeton Press, Princeton.

Fedick, Scott L.
1988 *Prehistoric Maya Settlement and Land Use Patterns in the Upper Belize River Area, Belize Central America*. Ph.D. dissertation, Arizona State University. Ann Arbor, University Microfilms.

1992 Land Evaluation and Ancient Maya Land Use in the Upper Belize River Area, Belize, Central America. Ms. in possession of the author.
1995 Land Evaluation and Ancient Maya Land Use in the Upper Belize River Area, Belize, Central America. *Latin American Antiquity* 6(1):16-34.

Fedick, Scott L. and Anabel Ford
1990 The Prehistoric Agricultural Landscape of the Central Maya Lowlands: An Examination of Local Variability in a Regional Context. *World Archaeology* 22(1):18-33.

Feeley-Harnik, Gillian
1985 Issues in Divine Kingship. *Annual Review of Anthropology* 14:273-313.

Feinman, G.
1986 The Emergence of Specialized Ceramic Production in Formative Oaxaca. *Research in Economic Anthropology*, supplement 2: 347-373.

Feinman, G., S. Upham, and K. Lightfoot
1991 The Production Step Measure: An Ordinal Index of Labor Input in Ceramic Manufacture. *American Antiquity* 46:871-884.

Fields, V. M.
1993 Preliminary Notes on the West Facade of Structure A-6. In *Xunantunich Archaeological Project: 1993 Field Season*, edited by R. M. Leventhal, pp. 250-255. Los Angeles, CA. and Belmopan.
1994 The Royal Charter at Xunantunich. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 65-74. Los Angeles, Ca. and Belmopan.

Flannery, K. V.
1968 The Olmec and the Valley of Oaxaca: A Model for Inter-regional Interaction in Formative Times. In *Dumbarton Oaks Conference on the Olmec*, edited by Elizabeth P. Benson, pp. 79-110. Dumbarton Oak, Washington, D. C.
1972 The Cultural Evolution of Civilizations. *Annual Review of Ecology and Systematics* 3: 399-426.
1983 The Legacy of the Early Urban Period: An Ethnohistoric Approach to Monte Alban's Temples, Residences, and Royal Tombs. In *The Cloud People*, edited by K. V. Flannery and J. Marcus, pp. 132-36. Academic Press, New York.

Flannery, K. V. and J. Schoenwetter
1970 Climate and Man in Formative Oaxaca. *Archaeology*: 23:144-52.

Foias, Antonia E. and Ron L. Bishop
1995 Political Control and Ceramic Production and Exchange of the Classic Maya of the

Petexbatun Region, Guatemala. Paper presented at the AAA 94th Annual Meeting, Washington, D.C.

1996 The Classic Maya Collapse and the Fine Paste Pottery of the Petexbatun Region. Department of Peten, Gautemala. Paper presented at the SAA 61st Annual Meeting, New Orleans.

Ford, Anabell and H. Glicken

1987 The Significance of Volcanic Ash Tempering in the Ceramics of the Central Maya Lowlands. In *Maya Ceramics*, edited by P. Rice and R. Sharer, pp. 479-502. BAR International Series 345(ii), Oxford.

Fortes, M. and E. E. Evans-Pritchard

1948 *African Political Systems*. International African Institute, Oxford University Press.

Fox, James

1987 *Maya Postclassic State Formation: Segmentatary Lineage Migration in Advancing Frontiers*. Cambridge University Press, Cambridge.

Fox, James and John S. Justeson

1986 Classic Maya Dynastic Alliance and Succession. In *Supplement to the Handbook of Middle American Indians: Ethnohistory*, Vol. 4, Austin, University of Texas.

Freidel, D.

1981 Civilization as a State of Mind: the Cultural Evolution of the Lowland Maya. In *The Transition to Statehood in the New World*, edited by G. D. Jones and R. R. Kautz, pp. 188-227, Cambridge University Press, Cambridge.

1983 Political Systems in Lowland Yucatan. In *Prehistoric Settlement Patterns*, edited by E. Z. Vogt and R. M. Leventhal, pp. 375-386. University of NM, Albuquerque.

1986 Maya Warfare: An Example of Peer Polity Interaction. In *Peer Polity Interaction and Socio-Political Change*, edited by C. Renfrew and J. F. Cherry, pp. 93-108. Cambridge University Press, Cambridge, Eng.

1992 Ideology in Ancient Maya Cultural Evolution. In *Ideology and Pre-Columbian Civilizations*, edited by A. A. Demarest and G. W. Conrad, pp. 115-134, SAR, University of Washington Press.

Freidel, D. A. and L. Schele

1988 Kingship in the Late Preclassic Maya Lowlands: The Instruments and Places of Ritual Power. *American Anthropologist* 90:547-657

1989 Dead Kings and Living Temples: Dedication and Termination Rituals among the Ancient Maya. In *Word and Image in Maya Culture: Explorations in Language, Writing, and Representation*, edited by W. F. Hanks and D. S. Rice., pp. 233-243. University of Utah Press, Salt Lake City.

Freidel, D. A., L. Schele, and Joy Parker
1993 *Maya Cosmos: Three Thousand Years on the Shaman's Path.* William Morrow and Co., Inc., New York.

Freidman, J. and M. J. Rowlands
1978 Notes Towards an Epigenetic Model of the Evolution of civilization. In *The Evolution of Social Systems*, edited by J. Freidman and M. J. Rowlands, pp. 201-76. Duckworth, London.

Fry, R. E.
1979 The Economies of Pottery at Tikal, Guatemala: Models of Exchange for Serving Vessels. *American Antiquity* 44(3): 494-512.
1980 Models of Exchange for Major Shape Classes of Lowland Maya Pottery, In *Models and Methods in Regional Exchange*, edited by R. E. Fry, pp. 3-18. (SAA Papers No. 1). Society for American Archaeology, Washington D. C.

Fry, Robert E. and Scott C. Cox
1974 The Structure of Ceramic Exchange at Tikal, Guatemala. *World Archaeology* 6:209-25.

Fung, Chris
1996 *Chicha Production at the Household Level in Terminal Classic Honduras.* Paper presented at the 61st annual meeting for the Society for American Archaeology, New Orleans.

Geertz, Clifford
1980 *Negara: The Theatre State in Nineteenth-Century Bali.* Princeton University Press, NJ.

Geertz, Hildred and Clifford Geertz
1975 *Kinship in Bali.* Chicago University Press, Chicago.

Giddens, Anthony
1979 *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis.* University of California Press, Berkeley.

Gifford, James C.
1976 *Prehistoric Pottery Analysis and the Ceramics of Barton Ramie in the Belize Valley.* Memoirs of the Peabody Museum of Archaeology and Ethnology, Vol. 18., Harvard University.

Gilman, A.
1991 Trajectories Towards Social Complexity in the Late Prehistory of the Mediterranean. In *Chiefdoms: Power, Economy, and Ideology*, edited by T. K.

Earle, pp. 146-168. Cambridge University Press. Cambridge Eng.

Goody, Jack
1962 *The Developmental Cycle in Domestic Groups*. Cambridge University Press.
1966 Introduction. In *Succession to High Office*, edited by J. Goody, pp. 1-56. Cambridge University Press, Cambridge.
1982 *Cooking, Cuisine and Class: A Study in Comparative Sociology*. Cambridge University Press, Cambridge.

Graham, E.
1987 Terminal Classic to Early Historic Period Vessel Forms form Belize. In *Maya Ceramics: Papers from the 1985 Maya Ceramic Conference*, edited by P. M. Rice and R. J. Sharer, pp. 73-98. BAR International Series 345 British Archaeological Reports, Oxford.

Grove, D. C.
1984 *Chalcatzingo: Excavations on the Olmec Frontier*. Thames and Hudson, London.

Grube, Nikolai
1991 *An Investigation of the Primary Standard Sequence on Classic Maya Ceramics*. Palenque Round Table Series 8:223-32.
1995 *Political Fragmentation and the Collapse of Classic Maya Political Spheres in the Terminal Classic*. Paper presented at the second annual UCLA Maya Weekend. Oct. 28-29, 1995.

Hagstrum, M. B.
1987 *Technological Continuity and Change: Ceramic Ethnoarchajeology in the Peruvian Andes*. Ph.D. dissertation, University of California, Los Angeles. University Microfilms, Ann Arbor.

Halley, D.
1983 The Interpretive Potential of Pottery from Domestic Contexts. *Midcontinental Journal of Archaeology* 8:163-196.
1986 The Identification of Vessel Function: A Case Study from Northwest Georgia. *American Antiquity* 51(2): 267-284.

Hammond, N.
1982 *Ancient Maya Civilization*. New Brunswick, Rutgers University Press, New Jersey.
1991 Inside the Black Box: Defining Maya Polity. *In Classic Maya Political History*, edited by T. P. Culbert, pp. 253-184, SAR. Cambridge University Press, Cambridge.

Hansen, R. D., R. L. Bishop, F. Fahsen
1991 Notes on Maya Codex-style Ceramics from Nakbe, Peten, Guatemala. *Ancient*

Mesoamerica 2:225-243.

Haselgrove, C.
1982 Wealth, Prestige, and Power: The Dynamics of Late Iron Age Political Centralization in South-east England. In *Ranking, Resource an Exchange*, edited by C. Renfrew and S. Shennan, pp. 79-88. Cambridge University Press, Cambridge.

Harrison, P. D.
1970 *The Central Acropolis, Tikal, Guatemala: A Preliminary Study of the Functions of Its Structural Components During the Late Classic Period. Ph.D. dissertation*, University of Pennsylvania. University Microfilms, Ann Arbor.

Haviland, W. A.
1968 *Ancient Lowland Maya Social Organization*. Middle American Research Institute, Tulane University, New Orleans. Publication 26:93-117.
1970 Tikal, Guatemala and Mesoamerican Urbanism. *World Archaeology* 2:186-98.
1977 Dynastic Genealogies from Tikal, Guatemala: Implications for Descent and Political Organization. *American Antiquity* 42:61-67.
1985 Population and Social Dynamics: The Dynasties and Social Structure of Tikal. *Expedition* 27(3):34-41.
1988 Musical Hammocks at Tikal: Problems with Reconstructing Household Composition. In *Household and Community in the Mesoamercian Past*, edited by R. Wilk and W. Ashmore, pp. 121-34. University of New Mexico Press, Albuquerque.

Hayden, Brian and Audrey Cannon
1982 The Corporate Group as an Archaeological Unit. *Journal of anthropological Archaeology* 1:132-158.

Hayden, Brian and Rob Gargett
1990 Big Man, Big Heart? A Mesoamerican View of the Emergence of Complex Society. *Ancient Mesoamerica* 1:3-20.

Henderson, J. S.
1992 Elites and Ethnicity along the Southeastern Fringe of Mesoamerica. In *American Elites: An Archaeological Assessment*, edited by D. Z. Chase and A. F. Chase, pp. 157-168. University of Oklahoma Press, Norman and London.

Henderson, J. S, and J. A. Sabloff
1993 Re-conceptualizing the Maya cultural Tradition: Programmatic Comments. In *lowland Maya Civilization in the Eighth Century A.D.*, edited by J. Henderson and J. Sabloff, pp. 445-476. Dumbarton Oaks, Washington, D. C.

Hendon, J. A.
1987 *The Uses of Maya Structures: A Study of Architecture and Artifact Distribution at Sepulturas, Copan, Honduras.* Ph.D. dissertation, Harvard. University Microfilms, Ann Arbor.

Hicks, Frederic
1991 Gift and Tribute: Relations of Dependency in Aztec Mexico. In *Early State Economic*, Vol. 8, edited by H. J. M. Claessen and P. van de Velde. pp. 199-213. Transaction Publishers, New Brunswick.

Hirth, Kenneth
1992 Interregional Exchange as Elite Behavior: An Evolutionary Perspective. In *Mesoamerican Elites: An Archaeological Assessment*, edited by D. Z Chase and A. F. Chase, pp. 18-29. University of Oklahoma Press, Norman and London.

Hocart, A.M.
1970 *Kings and Councillors: An Essay in the Comparative Anatomy of Human Society*. edited by R. Needham. University of Chicago Press.

Hodder, Ian
1979 Economic and Social Stress and Material Culture Patterning. *American Antiquity* 44(3):446-454.
1982 *Symbolic and Structural Archaeology.* Cambridge University Press, Cambridge.

Hopkins, Nicholas
1988 Classic Mayan Kinship Systems: Epigraphic and Ethnographic Evidence for Patrilineality. *Estudios de Cultura Maya* 17:87-121.

Houston, Stephen D.
1989 Archaeology and Maya Writing. *Journal of World Prehistory* 3:1-32.
1992 Classic Maya Politics. In *New Theories on the Ancient Maya*, edited by E. C. Danien and R. Sharer. pp. 65-69. University Museum, University of Philadelphia, Philadelphia.
1993 *Hieroglyphs and History at Dos Pilas: Dynastics Politics of the Classic Maya.* University of Texas Press, Austin.

Houston, Stephen D., David Stuart and Karl A. Taube
1989 Folk Classification of Classic Maya Pottery. *American Antiquity* 91(3):720-726.
1993 Image and Text on the "Jauncy Vase". In *The Maya Vase Book: A Corpus of Rollout Photographs of Maya Vases*, Vol. 3, edited by J. Kerr, pp. 498-513. Kerr Associates, New York.

Hsylop, John
1990 *Inka Settlement Planning.* University of Texas Press, Austin.

Jamison, T. R.
1992 The Excavation of Structure A-1 and A-4. In *Xunantunich Archaeological Project: 1992 Field Season*,. edited by R M. Leventhal, pp. 22-34. Los Angeles, Ca. and Belmopan.

Jamison, T. R. and G. A. Wolff
1994 Excavations In and Around Plaza A-I and Plaza A-II. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 25-47. Los Angeles, Ca. and Belmopan.

Johnson, Allen W. and Timothy Earle
1987 *The Evolution of Human Societies: From Foraging Group to Agrarian State*. Stanford University Press, Stanford.

Jones, G. D. and R. R Kautz, eds.
1981 *The Transition to Statehood in the New World*. Cambridge University Press, Cambridge, Eng.

Joyce, Rosemary A.
1981 Classic Maya kinship and Descent: An Alternative Suggestion. *Journal of the Steward Anthropology Society* 13(1):45-57.
1991 *Cerro Palenque: Power and Identity on the Maya Periphery*. university of Texas Press, Austin.

Keller, A. H
1994 The Xunantunich Sacbe Project 1994. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 75-92. Los Angeles, Ca. and Belmopan.
1995 Getting into Xunantunich: The 1995 Investigations of the Access Points and Accessibility of Xunantunich. In *Xunantunich Archaeological Project: 1995 Field Season*, edited by R. M. Leventhal, pp. 83-111. Los Angeles, Ca. and Belmopan.

Kertzer, David I.
1988 *Ritual, Politics and Power*. Yale University Press, New Haven.

Kowalewski, S. A., R. E. Blanton, G. M. Feinman, and L. Finsten
1983 Boundary, Scale, and Internal Organization. *Journal of Anthropological Archaeology* 2:32-56.

Kowalewski, S. A. and L. Finsten
1983 Economic Systems of Ancient Oaxaca: A Regional Perspective. *Current Anthropology* 24:413-441.

Kristiansen, K.
1981 Economic models for Bronze Age Scandinavia: Towards an Integrated Approach. In *Economic Archaeology: Towards an Integration of Ecological and Social Approaches*. edited by A. Sheridan and G. Bailey, pp. 239-303. (International Series 96). British Archaeological Reports, Oxford.

Kurtz, Donald V.
1974 Peripheral and Transitional Markets: the Aztec Case. *American Ethnologist* 1:685-705.

LeCount, Lisa
1988 *Toward Defining and Explaining Functional Variation in Sausa Ceramics from the Upper Mantaro Valley, Peru.* Unpublished M. A. thesis, University of California, Los Angeles.
1989 *Feasts and Famines: The Interpretative Potential of Ceramics for Viewing Prehispanic Food-related Activities*. Paper presented at the 29th annual andean meetings, Berkeley, California.
1992 Xunantunich ceramics - 1992 Field Report. In *Xunantunich Archaeological Project: 1992 Field Season*, edited by R. M. Leventhal, pp. 169-99. Belmopan and Los Angeles.
1993 Ceramic Research: Initial Investigations into Assemblage Variation. In *Xunantunich Archaeological Project: 1993 Field Season*, edited by R. M. Leventhal, pp. 220-49. Belmopan and Los Angeles, CA.
1994 Notes on Chronology: The 1994 Progress Report on Xunantunich Ceramic Research. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 169-199. Belmopan and Los Angeles, CA.
1995 *Pottery Types, Household Assemblages, and Ceramic Complexes: Redefining the Late and Terminal Classic Pottery Sequence at Xunantunich, Belize.* Paper presented at the first annual Maya symposium in Belize.

LeCount, L. J., and M. B. Hagstrum
1990 *Cuisine, Cooking, and Cookware: Toward Reconstructing Food-related Activities in the Archaeological Past.* Paper presented at the 55th annual meeting of the Society for American Archaeology at Las Vegas, 1990.

Leventhal, R. M.
1983 Household Groups and Classic Maya Religion. In *Prehistoric Settlement Patterns: Essays in Honor of Gordon R. Willey*, edited by E. Z. Vogt and R. M. Leventhal, pp. 55-76. Cambridge: Peabody Museum of Archaeology and Ethnology, Harvard University; University of New Mexico Press, Albuquerque.
1994 The Xunantunich Site Core: 1994 Research and Work. In *Xunantunich Archaeological Project Field Report*, edited by R. M. Leventhal, pp. 1-9. Los Angeles and Belmopan.
1995 1995 Research in the Xunantunich Center. In *Xunantunich Archaeological Project*

Field Report, edited by R. M. Leventhal, pp. 1-9. Los Angeles and Belmopan.

1995 *Xunantunich: Surviving and Reflecting the Collapse*. Paper presented at the Second annual UCLA Maya Weekend, October 28-29, 1995.

Leventhal, R. M., W. Ashmore, L. LeCount, V. Hetrick, and T. Jamison
1992 *Xunantunich Archaeological Project: 1992 Research*. Paper presented at the 91st Annual Meeting American Anthropological Association, San Francisco CA - December 5, 1992.

Leventhal, R. M., A. A. Demarest, and G. R. Willey
1987 The Cultural and Social Components of Copan. In *Polities and Partitions: Human Boundaries and the Growth of Complex Societies*, edited by K. Trinkaus, pp. 179-205. Anthropological Research Papers, No. 37, Arizona State Univ., Tempe.

Leventhal, R. M. and P. Dunham
1989 *A Regional Model of Political Organization in the Maya Lowlands*. Paper presented at the Annual Meeting of the Society for American Archaeology, Atlanta.

Leventhal, R. M., S. Zeleznik, T. Jamison, L. LeCount, J. O. McGovern, J. Sanchez, and A. Keller
1993 *Xunantunich: A Late and Terminal Classic Center in the Belize River Valley*. A paper presented at the Palenque Mesa Redonda, Anniversario Katun, 1973-1993, June 1993, Palenque, Mexico.

Lewis, B.
1995 Excavations of Structures A-3 and A-4. In *Xunantunich Archaeological Project Field Report*, edited by R. M. Leventhal, pp. 61-70. Los Angeles and Belmopan.

Lincoln, Charles E.
1985 Ceramics and Ceramic Chronology. In *A Consideration of the Early Classic Period in the Maya Lowlands*, edited by G. R. Willey and P. Mathews, pp. 55-94. Pub. No. 10. Institute of Mesoamerican Studies, State University of New York at Albany.

Lloyd, Peter C.
1965 The Political Structure of African Kingdoms. *In Political Systems and the Distribution of Power*, edited by M. Banton, pp. 63-112. Tavistock Publications, London.

Longyear, J. M.
1952 *Copan Ceramics: A Study of Southeastern Maya Pottery*. Carnegie Institution of Washington, Publication 597, Washington, D.C.

Mackie, E. W.
1961 New Light on the End of Classic Maya Culture at Benque Viejo, British Honduras. *American Antiquity* 27:216-224.
1985 *Excavations at Xunantunich and Pomona, Belize, in 1959-60.* BAR International Series 251. British Archaeological Reports, Oxford.

Mann, Michael
1986 *The Sources of Social Power: A history of Power from the Beginning to A.D. 1760.* Cambridge University Press, Cambridge.

Marcus, G. (ed.)
1983 *Elites: Ethnographic Issues.* University of New Mexico Press, Albuquerque.

Marcus, J.
1973 Territorial Organization of the Lowland Classic Maya. *Science* 180: 911-16.
1976 *Emblem and State in the Classic Maya Lowlands.* Dumbarton Oaks.
1978 Archaeology and Religion: A Comparison of Zapotec and Maya. *World Archaeology* 10:172-91.
1983 Lowland Maya Archaeology at the Crossroads. *American Antiquity* 48(3):454-88.
1992 Royal Families, Royal Texts: Examples from the Zapotec and Maya. In *Mesoamerican Elites: An Archaeological Assessment*, edited by D. Z. Chase and A. F. Chase, pp. 221-241. University of Oklahoma Press, Norman and London.
1992 *Mesoamerican Writing System.* Princeton University Press, Princeton, N.J.
1993 Ancient Maya Political Organization. In *Peak of Lowland Maya Civilization: New Understandings of Eight Century Maya Development*, edited by J. A. Sabloff and J. S. Henderson, pp. 111-184. Dumbarton Oaks, Washington D. C.

Marcus, J., and K. V. Flannery
1994 Ancient Zapotec Ritual and Religion: An Application of the Direct Historical Approach. In *The Ancient Mind*, edited by C. Renfrew and E. Zubrow, pp. 55-74. Cambridge University Press, Cambridge.

Martin, Simon and Nikolai Grube
n.d. *Evidence for Macro-Political Organization Amongst Classic Maya Lowland States.* Manuscript in possession of the author.

Mathews, Peter
1979 The Glyphs on the Ear Ornaments from Tomb A-1/1. In *Excavations at Altun Ha, Belize, 1964-1970*, Volume 1. edited by D. Pendergast, pp. 79-80. Royal Ontario Museum, Toronto.
1986 *Classic Maya Site Interaction.* Paper presented at the symposium, "Maya Art and Civilization: The New Dynamics," Society for American Archaeology, Forth Worth.

1991 Classic Maya Emblem Glyphs. In *Classic Maya Political* History, edited by T. P. Culbert, pp. 19-29. SAR. Cambridge University Press, Cambridge.

Mathews, Peter, and Linda Schele
1974 Lords of Palenque: The Glyphic Evidence. *Primera Mesa Redonda de Palenque* (Part 1):63-76. The Robert Louis Stevenson School, Pebble Beach, CA.

Mauss, Marcel
[1950] 1990 *The Gift*. W. W Norton, New York.

McAnany, Patrician A.
1989 Economic Foundations of Prehistoric Maya Society; Paradigms and Concepts. In *Prehistoric Maya Economies of Belize*, edited by P. A. McAnany and B. L. Isaacs. pp. 347-372. Research in Economic anthropology, Supplement 4. JAI Press, Greenwich.
1995 *Living with the Ancestors: Kinship to Kingship in Ancient Maya Society*. University of Texas Press, Austin.

McBryde, F. W.
1947 *Cultural and Historical Geography of Southwest Guatemala*. Smithsonian Institution, Institute of Social Anthropology 4. G.P.O., Washington, D. C.

McGovern, J. O.
1992 1992 Study of Actuncan (Cahal Xux). In *Xunantunich Archaeological Project: 1992 Field Season*, edited by R M. Leventhal, pp. 74-83. Los Angeles, Ca. and Belmopan.
1993 Survey and Excavation at Actuncan. In *Xunantunich Archaeological Project: 1993 Field Season*, edited by R. M. Leventhal, pp. 100-127. Los Angeles, CA. and Belmopan.
1994 Actuncan, Belize: The 1994 Excavation Season. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 108-122. Los Angeles, Ca. and Belmopan.

Mead, W. E
1931 *The English Medieval Feast*. George Allen and Unwin, London.

Mennell, Stephen
1985 *All manners of Food: Eating and Taste in England and France from the Middle Ages to the Present*. Basil Blackwell, Oxford.

Miller, D. and C. Tilley
1984 Ideology, Power and Prehistory: An Introduction. In *Ideology, Power and Prehistory*, edited by D. Miller and C. Tilley, pp. 1-20. Cambridge University Press, Cambridge.

Mintz, Sidney W.
1985 *Sweetness and Power: The Place of Sugar in Modern History*. Penguin Books.

Morris, Craig,
1988 Progress and prospect in the archaeology of the Inca. In *Pervian Prehistory*, edited by R. W. Keatinge, pp. 233-256. Cambridge University Press, Cambridge, Eng.

Muhs, D. R., R. R. Kautz, and J. J. MacKinnon
1985 Soils and the Location of Cacao Orchards at a Maya Site in Western Belize. *Journal of Archaeological Science* 12:121-37.

Murdock, George P.
1949 *Social Structure*. New York.
1960 Cognatic Forms of Social Organization. In *Social Structure in Southeast Asia*, edited by G. Murdock. Vicking Fund Publications in Anthropology No. 29, New York.

Neff, L. S.
1995 Excavations of Structure A-20 on the Castillo, Xunantunich. In *Xunantunich Archaeological Project: 1995 Field Season*, edited by R. M. Leventhal, pp. 38-58. Los Angeles, CA. and Belmopan.

Neff, L. T., C. Robin, K. Schwarz, M. K. Morrison
1995 The Xunantunich Settlement Survey. In *Xunantunich Archaeological Project: 1995 Field Season*, edited by R. M. Leventhal, pp. 164-192. Los Angeles, CA. and Belmopan.

Ortner, Sherry
1984 Theory in Anthropology since the Sixties. *Comparative Studies in Society and History* 26:126-66.

Parsons, Talcot
1960 The Distribution of Power in American Society. In *Structure and Process in Modern Societies*. New York, Free Press.

Pendergast, David M. and Elizabeth Graham
1981 Fighting a Looting Battle: Xunantunich, Belize. *Archaeology* 34(4): 12-19.

Pires-Ferreira, Jane
1975 *Exchange Networks in Formative Mesoamerica, with Special Reference to the Valley of Oaxaca*. Museum of Anthropology, University of Michigan, Memoirs 7.

Pohl, M. E. D., and J. M. D. Pohl

1994 Cycles of Conflict: Political Factionalism in the Maya Lowlands. In *Factional Competition and Political Development in the New World*, edited by E. M. Brumfiel and J. W. Fox, pp. 1-14. Cambridge University Press, Cambridge, Eng.

Rands, R. L. and Bishop, R. L.
1980 Resource Procurement Zones and Patterns of Ceramic Exchange in the Palenque Region, Mexico. In *Models and Methods of Regional Exchange*, edited by R. R. Fry, pp. 19-46. (SAA Papers No. 1), Society for American Archaeology, Washington, D. C.

Rathje, W. L.
1970 Socio-political Implications of Lowland Maya Burials: Methodology and Tentative Hypotheses. *World Archaeology* 1:359-74.
1971 The Origin and Development of Classic Maya Civilization. *American Antiquity* 36:275-85.

Redfield, R., and A. Villa Rojas
1934 *Chan Kom: A Maya Village.* Carnegie Institution of Washington No. 448.

Reents-Budget, Dorie J.
1994 *Painting the Maya Universe: Royal Ceramics of the Classic Period.* Duke University Press.

Reents, Dorie J. and Ronald L. Bishop
1985 History and Ritual Events on a Petexbatun Classic Maya Polychrome vessel. *Fifth Palenque Round Table*, edited by Virginia M. Field, pp. 57-63. Pre-Colombian Art Research Institute, San Francisco.

Reina, R. E. and R. M. Hill
1978 *The Traditional Pottery of Guatemala.* University of Texas Press, Austin.

Rice, Don
1993 Eighth-Century Physical Geography, Environment, and Natural Resources in the Maya Lowlands. In *Lowland Maya Civilization in the Eighth Century A.D.*, edited by J. A. Sabloff and J. A. Henderson, pp. 11-64, Dumbarton Oaks, Harvard University.

Rice, D. S, and T. P. Culbert
1990 Historical Contexts for Population Reconstruction in the Maya Lowlands. In *Precolumbian Population History in the Maya Lowlands*, edited by T. P. Culbert and D. S. Rice, pp. 1-36. University of New Mexico, Albuquerque.

Rice, Prudence
1987a Economic Change in the Lowland Maya Late Classic Period. In *Specialization,*

Exchange, and Complex Societies, edited by E. M. Brumfield and T. K. Earle, pp. 76-85. Cambridge University Press, Cambridge.

1987b *Pottery Analysis: A Source Book.* University of Chicago Press, Chicago and London.

Richards, Audrey I.

1960 [1939] *Land, Labour and Diet in Northern Rhodesia: An Economic Study of the Bemba Tribe*. London, Oxford University Press.

Ringle, William M. and George Bey

1992 The Center and Segmentary State Dynamics: African Models in the Maya Lowlands. Paper presented at the Wenner-Gren Conference on the Segmentary State and the Classic Maya Lowlands. Cleveland State University, Oct. 1992.

Robertson-Smith, W.

1889 *The Religion of the Semites*. Black, Edinburgh.

Robicsek, F. and R. Hales

1981 *The Maya Book of the Dead: The Ceramic Codex.* University of Virginia Museum, Charlottesville.

Robin, C.

1994 Form, Function and Meaning: 1994 Excavations on El Castillo, Structure A-6. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 48-64. Los Angeles, Ca. and Belmopan.

Robin, C., L. T. Neff, J. J. Ehret, J. Walkey, and C. H. Gifford

1994 Actuncan, Belize: The 1994 Excavation Season. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 108-122. Los Angeles, Ca. and Belmopan.

Rounds, J.

1979 Lineage, Class, and Power in the Aztec state. *American Ethnologist* 6:73-86.

Rowlands, M. J.

1980 Kinship, Alliance and Exchange in the European Bronze Age. In *Settlement an Society in the British Later Bronze Age*. edited by J. Barrett and R. Bradley, pp. 15-55. BAR British Series 83, British Archaeological Reports, Oxford.

1987 Power and Moral Order in Precolonial West-central Africa. In *Specialization, Exchange, an Complex Societies*, edited by E. M. Brumfiel and T. K. Earle. Cambridge University Press, Cambridge.

Roys, R. L.

1943 [1972] *The Indian Background of Colonial Yucatan.* Carnegie Institution of

Washington Publication 548. Reprinted by the University of Oklahoma Press.
1957 *The Political Geography of the Yucatan Maya*. Carnegie Institution of Washington Publication 613. Carnegie Institution, Washington, D. C.
1965 Lowlands Maya Society at Spanish Contact. In *Handbook of Middle American Indians* 3:659-78.

Sabloff, J. A.
1973 Continuity and Distribution during Terminal Late Classic Times at Seibal: Ceramic and Other Evidence. In *The Classic Maya Collapse*, edited by T. P. Culbert, pp. 107-88, SAR University of New Mexico Press, Albuquerque.
1975 *Excavations at Seibal, Department of Peten, Guatemala: Ceramics*. Peabody Museum of Archaeology and Ethnology, Memoirs 13 (2).
1986 Interaction among Maya polities: A Preliminary Examination. In *Peer Polity Interaction and Socio-Political Change*, edited by C. Renfrew and J. F. Cherry, pp. 109-16. Cambridge University Press, Cambridge, Eng.

Sahagun, B. de
1950-69 [1577] *Florentine Codex: General History of the Things of New Spain*. A Anderson and C. Dibble, trans. 12 Vols. School of American Research, Santa Fe.

Salhins, M. D
1961 The Segmentary Lineage: An Organization of Predatory Expansion. *American Anthropologist* 63:322-345.
1968 *Tribesmen*. Englewood Cliffs, NJ: Prentice-Hall.
1972 *Stone Age Economic*. Aldine-Atherton, Chicago.
1985 *Islands of History*. University of Chicago Press, Chicago.

Sanchez, J.
1993 1993 Excavations on El Castillo, Xunantunich, Belize. In *Xunantunich Archaeological Project: 1993 Field Season*, edited by R. M. Leventhal, pp. 56-64. Los Angeles, CA. and Belmopan.

Sanders, W. T
1981 Classic Maya Settlement Patterns and Ethnographic Analogy. In *Lowland Maya Settlement Patterns*, edited by W. Ashmore, pp. 351-369, Univer. of New Mexico Press, Albuquerque.
1989 Household, Lineage, and State Eight-Century Copan, Honduras. In *The House of the Bacabs, Copan, Honduras*, edited by David L. Webster, pp. 89-105. Dumbarton Oaks, Washington, D. C.

Satterthwaite, L.
1951 Reconnaissance in British Honduras. *Bulletin of the University Museum* 16(1): 21-37.

Saville, M. H.
1921 Reports on the Maya Indians of Yucatan by Santiago Méndez, Antonio García y Cubas, Pedro Sánchez de Águilar, and Francisco Hernández. *Museum of the American Indian, Heye Foundation, Indian Notes and Monographs*, Vol. 9, no. 3, pp. 133-226. New York.

Schele, Linda
1985 *The Hauberg Stela: Bloodletting and the Mythos of Maya Rulership*. Palenque Round Table Series 7:135-49.
1990 House Names and Dedicatory Rituals at Palenque. In *Vision and Revision in Maya Studies*. edited by F. S. Clancy and P. D. Harrison. pp. 143-158. University of New Mexico Press, Albuquerque.

Schele, Linda and David Freidel
1990 *A Forest of Kings*. William Morrow and Company, New York.

Schele, Linda and J. H. Miller
1986 *The Blood of Kings*. George Braziller, New York.

Schiffer, M. B., J. M. Skibo, T. C. Boelke, M. A. Neupert, and M. Aronson
1994 New Perspectives on Experimental Archaeology: Surface Treatments and Thermal Response of the Clay Cooking Pot. *American Antiquity 59(2): 197-217.*

Schmidt, Peter J.
1974 *A New Map and some Notes on Terminal Classic and Postclassic Activities at Xunantunich, Belize*. Paper presented at International Congress of Americanists, Mexico.

Service, Elman R.
1962 *Primitive Social Organization: An Evolutionary Perspective*. Second edition. Random House, New York.

Sharer, R. J.
1978 Archaeology and History at Quirigua, Guatemala. *Journal of Field Archaeology* 5(1):51-70.
1991 Diversity and Continuity in Maya Civilization: Quiriqua as a Case Study. In *Classic Maya Political History*, edited by T. P. Culbert, pp. 180-98, SAR. Cambridge University Press, Cambridge.
1993 The Social Organization of the Late Classic Maya: Problems of Definition and Approaches. In *Lowland Maya Civilization in the Eighth Century A. D.* edited by J. A. Sabloff and John S. Henderson, pp. 91-110. Dumbarton Oaks, Washington D. C.
1994 *The Ancient Maya*. Fifth edition. Stanford.
1995 *The Beginning and End of the Copan Dynasty*. Paper presented at the 2nd Annual

UCLA Maya Weekend. Oct. 28-29, 1995.

Shennan, Stephen
1982 Ideology, Change and the European Early Bronze Age. In *Symbolic and Structural Archaeology*. edited by I. Hodder, pp. 155-61. Cambridge University Press, Cambridge.

Shennan, Susan
1982 From Minimal to Moderate Ranking. In *Ranking, Resource and Exchange: Aspect of the Archaeology of Early European Society*, edited by C. Renfrew and S. Shennan, pp. 27-32. Cambridge University Press, Cambridge.

Southall, Aidan W.
1988 The Segmentary State in Africa and Asia. *Comparative Studies in Society and History*. 30:52-82.
1991 The Segmentary State: From the Imaginary to the Material Means of Production. In *Early State Economics*, edited by H. J. M. Claessen and P. van de Velde, pp. 75-96. Transaction Publishers, New Brunswick.

Spencer, C. S
1982 *The Cuicatlan Canada and Monte Alban: A study of Primary State Formation*. Academic Press, New York.

Spores, R.
1983 The Origin and Evolution of the Mixtec System of Social Stratification. In *The Cloud People*, edited by K. V. Flannery and J. Marcus, pp. 227-38. Academic Press, New York.

Smith, Carol A.
1976 Exchange Systems and the Spatial Distribution of Elites: The Organization of Stratification of Agrarian Societies. In *Regional Analysis: Volume II, Social Systems*, edited by C. A. Smith, pp. 309-74. Academic Press, New York.

Smith, Mike E.
1987 Household Possessions and Wealth in Agrarian States: Implications for Archaeology. *Journal of Anthropological Archaeology* 6(4):297-335.

Smith, M. F., Jr.
1985 Toward an Economic Interpretation of Ceramics; Relating Vessel Size and Shape to Use. In *Decoding Prehistoric Ceramics*, edited by B. A. Nelson, pp. 254-329. Southern Illinois University Press, Carbondale, Il.

Smith, R. E.
1955 *Ceramic Sequence at Uaxactun, Guatemala*, 2 Vols. Middle American Research

Institute, Pub. 20, Tulane University, New Orleans.
1971 *The Pottery of Mayapan Including Studies of Ceramic Material from Uxmul, Kabah, and Chichen Itza.* Papers of the Peabody Museum of Archaeology and Ethnology Vol. 66. Harvard University, Cambridge, Mass.

Spriggs, Mathew
1984 *Marxist Perspectives in Archaeology.* Cambridge University Press, Cambridge.

Stephens, John Lloyd
1993 *Incidents of Travel in Central America, Chiapas, and Yucatan.* New edition by Karl Ackerman, Smithsonian Institution Press, Washington and London.

Stuart, D.
1988 The Río Azul Cacao Pot; Epigraphic Observations on the Function of a Maya Ceramic Vessel. *Antiquity* 62: 153-7.
1989 *The "First Ruler" on Stela 24.* Copan Notes No. 7.

Stuart, D. and Linda Schele
1986 *Yax-K'uk-Mo, the Founder of the Lineage of Copan.* Copan Notes No.6.

Super, John C.
1988 *Food, Conquest, and Colonization in Sixteenth-Century Spanish America.* University of New Mexico Press, Albuquerque.

Tambiah, Stanley J.
1976 *World Conquer and World Renouncer: A Study of Buddhism and Polity in Thailand against a Historical Background.* Cambridge University Press, Cambridge.
1977 The Galactic Polity: The Structure of Traditional Kingdoms in Southeast Asia. In *Anthropology and the Climate of Opinion*, edited by S. A. Freed, pp. 69-97. Annals New York Academy of Sciences, Vol. 293, New York.

Taschek, J. and J. Ball
1992 Lord Smoke-Squirrel's Cacao Cup: The Archaeological Context and Socio-Historical Significance of the Buenavista "Jauncy Vase". In *The Maya Vase Book, Vol. 3.* Published by Kerr Associates, New York.

Tate, C.
1992 *Yaxchilan: The Design of a Maya Ceremonial City.* University of Texas Press, Austin.

Taube, Karl
1989 The Maize Tamale in Classic Maya Diet, Epigraphy, and Art. *American Antiquity* 54(1):31-51.

Thompson, J. E. S.
1939 *Excavations at San Jose, British Honduras.* Carnegie Institution of Washington Publication 506, Washington D. C.
1940 *Late Ceramic Horizons at Benque Viejo, British Honduras.* Carnegie Institution of Washington Pub. 528. Contributions to American Anthropology and History, No. 35. Washington D. C.

Thompson, R. E.
1958 *Modern Yucatecan Maya Pottery Making.* Memoirs of the Society for American Archaeology, Vol. 23 (4), part 2. Salt Lake City, Utah.

Tourtellot, Gair III
1988 Peripheral Survey and Excavation Settlement and Community Patterns. *Excavations at Seibal.* Peabody Museum of Archaeology and Ethnology, Harvard University.

Tourtellot, Gair III and Jeremony A. Sabloff
1972 Exchange Systems among the Ancient Maya. *American Antiquity* 37(1):126-135.

Tozzer, A.M.
1941 *Landa's Relacion de las Cosas de Yucatan.* Peabody Museum of Archaeological and Ethnology, Harvard University, Papers 4(3). Cambridge, Mass.

Upham, S., K. G. Lightfoot, and G. Feinman
1981 Explaining Socially Determined Ceramic Distributions in the Prehistoric Plateau Southwest. *American Antiquity* 46:822-833.

VandenBosch, J. C.
1992 Excavation of Rubble Mound Features in the Periphery. In *Xunantunich Archaeological Project: 1992 Field Season,* edited by R M. Leventhal, pp. 84-109. Los Angeles, Ca. and Belmopan.
1993 Excavations of San Lorenzo's Linear and Cobble Mounds. In *Xunantunich Archaeological Project: 1993 Field Season*, edited by R. M. Leventhal, pp. 148-171. Los Angeles, CA. and Belmopan.

van Zantjwick, Rudolph
1985 *The Aztec Arrangement.* University of Oklahoma, Norman.

Vincent, Joan
1978 Political Anthropology: Manipulative Strategies. *Annual Review of Anthropology* 7: 175-194.

Vogt, Evon Z.

1976 *Tortillas for the Gods: A Symbolic Analysis of Zinacanteco Rituals*. Harvard University Press, Cambridge, Eng.
1983 Ancient and Contemporary Maya Settlement Patterns: A New Look from the Chiapas Highlands. In *Prehistoric Settlement Patterns: Essays in Honor of Gordon R. Willey*. edited by E. Z. Vogt and R. M. Leventhal, pp. 89-114. PMAE and University of New Mexico Press, Cambridge Mass.

Walkey, J.
1994 Xunantunich Archaeological Reserve Survey: 1994. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R. M. Leventhal, pp. 93-100. Los Angeles, Ca. and Belmopan.

Webb, M. C.
1973 The Peten Maya Decline Viewed in the Perspective of State Formation. In *The Classic Maya Collapse*, Edited by T. P. Culbert, , pp. 367-404. School of American Research Advanced Seminar Series, University of New Mexico Press, Albuquerque.

Weber, M.
1968 *Economy and Society*. Academic Press, New York.

Webster, David
1975 Warfare and the Evolution of the State: A Reconsideration. *American Antiquity* 40:464-70.
1976 On Theocracies. *American Anthropologist* 78:812-828.
1985 Surplus, Labor and Stress in Late Classic Maya Society. *Journal of anthropological Research* 41(4):375-99.
1992 Maya Elites: The Perspective from Copan. *In Mesoamerican Elites: An Archaeological Assessment*, edited by D. Z. Chase and A. F. Chase, pp. 135-156. University of Oklahoma Press, Norman and London.

Webster, D. and N. Gonlin
1988 Household Remains of the Humblest Maya. *Journal of Field Archaeology* 15:169-90.

Weeks, John
1988 Residential and Local Group Organization in the Maya Lowlands of Southwestern Campeche, Mexico: The Early Seventeenth Century. In *Household and Community in the Mesoamerican Past*. edited by R. Wilk and W. Ashmore, pp. 73-96. University of New Mexico Press, Albuquerque.

Weiner, Annette B.
1992 *Inalienable Possessions: The Paradox of Keeping-while-giving*. University of California Press, Berkeley.

Welsh, W. B. M.
1988 *An Analysis of Classic Lowland Maya Burials*. BAR International Series 409. British Archaeological Reports, Oxford.

Weismantel, Mary
1988 *Food, Gender, and Poverty in the Ecuadorian Andes*. University of Pennsylvania Press, Philadelphia.

Wilk, Richard R.
1983 Little House in the Jungle: The Causes of Variation in House Size among Modern Maya. *Journal of Anthropological Archaeology* 2:99-116
1984 Households in Process: Agricultural Change and Domestic Transformation among the Kekchi Maya of Belize. In *Households: Comparative and Historical Studies of the Domestic Group*, edited by R. Netting, R. Wilk, and E. Arnold. pp. 217-224. University of California Press, Albuquerque.
1988 Maya Household Organization: Evidence and Analogies. In *Household and Community in the Mesoamerican Past*, edited by R. Wilk and W. Ashmore, pp. 135-151. University of New Mexico Press, Albuquerque.

Willey, Gordon, W. R. Bullard, Jr., J. B. Glass and J. C. Gifford
1965 *Prehistoric Maya Settlement in the Belize Valley*, Papers of the Peabody Museum of Archaeology and Ethnology, Vol. 54. Harvard University, Cambridge.

Willey, Gordon and Richard Leventhal
1979 Prehistoric Settlement at Copan. In *Maya Archaeology and Ethnohistory*, edited by N. Hammond and G. Willey. pp. 75-102. University of Texas Press, Austin.

Wisdom, C.
1940 *The Chorti Indians of Guatemala*. University of Chicago Press, Chicago.

Wittfogel, Karl
1955 Developmental Aspects of Hydraulic Societies. In *Irrigation civilizations: A Comparative Study*. Social Science Monograph 1. Pan-American Union, Washington, D. C.

Wobst, H. Martin
1977 Stylistic Behavior and Information Exchange. In *For the Director:Research Essays in Honor of James B. Griffin*, edited by C. Cleland, pp. 317-42. University of Michigan Museum of Anthropology, Anthropological Paper 61.

Wolf, Eric R.
1966 *Peasants*. Englewood Cliffs, Prentice-Hall, NJ.
1982 *Europe and the People without History*. University of California Press, Berkeley.

Woods, W. I., G. R. Holley, and R. A. Dalan
1993 *Dynamic Geomorphology and Prehistoric Settlement within the Rio Mopan Study Area, Western Belize*. Paper presented at the Belize Conference, Jacksonville, FL.

Yaeger, Jason
1992 Xunantunich Settlement Survey. In *Xunantunich Archaeological Project: 1992 Field Season*, edited by R M. Leventhal, pp. 110-126. Los Angeles, Ca. and Belmopan.
1994 1994 Fieldwork at San Lorenzo: Excavations at an Outlier Community. In *Xunantunich Archaeological Project: 1994 Field Season*, edited by R M. Leventhal, pp. 123-47. Los Angeles, Ca. and Belmopan.

Yaeger, Jason and S. V. Connell
1993 Xunantunich Settlement Survey. In *Xunantunich Archaeological Project: 1993 Field Season*, edited by R. M. Leventhal, pp. 172-201. Los Angeles, CA. and Belmopan.

Yaeger, Jason and Lisa LeCount
1995 *Social Heterogeneity and Political Integration in a Terminal Classic Maya Community: On-going Research at San Lorenzo, Belize*. Paper presented at the 60th Annual Meeting, Society for American Archaeology, Minneapolis, Minnesota.

Zeleznik, Scott
1993 The 1993 Excavations and Consolidation of Structure A-1. In *Xunantunich Archaeological Project: 1993 Field Season*, edited by R. M. Leventhal, pp. 29-55. Los Angeles, CA. and Belmopan.

Appendix A: Provenience List and Cultural Context Codes

A.1 Data Organization and codes

Provenience: Operation, Suboperation, lot, and special feature information
Collection technique (CT): Y= screened, N= not screened
Depth of Analysis (DA): D=detailed, Q=quick sort

Cultural Context (CC) codes:

000 Unknown Contexts
- 010 Unknown
- 020 Mixed
- 090 Indeterminate

100 Surface
- 110 Disturbed surface
- 120 Undisturbed surface
- 130 Backdirt
- 140 Overburden
- 190 Indeterminate

200 Occupation
- 210 Material on top of plaza floor related to use
- 220 Material on top of structure floor related to use
- 230 Material on top of bench related to use
- 240 Terminal use debris
- 250 Collapse debris (often mixed with fill)
- 290 Indeterminate

300 Floors
- 310 Plaza floor
- 320 Plaza floor ballast
- 330 Structure floor
- 340 Structure floor ballast
- 350 Bench floor
- 360 Bench floor ballast
- 370 Ballcourt alley floor
- 380 Ballcourt alley floor ballast
- 390 Indeterminate

400 Fill
- 410 General fill
- 420 Fill below plaza floor
- 430 Fill below structure floor - no substructure
- 440 Fill below structure floor into sub-structure
- 450 Fill within bench
- 460 Fill within wall
- 490 Indeterminate
- 500 Refuse and midden
- 510 Refuse deposit - indeterminate

520 Refuse deposit - localized
530 Refuse deposit - non-localized
540 Midden - indeterminate
550 Midden - localized
560 Midden - non-localized
590 Indeterminate
600 Burials and features
700 Natural soil with artifacts

Phase designations codes
U = unknown
N = no diagnostics
P = Preclassic
EP = Early Classic
MP = Middle Preclassic
PP = Protoclassic
EC = Early Classic
LC = Late Classic
LCI = Late Classic I
LCII = Late Classic II
LCIIb = Late Classic IIb
TC = Terminal Classic
PC = Post Classic

. = roughly equal amount of diagnostics
+ = with the addition of some...

A.2 List of Operations and Suboperations used in household analyses

Op 5	Subop J	Xunantunich	Group D	Testpits south of platform
Op 20	Subops A-U	Xunantunich	Group D	Structure D-9
Op 21	Subops A-F	Xunantunich	Group D	Chultun 1
Op 22	Subops A-KK	Xunantunich	Group D	Structure D-7
Op 23	Subops A-Z	Xunantunich	Group D	Central platform
Op 26	Subops A-B	Xunantunich	Group D	Str. D-6 looter's trench
Op 71	Subops A-C	San Lorenzo	Site 22	Saddle, Structure 2 and 3
Op 74	Subops A-KK	Xunantunich	Group D	Front of Structure D-6
Op 105	Subops A-E	Xunantunich	Group D	Structure D-13
Op 107	Subops A-H	Xunantunich	Group D	Structure D-16
Op 110	Subops A-Y	San Lorenzo	Site 22	Structure 3, Front
Op 113	Subops A-H	San Lorenzo	Site 22	Structure 1, Back
Op 116	Subops A-0	Xunantunich	Group A	Structure A-23
Op 117	Subops A-L	Xunantunich	Group A	Structure A-25
Op 118	Subops A-C	Xunantunich	Group A	Off Terrace 2
Op 123	Subops A-F	Xunantunich	Group A	Structure 24

Op 129	Subops A-D	San Lorenzo	Site 22	Structure 2, Top
Op 130	Subops A-I	Xunantunich	Group D	Structure D-5
Op 136	Subops A-C	San Lorenzo	Site 20	
Op 137	Subop A	Xunantunich	Group D	Structure D-1
Op 138	Subops A-M	San Lorenzo	Site 31	
Op 139	Subops A-B	San Lorenzo	Site 25	
Op 142	Subops A-C	Xunantunich	Group D	Structure D-14
Op 143	Subops A-C	Xunantunich	Group D	Structure D-15
Op 146	Subops A-D	San Lorenzo	Site 24	
Op 211	Subops C,E-H, K-O, T	Xunantunich	Group B	Saddle, Structure B-1 & 2
Op 212	Subops A,B,D, J, L	San Lorenzo	Site 34	
Op 213	Subops B,C, D, F	San Lorenzo	Site 34	

Appendix B: The Xunantunich Initial Ceramic Catalogue from 1992 to 1995

The XAP ceramic catalogue is designed to facilitate comparison of pottery attributes and known ceramic types across lots. It is a hierarchically constructed computerized coding system structured to measure the frequency and weight of sherds which share attributes within a given provenience. Every sherd within a lot is characterized by composition, surface treatment, formal characteristics, decorative technique, and decorative motif.

Ceramic composition, defined as a combination of clay matrix and inclusion type, is identified by visual inspection of the clay body using a 10x hand lens. Compositional types containing mixtures of inclusions are classified by the most distinguishing material(s). This is most evident in the micaceous type which is composed predominantly of sand but contains highly distinctive micaceous inclusions. Six compositional types are distinguished: ash, non-ash (calcite temper which may include other inclusions), sand, Mars-orange, micaceous, and opaque carbonate (see Shepard 1940 for definition of opaque carbonate). I am fully aware that this general scheme does not record the full range of variation in paste color and temper. Paste color is not quantified at this initial analytical level since a number of complex factors such as firing time, temperature, and atmosphere, as well as the size, amount and distribution of impurities determines color (Rice 1987b:333). I also believe that more specific types should be defined using more refined petrographic analysis rather than subjectively splitting these types by visual inspection.

Surface treatment is characterized by surface finish, slip color, and paint color. Surface finish characterizes the final additions to the surface of vessel (matte, low polish, high polish, waxy, etc.). In this initial ceramic description, only the presence or absence of a slip and its most intensive surface treatment is recorded. Although this may not give a complete picture as to the location and variation of the slip on any one ceramic piece, it does provide a basic index of the overall quality of the slip. There may be as many as two slips on a vessel, in general, the primary slip is recorded first, then the secondary slip is recorded as a second slip. Due to weathering, many slipped sherds can not be classified as to the quality of their slip and therefore recorded as unknown. Up to three paints colors are recorded, there is no attempt to specific dominant color or sequence of application. As with slips, location of paint is not recorded. Slip and paint colors are nominally described.

Vessel forms are identified using Sabloff's (1975:227-27) established conventions for formal types. Plates, dishes, bowls, jars, and vases are defined by a ratio of vessel height to maximum diameter.

Plate Height is less than one-fifth its maximum diameter.
Dish Height is more than one-fifth but less than one-third its maximum diameter.
Bowl Height is more than one-third but no more than its maximum diameter; it may have a restricted or an unrestricted orifice.
Jar Height is greater than maximum diameter and has a neck.
Vase Height is greater than maximum diameter with a neck very narrow in comparison with its height and width.

Lid types, miniatures, figurines, worked sherds, and specialty forms, such as incensarios, chocolate pots, closed ollas, tecomates were also recorded. Most of these categories are based on previous forms recognized by Thompson, Sabloff, and,

especially, R. E. Smith at Uaxactun. Rims sherds are further classified by their stylistic variation using neck curvature and lip detail. Neck curvature is defined as the shape of should-to-rim curvature on necked vessels and the base-to-rim curvature on neckless vessels. This attribute helps define the different formal types within the broad categories of bowls, dishes, vases, and jars. The rim detail is designed to quantity known chronologically diagnostic forms such as Thompson's pie crust rim in the Terminal Classic (1950:11). Other secondary formal variation such as flange, ridge and angle types: spout types; handle types; foot types; and base types are recorded.

The decorative technique is quantified by using a hierarchically based set of decorative methods. Up to two techniques can be recorded. Like slips and paint color, there is no attempt to determine primacy in application. Basic decorative techniques include carving, incising, impressing, painting, appliquéing, tooling, modeling, and texturing. Within these techniques more specific information can be recorded; for example carving can be subdivided into plano-relief, molded-carved, or gouge-incised. R. E. Smith's definitions were used for describing decorative techniques (1955). Stylistic elements rendered by these techniques are described in general compositional terms such as single elements, simple repetitive designs, abstract/geometric forms, representative figures, glyphs, or composite designs. Ceramic type-varieties are recorded by a series of hierarchical codes. Ceramic group is the highest order followed by type and variety. In this way, if the particular type-varieties is unknown, recording can be achieved at the group level. In conjunction with individual variables, old types can be split into new varieties or totally new types can be formed.

B.2 Initial ceramic catalogue: Variables and column numbers

Lisa J. LeCount
January 21, 1996
Codes relevant for ceram92.dat, ceram93.dat, ceram94.dat, ceram95.dat, ceram96.dat

Variable	Column # (version92-5)	Column # (version96)
Op	1-4	
Subop	5-10	
Lot	11-13	
Special feature	14=D and #=15-17	14-15
Burial	18=B and #=19-21	
Special find	22=P and #=23-25	
Composition	26	17
Surface treatment	27	18
1st slip color	28	19
2nd slip color	29	20
1st paint color	30	21
2nd paint color	31	22
3rd paint color	32	23
Primary form	34-35	25-26
Neck curvature	36	27
Lip/rim detail	37-38	28-29
Flange, ridge & angle	40	31
Spouts	41	32
Handles	42	33
Foot form	43-44	34-35
Base	45	36
Primary decoration	47-48	38-39
Secondary decoration	49-50	40-41
Stylistic element	51	42
Ceramic type-variety	53-56	44-47
Frequency	59-62	50-53
Weight	64-68	55-59
Catalogue number	70-74	61-65
Comment	76-90	

B.3 Master codes

Temper and paste type

0. Unknown
1. Ash
2. Non-ash (Calcite tempers some mixed with sand)
3. Sand temper without mica, brown paste (May 12, 1993)
4. Mars Orange (Orange, fine and hard)
5. Micaceous material and sand with brown paste
6. White (opaque) calcite, homogenous

Surface finish

0. Eroded
1. Matte
2. Polished with low luster
3. Polish with "velvety" high luster
4. Polished waxy
5. Peten Gloss

First slip color

0. Eroded
1. No slip (paste color)
2. Black
3. Orange to Red
4. Light orange
5. Brown
6. White or cream
7. Smudged (black/gray)
8. Sierra Red (brown to red with black mottling)
9. Gray

Second slip color

0. Not present
1. Black
2. Red
3. Smudged
4. Light orange
5. Yellow
6. Orange

First paint color

0. Not present
1. Red
2. Black
3. White/cream
4. Blue

Second paint color

0. Not present
1. Red
2. Black

3. Orange
4. Blue

Third paint color

0. Not present
1. Red
2. Black
3. Orange
4. Blue
5. Brown
6. Yellow

Primary form

00. Unknown
01. Body only
02. Neck only
03. Unknown rim
04. Jar rim or pedestal base
10. Open form (Plate, dish, bowl or vase)
11. Plate
12. Dish
13. Bowl without constriction
14. Bowl with constriction
15. Vase
16. Thin walled open form (either a bowl or vase)
17. Cauldron
18. Canteen
20. Closed form (Jar, tecomate, etc)
21. Jar - restricted
22. Jar - unrestricted
23. Tecomates
24. Neckless ollas
30. Specialty forms
31. Comals
32. Incensarios
33. Drum
34. Incensario grate
35. Chocolate pot
36. Ear spool
37. Grater bowl/dish
38. Whistle
39. Mold
40. Lids
41. Flat
42. Truncated-conical
43. Scutate
44. Conical

45. Basin
46. Round
48. Incensario lid with handle
49. Possible incensario lid
50. Miniature
51. Plate
52. Dish
53. Bowl
54. Vase
55. Jar
56. Effigy
57 Incensario
60. Figurines
61. Anthromorph
62. Unknown Modeled Body Part
70. Worked sherds
71. Pendant (w\hole)
72. Sherd with prefired hole
73. Modified round disc
74. Spindle whorl (w\hole)
75. Bead
76. Worked edge (tool)
77. Modeled spindle whorl w/prefire incised decoration
78. Ornament
80. Baked clay mass
81. Raw clay chunks
90. Thompsons' "Masher"; Leventhals' incensario complex
91. Small round ball (Foot rattle)
92. Long cone, slightly outcurving
93. Short conical, straight column
94. Large cylindrical tube
99. Conical section

Neck curvature

0. Unknown or not measured
1. Flared
2. Outcurved
3. Hemispherical/Silhouette
4. Vertical
5. Rounded/Slightly Incurved
6. Inflared
7. Closed
8. Barrel shaped/tecomate

Lip and rim detail

0. Not measured
1. Pie crust (Thompson 1940:f42) BV IV

2. Flaring lips on jars (ibid:f43) BV IV
3. Flat lips on incurved bowls (ibid:f50) BV IV
4. Bowls w/ recurved rims (ibid:f51)
5. Widely flaring necked jars w\ flat lip sometime grooved (ibid:f52) BV IV
6. Outflaring necked jars w\ flat lip (ibid:f6q-t)
7. Highly beveled, smoothed lip on incurved bowl - predominately LCI (June 22, 1992)
8. Slightly beveled, tooled lip on incurved bowl - predominately LCII (July 14, 1992)
9. Exterior Rim offset (March 93)
10. Shouldered Bowl (April 21, 1993 - See Roaring Creek)

Flanges, ridges and angles

0. Absent
1. Flange
2. Medial flange
3. Basal flange
4. Z-angle
5. Basal angle
6. Basal ridge (Lateral ridge)
7. Lip flange
8. Interior offset (26 may 1992)
9. combination 6 and 8 (17 July 92)
10. Basal angle and interior offset (19 April 94)

Spouts

0. Absent
1. Unknown
2. Supported
3. Unsupported
4. Open
5. Tubular, support unknown
6. Nubbin
7. Effigy
9. Possible

Handles

0. Absent
1. Unknown
2. Strap (Vertical or Horizontal)
3. Rounded
4. Conical nubbin w/ hole (not perforated)
5. Nubbin with perforation
6. Incensario ladle handle
7. Modeled
8. Nubbin w/out perforation
9. Basket

Foot form

00. Absent
01. Join (may be either foot, handle or other attachment)
10. Foot Solid
11. Nubbin feet
12. Conical feet
13. Slab feet
14. Tau-shaped feet
15. Pedestal
16. Ring
17. Columnar
18. Truncated-cone (tall)
19. Truncated-cone (short)
20. Foot Hollow
21. Mammiform
22. Hemispherical
23. Bell-shaped
24. Oven-shaped
25. Conical
26. Bulbous
27. Nubbin
28. Columnar (Cylinder)
29. Effigy
30. Other
31. Hollow slab
32. Tall, solid slab

Base

0. None present
1. Present unknown
2. Flat
3. Round
4. Incurved
5. Truncated-conical
6. Flat with thickened basal angle
7. Vase base only
8. Countersunk circle (Thompson, f15)

First technique

00. Absent
10. Carving (see Smith 1955:42,43)
11. Plano-relief (Low relief)
12. Molded-carving
13. Gouge-incising
20. Incising
21. Shallow, sharp, prefired
22. Groove, prefired

23. Scratching, postfired
24. Deep, sharp, prefired
25. Post fired incising/impressing
26. Internal groove (July 13, 1993)
30. Impressing
31. Punctating
32. Notching
33. Stamping
34. Perforating
35. Patterned impressing
36. Cane stamping
40. Painting
41. Positive
42. Negative
43. Post fire
50. Appliqué
51. Spikes
52. Thin raised lines
53. Winged Face hand modeled
54. Ridge w/ notching
55. Ridge with incising
56. Ridge with incising and notching
57. Fillet
58. Impressed fillet
59. Impressed fillet smeared
60. Tooled
61. Chamfering
62. Fluting
63. Gadrooning
70. Modeling
71. Hand made
72. Mold made
80. Texturing
81. Striating
82. Irregular to regular drag marks
83. Stucco

Second technique (Same codes as above)

Stylistic element

0. Absent
1. Single element
2. Simple repetitive
3. Abstract/geometric
4. Representative
5. Pseudo-glyph

6. Composite glyph and geometric
7. Scenes, "Codex style"
8. Complex representative
9. Bands and Representative

CERAMIC GROUP, TYPE AND VARIETY

New Town Ceramic Complex

Ware Unspecified

0100 Augustine Ceramic Group
0110 Augustine Red:Augustine Variety
0120 Ramsey Incised:Ramsey Variety
0130 Mauger Gouged-incised:Mauger Variety
0140 Swallow Black-on-red:Swallow Variety
0150 Pek Polychrome:Pek Variety

0200 Paxcaman Ceramic Group
0210 Paxacaman Red:Paxcaman Variety
0220 Bluefield Gouged Incised:Bluefield Variety
0230 Ixpop Polychrome:Ixpop Variety

0300 Daylight Ceramic Group
0310 Daylight orange:Daylight Variety
0320 Daylight Orange:Darknight Variety
0330 White Creek Incised:White Creek Variety
0340 Amberhead Black-on-orange:Amberhead Variety

Chaple Unslipped Ware

0400 Maskall Ceramic Group
0410 Maskall Unslipped:Maskall Variety

Uaxactun Unslipped Ware

0500 More Force Ceramic Group
0510 More Force Unslipped:More Force Variety
0520 More Force Unslipped:Variety Unspecified-yellow
0530 More Force Unslipped:Variety Unsp.-Red filmed

Calabash Unslipped Ware

0600 Rio Juan Ceramic Group
0610 Rio Juan Unslipped:Variety Unspecified
0620 Rio Juan Unslipped:Rio Juan Variety

Spanish Lookout Ceramic Complex

Pine Ridge Carbonate Ware

1000 Dolphin Head Ceramic Group
1010 Dolphin Head Red:Dolphin Head variety
1020 Silver Creek Impressed

1100 Garbutt Creek Ceramic Group
1110 Garbutt Creek Red:Garbutt Creek Variety
1120 Garbutt Creek Red:Variety Unsp. (Brown-interior)

1130 Garbutt Creek Red:Paslow Variety
1140 Rubber Camp Brown:Rubber Camp Variety

1200 Vaca Falls Ceramic Group
1210 Vaca Falls Red:Vaca Falls Variety
1220 Kaway Impressed:Kaway Variety
1230 Kaway Impressed:Caller Creek Variety
1240 Duck Run Incised:Duck Run Variety
1250 Roaring Creek Red:Roaring Creek Variety

1300 Mount Maloney Ceramic Group
1310 Mount Maloney Black:Mount Maloney Variety

1400 Yalbac Ceramic Group
1410 Yalbac Smudged-brown:Yalbac Variety

British Honduras Volcanic Ash Ware
1500 Belize Ceramic Group
1510 Belize Red:Belize Variety
1511 Belize Red: Incised Variety
1520 Platon Punctated-incised:Platon Variety
1530 McRae Impressed:McRae Variety
1540 Gallinero Fluted:Gallinero Variety
1550 Martins Incised:Martin Variety
1560 Puhui-zibal Composite:Puhui-zibal Variety
1570 Montego Polychrome:Montego Variety

Vinaceous Tawny Ware
1600 Chunhuitz Ceramic Group
1610 Chunhuitz Orange:Variety Unspecified
1620 Xunantunich Black-on-orange:Variety Unspecified
1630 Benque Viejo Polychrome:Variety Unspecified

Uaxactun Unslipped Ware
1700 Tu-Tu Camp Group
1710 Tu-Tu Camp Striated:TuTu Camp Variety
1720 Tu-Tu Camp Striated:Tzimin Variety
1730 Tu-Tu Camp Striated:Variety Unspecified-Appliqued
1740 Tu-Tu Camp Striated:Variety Unspecified-Beaverdam

1800 Cayo Ceramic Group
1810 Cayo Unslipped:Cayo Variety
1820 Cayo Unslipped:Variety Unsp. (Buff-Appliqued)
1830 Cayo Unslipped:Variety Unsp. (Red-Appliqued)
1840 Cayo Unslipped:Variety Unsp. (Red slipped)
1850 Alexanders Unslipped:Alexanders Variety
1860 Alexanders Unslipped:Croja Variety
1870 Alexanders Unslipped:Beaverdam Variety

Peten Gloss Ware
2000 Meditation Ceramic Group
2010 Meditation Black:Meditation Variety

2100 Achote Ceramic Group

2110 Achote Black:Variety Unspecified
2120 Cubeta Incised:Varity Unspecified

2200 Palmar Ceramic Group
2210 Palmar Orange-polychrome:Variety Unspecified
2220 Zacatel Cream-polychrome:Variety Unspecified
2230 Paixban Buff-polychrome:Variety Unspecified
2240 Yuhactal Black-on-red:Variety Unspecified
2250 Tunich Red-on-orange:Tunich Variety

2300 Danta Ceramic Group
2310 Joyac Cream-polychrome:Variety Unspecified

2400 Asote Ceramic Group
2410 Torres Incised:Variety Unspecified

2500 Tialipa Ceramic Group
2510 Tialipa Brown:Variety Unspecified
2520 Canoa Incised:Varieties Unspecified
2530 Calabaso Gouged-Incised:Varieties Unspecified

2600 Nanzal Ceramic Group
2610 Corozal Incised:Varieties Unspecified

Tiger Run Ceramic Complex

Pine Ridge Carbonate Ware
3000 Mountain Pine Ceramic Group
3010 Mountain Pine Red:Mountain Pine Variety
3020 Guana Creek Impressed:Guana Creek Variety
3030 Mountain Pine Red:Old Jim Variety
3040 San Pedro Impressed:San Pedro Variety
3050 Rosario Incised:Rosario Variety
3060 Mount Pleasant Red:Mount Pleasant Variety
3070 Pascua Impressed:Pascua Variety

3100 Saturday Creek Ceramic Group
3110 Saturday Creek Polychrome:Saturday Creek Variety
3120 Saturday Creek Polychrome:Variety D
3130 Saturday Creek Polychrome:Variety F

Peten Gloss Ware
3200 Tasital Ceramic Group
3210 Gloria Impressed:Variety Unspecified

3300 Molino Ceramic Group
3310 Molino Black:Variety Unspecified

3400 Teakettle Bank Ceramic Group
3410 Teakettle Bank Black:Variety Unspecified
3420 Teakettle Bank Black:Teakettle Bank Variety
3430 Mangrove Brown-black:Mangrove Variety
3440 Limon Black-cream:Limon Variety

3500 Saxche Ceramic Group
3510 Saxche Orange-polychrome:Variety Unspecified
3520 Uacho Black-on-orange:Variety Unspecified
3530 Sibal Buff-polychrome:Variety Unspecified
3540 Juleki Cream-polychrome:Variety Unspecified

Ware Unspecified
3600 Sotero Ceramic Group
3610 Sotero Red-brown:Sotero Variety
3620 Silkgrass Fluted:Silkgrass Variety
3630 Orange-walk Incised:Orange-walk Variety
3640 Orange-walk Incised:Banana Bank Variety

3700 Macal Ceramic Group
3710 Macal Orange-red:Macal Variety
3720 Chambers Incised:Chambers Variety

Uaxactun Unslipped Ware
3800 Jones Camp Ceramic Group
3810 Jones Camp Striated:Jones Camp Variety
3820 Jones Camp Striated:Jones Camp Variety

3900 White Cliff Ceramic Group
3910 White Cliff Striated:Variety Unsp.-Brown
3920 White Cliff Striated:Variety Unsp.-Dark brown
3930 White Cliff Striated:Variety Unsp.-Red

4000 Zibal Ceramic Group
4010 Zibal Unslipped:Zibal Variety
4020 Zibal Unslipped:Variety Unsp.-Brown
4030 Zibal Unslipped:Variety Unsp.-Buff

Hermitage Ceramic Complex

Ware Unspecified
4500 Fowler Ceramic Group
4510 Fowler Orange-red:Fowler Variety
4520 Fowler Orange-red:Spring Camp Variety
4530 San Ignacio Red-on-brown:San Ignacio Variety

Peten Gloss Ware
4600 Minanha Ceramic Group
4610 Minanha Red:Minanha Variety
4620 Minanha Red:Rio Frio Variety
4630 St. Herman Impressed:St. Herman Variety

4700 Dos Hermanos Ceramic Group
4810 Dos Hermanos Red:Variety Unspecified
4920 Mahogany Creek Incised:Mahogany Creek Variety

5000 Balanza Ceramic Group
5010 Balanza Black:Variety Unspecified
5020 Balanza Black:Cadena Creek Variety
5030 Lucha Incised:Variety Unspecified

5040 Lucha Incised:Gallo-blanco Variety
5050 Paradero Fluted:Oak-burn Variety
5060 Eastern Branch Plain:eastern Branch Variety

5100 Pucte Ceramic Group
5110 Pucte Brown:Variety Unspecified
5120 Santa Teresa Incised:Santa Teresa Variety
5130 Chorro Fluted:Chorro Variety

5200 Actuncan Ceramic Group
5210 Actuncan Orange-polychrome:Actuncan Variety
5220 Actuncan Orange-polychrome:Blancaneau Variety
5230 Batellos Black-on-red:Variety Unspecified
5240 Boleta Black-on-orange:Variety Unspecified

5300 Dos Arroyos Ceramic Group
5310 Dos Arroyos Orange-polychrome:Dos Arroyos Variety
5320 Dos Arroyos Orange-polychrome:Variety A and H
5330 Dos Arroyos Orange-polychrome:Variety B
5340 Dos Arroyos Orange-polychrome:Variety E and E-2
5350 Dos Arroyos Orange-polychrome:Variety K
5360 Dos Arroyos Orange-polychrome:Variety L
5370 Caldero Buff-polychrome:Variety Unspecified
5380 Yaloche Cream-polychrome:Variety Unspecified

5400 Aguila Ceramic Group
5410 Aguila Orange:Variety Unspecified
5420 Pita Incised:Variety Unspecified

Uaxactun Unslipped Ware
5500 Mopan Ceramic Group
5510 Mopan Striated:Mopan Variety
5520 Mopan Striated:Variety White
5530 Mopan Striated:Variety Black, reed-impressed

5600 Socotz Ceramic Group
5610 Socotz Striated:Varieties Unspecified
5620 Socotz Striated:Socotz Variety
5630 Socotz Striated:Variety Dark brown
5640 Socotz Striated:Variety Buff
5650 Socotz Striated:Variety Gray
5660 Socotz Striated:Variety White
5670 Socotz Striated:Variety White appliqued

5700 White Cliff Group
5710 White Cliff Striated:White Cliff Variety
5720 White Cliff Striated:Variety White

Ware Unspecified
5800 Hewlett Bank Ceramic Group
5810 Hewlett Bank Unslipped:Hewlett Bank Variety

Floral Park Ceramic Complex

Holmul Orange Ware

6200 Aguacate Ceramic Group
6210 Aguacate Orange:Variety Unspecified
6220 Aguacate Orange:Aguacate Variety
6230 Aguacate Orange:Variety Thick-walled
6240 Aguacate Orange:Variety Matte finished
6250 Aguacate Orange:Ramonal Variety
6260 Aguacate Orange:Holja Variety
6270 Aguacate Orange:Privaccion Variety

6300 Aguacate Ceramic Group
6310 Guacamallo Red-on-orange:Guacamallo Variety
6320 Guacamallo Red-on-orange:Camalote Variety
6330 Gavilan Black-on-orange:Gavilan Variety
6340 Gavilan Black-on-orange:Sakan Variety
6350 Ixcanrio Orange-polychrome:Ixcanrio Variety
6360 Ixcanrio Orange-polychrome:Tikan Variety
6370 Coquericot Buff-polychrome:Coquericot Variety

Uaxactun Unslipped Ware

6400 Monkey Falls Ceramic Group
6410 Monkey Falls Striated:Variety Unspecified
6420 Monkey Falls Striated:Monkey Falls Variety
6430 Monkey Falls Striated:Variety Brown
6440 Monkey Falls Striated:Variety Red
6450 Monkey Falls Striated:Variety Orange

Tumbac Unslipped Ware

6500 Chan Pond Ceramic Group
6510 Chan Pond Unslipped:Variety Unspecified
6520 Chan Pond Unslipped:Chan Pond Variety
6530 Negroman Punctated-incised:Negroman Variety

Mount Hope Ceramic Complex

Paso Caballo Waxy Ware

6900 Quacco Creek Ceramic Group
6910 Quacco Creek Red:Quacco Creek Variety

7000 San Felipe Ceramic Group
7010 San Felipe Brown:San Felipe Variety
7020 San Antonio Golden-brown:San Antonio Variety
7030 San Antonio Golden-brown:Variety Orange-interior

7100 Sarteneja Ceramic Group
7110 Savannah Bank Usulutan:Savannah Bank Variety
7120 Sarteneja Usulutan:Variety Unspecified

7200 Escobal Ceramic Group
7210 Escobal Red-on-buff:Variety Unspecified

Gale Creek Red Ware

7300 Vaquero Creek Ceramic Group
7310 Vaquero Creek Red:Vaquero Creek Variety

7320 Vaquero Creek Red:Variety Thin-walled
7330 Bullet Tree Red-brown:Bullet Tree Variety

Uaxactun Unslipped Ware
7400 Stumped Creek Ceramic Group
7410 Stumped Creek Striated:Varieties Unspecified
7420 Stumped Creek Striated:Stumped Creek Variety

7500 Old River Ceramic Group
7510 Old River Unslipped:Variety Unspecified
7520 Old River Unslipped:Old River Variety

Barton Creek Ceramic Complex

Paso Caballo Waxy Ware
7900 Sierra Ceramic Group
7910 Sierra Red:Varieties Unspecified
7920 Sierra Red:Orange-paste Variety
7930 Sierra Red:Buff-paste Variety
7940 Sierra Red:Maroon Variety
7950 Sierra Red:Orange-double slip Variety
7960 Sierra Red:Society Hall Variety

8000 Sierra Ceramic Group
8010 Alta Mira Fluted:Variety Unspecified
8020 Laguna Verde Incised:Variety Unspecified
8030 Correlo Incised-dichrome:Variety Unspecified
8040 Repasto Black-on-red:Variety Unspecified

8100 "Happy Home Orange Ceramic Group"
8110 Happy Home Orange:Happy Home Variety

8200 Flor Ceramic Group
8210 Flor Cream:Varieties Unspecified
8220 Flor Cream:Variety H-3
8230 Flor Cream:Variety H-3, Black-paste
8240 Flor Cream:Variety H-4
8250 Accordian Incised:Variety Unspecified
8260 Mateo Red-on-cream:Variety Unspecified
8270 Iguana Creek White:Iguana Creek Variety

8300 Polvero Ceramic Group
8310 Polvero Balck:Varieties Unspecified
8320 Polvero Black:Variety G-2
8330 Polvero Black:Variety G-3
8340 Polvero Black:Variety G-4
8350 Polvero Black:Variety G-7
8360 Lechugal Incised:Macaw Bank Variety
8370 Never Delay Impressed-black:Never Delay Variety

Gale Creek Red Ware
8400 Hillbank Ceramic Group
8410 Hillbank Red:Variety Unspecified
8420 Hillbank Red:Hillbank Variety

8430 Hillbank Red:Variety Brown
8440 Hillbank Red:Variety Smudged-orange
8450 Hillbank Red:Variety White-striped
8460 Hillbank Red:Rockdondo Variety
8460 Starkey Incised:Starkey Variety

Uaxactun Unslipped Ware
8500 Sapote Ceramic Group
8510 Sapote Striated:Variety Unspecified
8520 Sapote Striated:Sapote Variety
8530 Sapote Striated:Variety Black-rimmed
8540 Sapote Striated:Variety Red-rimmed
8550 Sapote Striated:Variety Impressed
8560 Sapote Striated:Variety Impressed-appliqued
8570 Sapote Striated:Variety Deep Striated

8600 Paila Ceramic Group
8610 Paila Unslipped:Varieties Unspecified
8620 Red Bank Appliqued:Red Bank Variety
8630 Caves Branch Unslipped:Caves Branch Variety

Jenny Creek Ceramic Complex

Uaxactun Unslipped Ware
8900 Jocote Ceramic Group
8910 Jocote Orange-brown:Varieties Unspecified
8920 Jocote Orange-brown:Jocote Variety
8930 Jocote Orange-brown:Ambergris Variety
8940 Chacchinic Red-on-brown:Variety Unspecified
8950 Chacchinic Red-on-orange-brown:Chacchinic Variety
8960 Palma Daub:Variety Unspecified
8970 Palma Daub:Palma Variety

9000 Sayab Ceramic Group
9010 Sayab Daub-striated:Sayab Variety
9020 Sayab Daub-striated:Hulse Variety
9030 Cooma Striated:Cooma Variety

Mars Orange Ware
9100 Savana Ceramic Group
9110 Savana Orange:Variety unspecified
9120 Savana Orange:Rejolla Variety
9130 Savana Orange:Savana Variety
9140 Reforma Incised:Variety Unspecified
9150 Reforma Incised:Mucnal Variety
9160 Reforma Incised:Reforma Variety

Flores Waxy Ware
9200 Joventud Ceramic Group
9210 Sampoperro Red:Variety Unspecified
9220 Sampoperro Red:Sampoperro Variety
9230 Joventud Red:Variety Unspecified
9240 Black Rock Red:Black Rock Variety
9250 Pinola Creek Incised:Variety Unspecified

9260 Pinola Creek Incised:Pinola Creek Variety

9300 Pital Ceramic Group
9310 Pital Cream:Variety Unspecified
9320 Paso Danto Incised:Varities Unspecified

9400 Chunhinta Ceramic Group
9410 Chunhinta Black:Variety Unspecified
9420 Deprecio Incised:Deprecio Variety

Siebal Type Varieties

Uaxactun Ware
9500 Cambio Ceramic Group
9510 Pedregal Modeled:Appliqued Head Variety
9520 Miseria Appliqued:Variety Unspecified
9530 Miseria Appliqued:Hollow Handle Variety

Peten Gloss Ware
9700 Tinaja Red Ceramic Group
9710 Tinaja Red:Variety Unspecified
9720 Subin Red:Variety Unspecified
9730 Pantano Impressed:Pantano Variety
9740 Pantano Impressed:Stamped Variety
9750 Chaquiste Impressed:Variety Unspecified

Fine Orange Ware
9900 Altar Ceramic Group
9910 Pabellon Modeled-carved:Pabellon Variety
9920 Islas Gouged-incised:Islas Variety
9930 Cedro Gadrooned:Cedro Variety

Weights, measures and comments
Frequency
Weight
Catalogue number

Appendix C: Seriation Tables

Table C.1: Ware seriation tables

Provenience	71 B/1	71B/2	71B/3	71B/4	71B/5	71B/6	71/7
	Over-burden	Fall / midden	Floor 1 & Fill	Floor 2 & Fill	Floor 3	Fill	Floor 4 & Fill
Ash Ware	3.5	8.1	5.7	14.4	20.0	8.4	11.2
Calcite Ware	93.4	90.2	90.0	80.9	72.0	82.7	86.2
Micaceous Ware	2.0	0.3	0.3	0.6	4.0	4.2	1.4
Mars Orange Ware	1.1	0.3	0.2	2.4	0.0	3.9	1.0
Opaque Carbonate	0.0	1.0	3.7	1.8	4.0	0.8	0.3
Total sherds	456	296	940	716	25	358	1156

Provenience	18E/1	18E/2	18E/3	18E/4	18E/5	18E/6	18E/7
	Humus	Occup.	Ballast	Fill	Fill	Fill	Fill
Ash Ware	13.1	10.6	10.8	8.3	5.0	2.0	2.4
Calcite Ware	84.7	87.0	84.7	82.0	83.0	75.6	85.0
Micaceous Ware	1.1	0.0	0.6	3.8	6.5	10.9	8.6
Mars Orange Ware	0.0	0.0	1.2	3.8	0.5	1.7	0.9
Opaque Carbonate	1.1	1.2	2.9	5.2	5.0	9.9	3.2
Total sherds	176	246	1479	676	581	303	339

Provenience	18C/1	18C/2	18C/3	18C/4	18C/5	18C/6	18C/7
	Humus	Occup.	Floor	Fill	Fill	Fill	Fill
Ash Ware	2.7	6.3	3.2	10.9	12.5	9.3	5.0
Calcite Ware	93.2	93.8	80.6	73.4	77.4	78.7	88.4
Micaceous Ware	3.4	0.0	6.5	2.2	.8	.8	3.3
Mars Orange Ware	0.7	0.0	0.0	0.0	0.0	0.2	0.8
Opaque Carbonate	0.0	0.0	9.7	13.6	9.3	9.6	2.5
Total sherds	148	48	31	184	722	508	121

Table C.2: Decorative technique seriation tables

Provenience	71 B/1	71B/2	71B/3	71B/4	71B/5	71B/6	71/7
	Over-burden	Fall / midden	Floor 1 & Fill	Floor 2 & Fill	Floor 3	Fill	Floor 4 & Fill
spiked applique	0.2	0.3					
piecrust lip	0.2		0.1				
flaring lip	0.9	0.3					
carved	0.4						
notched ash ware				0.5			0.1
god face appliq.	0.2						
painted-tooled				0.1			
tooled				1.3			0.4
painted		0.3	1.2	0.1	8.0	1.4	1.9
punctate-incised				0.7	4.0	0.3	0.1
notched calciteware							
textured							0.1
incised	0.7	1.4	0.4	0.7		0.6	0.3
impressed	0.2						
unsp. applique	0.2			0.1			0.1
no decoration	96.9	97.6	98.3	96.4	88.0	97.8	97.1
total sherds	456	296	940	716	25	358	1156

Provenience	18E/1	18E/2	18E/3	18E/4	18E/5	18E/6	18E/7
	Humus	Occup.	Ballast	Fill	Fill	Fill	Fill
spiked applique							
piecrust lip							
flaring lip			0.2				
carved			0.1		0.2		
notched ashware			0.1				
god face appliq.							
painted-tooled			0.1				
tooled			0.3	0.4			
painted	0.6	0.8	1.2	2.8	1.9	3.0	6.5
punctate-incised				0.3	0.2		0.3
notched calciteware			0.1				
textured			0.1	0.4	0.3	0.3	0.3
incised	0.6		1.5	0.1		1.0	1.8
impressed							
unsp. applique				0.4			
no decoration	98.6	99.2	96.2	95.4	97.4	95.7	91.2
total sherds	176	246	1479	676	581	303	339

Table C.2: Decorative technique seriation tables continued

Provenience	18C/1	18C/2	18C/3	18C/4	18C/5	18C/6	18C/7
	Humus	Occup.	Floor	Fill	Fill	Fill	Fill
spiked applique							
piecrust lip							
flaring lip							
carved							
notched ash ware							
god face appliq.							
painted-tooled				0.5			
tooled							
painted		2.1	3.2	0.5	1.9	2.6	3.4
punctate-incised	0.7					0.2	0.8
notched calciteware					0.4	0.2	
textured				1.1	0.1		
incised					0.1	1.0	0.8
impressed					0.6		
unsp. applique			3.2			0.2	
no decoration	99.3	97.9	93.5	97.8	96.8	95.9	95.0
total sherds	148	48	31	184	722	508	121

Table C.3: Form seriation tables

Provenience	71 B/1	71B/2	71B/3	71B/4	71B/5	71B/6	71/7
	Over-burden	Fall / midden	Floor 1 & Fill	Floor 2 & Fill	Floor 3	Fill	Floor 4 & Fill
spiked censor	0.2	0.3					
rimmed bowl			0.1				0.2
vase-barrel			0.1				
modeled censor							
cylinder vase							
unsp. open forms	0.2	1.7	1.1	2.5		2.2	2.3
vertical	0.2			0.3		0.6	0.1
flaring			0.1	0.5			0.5
incurving cup							
silhouette form	0.4			0.2		0.6	1.4
w/ lateral ridge	0.2					0.3	0.4
closed olla	0.2			0.3		0.3	0.3
incurved bowl	2.9	1.4	1.6	5.4	4.0	3.6	5.5
unspec. jar	3.9	1.7	2.1	4.5	4.0	2.8	4.8
lids		0.1					0.4
other	0.6	0.7	0.5	0.3			0.1
bodies	91.0	94.3	94.3	85.9	92.0	89.7	84.2
total sherds	456	296	940	716	25	358	1156

Provenience	18E/1	18E/2	18E/3	18E/4	18E/5	18E/6	18E/7
	Humus	Occup.	Ballast	Fill	Fill	Fill	Fill
spiked censor							
rimmed bowl	0.6	0.4	0.1				
vase-barrel			0.1				
modeled censor							
cylinder vase			0.1	0.1			
unsp. open form	1.1		2.1	3.7	0.7	2.0	2.3
vertical			0.4	0.4	0.2		
flaring	1.7	0.4	1.0	0.1		0.3	
incurving cup				0.4			
silhouette form		0.1	0.9	1.2	1.7		2.7
w/ lateral ridge			0.3	1.2	1.5	3.3	0.6
closed olla			0.1				
incurved bowl	2.3	5.7	4.6	2.8	2.9	2.3	1.8
unsp. jar	2.3	0.8	3.4	1.0	1.5	3.0	2.4
lids					0.2		
other				0.3		0.3	
bodies	92.0	92.7	86.6	88.6	91.2	88.8	89.4
total sherds	176	246	1479	676	581	303	339

Table C.3: Form seriation tables continued

Provenience	18C/1	18C/2	18C/3	18C/4	18C/5	18C/6	18C/7
	Humus	Occup.	Floor	Fill	Fill	Fill	Fill
spiked censor							
rimmed bowl							
recurved rim					0.1		
vase-barrel					0.1		
modeled censor							
cylinder vase							
unsp. open form	1.4			0.5	1.2	2.0	1.7
vertical					0.1		
flaring					0.5	0.6	1.7
incurving cup					0.8		
silhouette form		2.1			0.1		1.7
w/ lateral ridge						0.6	0.8
closed olla					0.1	0.2	
incurved bowl	6.1	6.3		2.7	2.2	3.7	3.3
unsp. jar	1.4				1.5	1.6	0.8
lids							
other			3.2	4.9	0.5	0.4	0.8
bodies	91.2	91.7	96.8	91.8	92.4	90.9	89.3
total sherds	148	48	31	184	722	508	121

Table C.4: Ceramic group seriation tables

Provenience	71 B/1	71B/2	71B/3	71B/4	71B/5	71B/6	71/7
calcite ware eroded	88.2	81.4	63.1	63.1	52.0	10.1	60.8
plainware		2.0	6.7	4.3	4.0	8.9	10.4
black slip	4.4	5.7	18.5	11.5	16.0	10.1	12.2
Dolphin head			0.2	1.1		2.5	1.8
unsp. red slip	0.2	0.7	1.5	0.6		0.6	0.1
cream cream						0.3	0.4
polychrome							0.1
smudged						0.3	0.1
brown slip				0.3			0.2
ash ware eroded	1.8	2.7	1.4	3.9		2.0	2.3
orange/red	1.8	5.1	3.2	10.2	12.0	5.0	7.4
light orange							
cream slip							0.1*
black slip							
polychrome		0.3	1.2	0.3	8.0	1.4	1.4
opaque cal. ware er.		0.7	2.4	1.1	4.0	0.6	0.2
plainware						0.3	
red/orange		0.3	1.3	0.7			0.1
coarse wares	2.0	0.3	0.3	0.6	4.0	4.2	1.4
other	1.8	0.6	0.2	2.4		4.2	1.1
total sherds	456	296	940	716	25	358	1156

Provenience	18E/1	18E/2	18E/3	18E/4	18E/5	18E/6	18E/7
calcite ware eroded	80.1	74.4	38.7	31.8	39.1	16.5	24.5
plainware		2.4	23.5	22.2	21.0	22.4	20.1
black slip	2.3	7.7	16.6	14.8	11.2	16.5	17.1
Dolphin head	1.7		3.0	3.0	1.4	1.3	0.6
unsp. red slip	0.6	1.2	1.8	0.7	2.6	4.3	8.9
cream slip			0.2	3.3	4.5	6.6	4.4
polychrome			0.1	1.0	0.2	1.7	1.8
smudged		1.2		5.2	0.9	4.3	3.5
brown			0.7		2.2	2.0	4.1
ash ware eroded	7.4	8.5	2.4	3.1	1.4		0.3
orange/red	5.1	1.2	7.4	2.7	1.5	1.3	0.9
light orange				1.6	1.4	0.7	1.8
black slip					0.2		
polychrome	0.6	0.8	1.0	0.9	0.5		1.2
opaque cal. ware er.	1.1	0.8	1.4	3.6	2.8	6.3	1.8
plainware				1.3			
red/orange		0.4	1.4	0.1	2.4	3.6	1.5
coarse wares	1.1		0.6	3.8		10.9	8.6
other		1.2	0.9	0.7	0.5	1.7	0.9
total sherds	176	246	1479	676	581	303	339

Table C.4: Ceramic group seriation tables continued

Provenience	18C/1	18C/2	18C/3	18C/4	18C/5	18C/6	18C/7
	Humus	Occup.	Floor	Fill	Fill	Fill	Fill
calcite ware eroded	91.2	85.4	71.0	42.9	24.9	22.8	24.8
plainware				13.0	29.9	31.5	30.6
black slip	1.4	8.3	3.2	13.6	18.3	19.5	22.3
Dolphin head				3.3	3.2	3.9	9.1
unsp. red slip	0.7				0.4	0.2	0.8
cream cream				0.5	0.1	1.0*	
polychrome						0.8	0.8
brown slip					0.6	0.4	
smudged			9.7			0.2	
ash ware eroded	2.0	4.2		4.3	5.5	2.0	
orange/red	0.7		3.2	3.8	4.3	3.3	0.8
light orange				2.7	1.1	2.4	2.5
cream slip							
black slip					0.1	0.2	
polychrome		2.1			1.4	0.6	1.7
opaque cal. ware er.			3.2	4.9	3.5	5.1	0.8
plainware							
red/orange			3.2	8.7	5.8	4.6	1.7
coarse wares	4.1		6.5	2.2	0.8	1.0	3.3
other						1.6	0.8
total sherds	148	48	31	184	722	508	121

* includes cream slipped polychromes

Appendix D: Detailed Analysis Attributes and Codes

D.1 Attributes recorded

The detailed analysis was designed to standardize the recording of attributes and to measure additional variables on previously recorded rim sherds. The recording of new variables focused on understanding variation within wares at the group level, measuring formal attributes related to vessel size and type, and documenting labor investment required to produce types. These new data are linked to previously recorded datasets by catalogue id number.

Understanding variation within wares at the group level focused on recording inclusions and paste color. Inclusion sorting was recorded using a chart for pebble sorting (Orton et al. 1993:239). The scale ranged from very poor to very good and was determined by using a 10X hand lens. Since not all inclusions were the same size or shape, grain-size distribution of all inclusions was determined using a percentage inclusion estimation chart (Orton et al. 1993:238). Identification of inclusion type was performed with dilute hydrochloric acid which can identify calciferous materials (shell and calcite). Those inclusions which do not react are igneous-derived and can be either volcanic ash or quartz. Variation within each major inclusion group was achieved by using a 10X hand lens and the key to identifying inclusion type (Orton et al. 1993:236-7). Paste color was recorded using a Munsell color chart. The color of the paste is a product of the firing atmosphere which may alter several times during the firing cycle. Layering of colors from the core to the surface is not uncommon. Each layer corresponds to a different stage of the firing and the extent to which its effect has penetrated the fabric. Paste colors were determined for

firing core and both margins. Firing cloud color was especially noted since variation in ash ware paste colors may be determined by firing conditions rather than differences in clay source.

Formal measurements were taken on all rims that exhibited greater than 10% of rim diameter. All rims were measured for orifice size in order to understand variation in vessel size with a given type and form. Jars were additionally measured for collar diameter and neck height in order to determine formal categories related to function.

Lastly, attributes were recorded to document the number of task required to manufacture a given pottery type which includes the complexity of the design element. External and internal slip quality; external and internal paint number; evidence of special paints; location of decoration; and number of decorative techniques were tabulated for each rim. Variation in labor investment within types helped separate and define new varieties. External and internal slip color was also recorded using a Munsell color chart to document standardization in production of given types. Motif elements were sorted into categories (single element, geometrics, pseudo-glyphs, hieroglyphs, kin signs, abstract motif, representational elements, and figural scenes). Single, geometric, abstract, and representational elements were further sorted into groups based on number of actions used to produce the motif: simple element (3 strokes), moderate element (4-6 strokes), and difficult element (more than 6 strokes).

D.2 The Detailed Catalogue and its codes

Provenience (Column number)
- Operation (1-4)
- Subop (5-10)
- Lot (11-13)
- Special feature (14-15)

Catalogue Id # (16-20)
(links initial and detailed catalogues)

Ware (22-23)
- 0. Unknown
  - 0. Unknown
  - 1. Calcite
  - 2. Fine paste
- 1. Unslipped plain ware
  - 0. eroded
  - 1. Cayo Group
  - 2. Cambio Group
- 2. Other plain ware
  - 0. other
  - 1. Self-slip Coarse ware
  - 2. Sandy ware
- 3. Calcite red ware
  - 0. unknown
  - 1. Dolphin Head Group
  - 2. Vaca Falls Group
  - 3. Garbutt Group
- 4. Calcite black ware
  - 0. unknown
  - 1. Mount Maloney Group
  - 2. unknown polished
- 5. Opaque carbonate ware
- 6. Ash ware
  - 0. unknown
  - 1. Belize Red Group
  - 2. Chunhuitz Orange Group
  - 3. Black slipped
  - 4. Light orange
  - 5. White slipped
- 7. Other Polychrome
  - 0. unknown
  - 1. White slip (Calcite)

2. Vinaceous Tawny
3. Double slip yellow
4. Holmul Style

8. Other Special Groups
0. unknown special
1. Sotero
2. Fine Orange Ware

Form (25-26)

Primary form

00. Unknown
01. Body only
02. Neck only
03. Unknown rim
04. Jar rim or pedestal base
10. Open form (Plate, dish, bowl or vase)
11. Plate (Height less than 1/5 its diameter)
12. Dish (Height between 1/3 and 1/5 its diameter)
13. Bowl without constriction (Height no more than equal but no less than 1/3 of its diameter)
14. Bowl with constriction (Height no more than equal but no less than 1/3 of its diameter)
15. Vase (An unrestricted or simple restricted)
16. Thin walled open form (either a bowl or vase)
17. Cauldron
18. Canteen
20. Closed form (Jar, tecomate, etc.)
21. Jar - unknown restricted
22. Jar - unknown unrestricted
23. Tecomates
24. Neckless ollas
25. Tall necked, open collar jars
26. Tall necked, constricted collar jars
27. Short necked, open collar jars
28. Short necked, constricted jar
30. Specialty forms
31. Comals
32. Unknown censors
33. Drum
34. spiked censor
35. flanged censor
36. Lip to lip
37. Brandy snifter
38. Pryoform
40. Lids

41. Flat
42. Truncated-conical
43. Scutate
44. Conical
45. Basin
46. Round
47.
48. Incensario lid with handle
49. Possible incensario lid
50. Miniature
51. Plate
52. Dish
53. Bowl
54. Vase
55. Jar
56. Effigy
60. Special items
61. Large hemispherical bowl (Plainware lip to lip?)
62. Vase, cylinder, calcite with tooled band

Rim curvature (27)

0. Unknown or not measured
1. Flared
2. Outcurved
3. Simple Silhouette
4. Vertical
5. Incurved
6. Inflared
7. Closed
8. Barrel shaped/tecomate
9. Round or hemispherical

Lip and rim detail (28-29)

0. Not measured
1. Pie crust (Thompson 1940:f42) BV IV
2. Flaring lips on jars (ibid: f43) BV IV
3. Terminal lips on MMB incurved bowls
4. Bowls w/ recurved rims (ibid: f51)
5. Widely flaring necked jars w\ flat lip sometime grooved (ibid: f52) BV IV
6. Outflaring necked jars w\ flat lip (ibid: f6q-t)
7. LCI vertical, smoothed lip MMB incurved bowl
8. LCII beveled lip MMB incurved bowl
9. Exterior Rim offset
10. Shouldered Bowl (See Roaring Creek)
11. Alexander style lips

12. Beaverdam style lips
13. Pinched
14. Tall, gentle outcurving rims

Ridges and angles (30)

0. Absent
1. Basal angle
2. Basal corner
3. Lateral ridge
4. Interior offset
5. Exterior offset
6. Basal angle and interior offset
7. Carinated body
8. Basal angle and exterior offset
9. Interior and exterior offset

Foot form (31-32)

00. Absent
01. Join
10. Foot Solid
11. Nubbin feet
12. Conical feet
13. Slab feet
14. Tau-shaped feet
15. Pedestal
16. Ring
17. Columnar
18. Truncated-cone (tall)
19. Truncated-cone (short)
20. Foot Hollow
21. Mammiform
22. Hemispherical
23. Bell-shaped
24. Oven-shaped
25. Conical
26. Bulbous
27. Nubbin
28. Columnar (Cylinder)
29. Effigy
30. Other
31. Hollow slab
32. Tall, solid slab

Base (33)

0. None present
1. Present unknown
2. Flat

3. Round
4. Incurved
5. Truncated-conical
6. Flat with thickened basal angle
7. Vase base only
8. Countersunk circle (ibid: f15)
9. Incensario base

External Slip (35)

0. Eroded
1. no slip, matte
2. slip, low polish
3. slip, high polish
4. slip, matte
5. no slip, low polish
6. no slip, high polish

Internal Slip (36)

Same as above

External paint (37)

0. none
1. 1
2. 2
3. 3
4. 4
9. eroded

Internal paint (38)

Same as above

Special paint (39)

1. Postfire blue
2. fills of brown, white, light orange
3. Specular red
4. Specular red and fills
5. Postfire blue and fills

Rim diameter columns 41-42

Collar diameter columns 44-45

Neck height column 47-50

Decorative location (52)

0. None
1. External
2. Internal
3. Both
9. Eroded

Decorative technique (53-54)

0. Absent

1. Carving
    1. Plano relief
    2. Model-carved
    3. Gouge incising
2. Incising
    0. Unknown
    1. Fine line
    2. Grooved
    3. Fine line and grooved
    4. scratched
3. Impressing
    1. Punctating
    2. Notching
    3. Stamping
    4. Perforating
    5. Patterned impressing
    6. Cane stamping
4. Painting
    0. Unknown
    1. Prefire
    2. Negative
    3. Postfire
    4. Painting and fluting
    5. painting and groove incising
    6. painting and notched basal appliqué
5. Appliqués
    1. Basal appliqué
    2. Decorative element
    3. Notched basal appliqué
    4. Notched, incised basal appliqué
    5. Fillet
    6. Fillet with secondary technique
    7. Spike
6. Tooled
    1. Chamfering
    2. Fluting
    3. Gadrooning
7. Modeling
    0. Unknown
    1. Hand modeled
    2. Mold made
8. Texturing
    1. Striating
    2. Stucco

3. Smearing

9. Multiple tooling techniques
   1. Impressing, smearing
   2. Notched and groove incised
   3. Groove incised and punctated
   4. Groove incised and fluted
   5. Tooled, groove incised or punctated
   6. Appliqué w/ non-associated groove incised
   7. Notched basal angle with non-associated incising
   8. Notched, incised basal angle with non-associated incising
   9. Notched, incised basal angle with additional punctuates & incising

Motif elements (55-56)

0. Unknown
1. Single element
   1. Simple element (3 strokes)
   2. Moderate element (4-6 strokes)
   3. Difficult element (more than 6 strokes)
2. Bands
   1. Simple geometric
   2. Complex geometric
   3. Pseudo glyph
   4. Poss. real glyph
3. Kin glyphs
   1. Simple
   2. Complex
4. Abstract
   1. Simple
   2. Complex
5. Representational
   1. Simple
   2. Complex
6. Scenes
   1. Figures without glyphs
   2. Figures with glyphs

Appendix E: Pottery Group, Type, and Variety Descriptions

LATE CLASSIC II CERAMIC ASSEMBLAGE

Uaxactun Unslipped Ware

- Cayo Ceramic Group
  - Alexander Type
    1. Large Jars
       - Tall, constricted necks
       - Tall, open necks
    2. Small jars
       - Tall, constricted necks
       - Open, short necks
    3. Large flaring bowls
    4. Tecomates
    5. Closed ollas
    6. Lip to lip vessels
    7. Lids
       - Conical
       - Rounded
    8. others
       - Miniatures
- Tu-Tu Camp Ceramic Group
  - Tu-Tu Camp Striated Type
    1. Small jars
       - Open, short necks
- Cambio Ceramic Group
  - Pedregal Modeled Type
    1. Flanged, appliquéd censers
    2. Censer ladles and plugs
    3. Lids
       - Basin form: plain or incised
       - Flat form: modeled

Pine Ridge Carbonate Ware

- Dolphin Head Group
  - Dolphin Head Red Type
    1. Plates
       - Flared rim: plain
       - Simple silhouette rim: plain
       - Outcurved rim: incised
    2. Dishes
       - Outcurved rim: plain, incised
    3. Bowls
       - Outcurved rim: plain or incised
       - Incurved rim: plain
  - Silver Creek Impressed Type
    1. Plates, Dishes, and Bowls
       - Outcurved rim: notched basal angle
- Mount Maloney Group
  - Mount Maloney Type
    1. Bowls
       - Incurved: plain LCII variety
       - Deep: plain

2. Jars
Tall, constricted neck: LCII variety
Short, open neck: plain
3. Closed olla: plain or incised
4. Tecomates: plain or incised
5. Vases
Incurved: plain
6. Plates
Simple Silhouette: plain
7. Drums: plain
8. Miniatures (Candelarios): plain

***Opaque Carbonate Ware**

*Chial Ceramic Group

*Chial Orange-red Type

1. Small jars
Tall, constricted neck: plain or incised
2. Large jars
Tall, constricted neck: plain
3. Drums: plain or polychrome
4. Brandy snifters: plain
5. Closed ollas: incised
6. Tecomates: incised
7. Vases: plain
8. Lids: plain

British Honduras Ash Ware

Belize Red Ceramic Group

Belize Red Type

1. Plates
Flared or outcurved rim
Simple silhouette rim
2. Dishes
Flared or outcurved rim
3. Bowls
Incurved rim
Hemispherical
4. Vases
Cylinder
Pyroform
5. Jars
Short, constricted neck

Platon Punctated-incised Type

1. Plates
Flared or outcurved rim: incised
Simple silhouette: punctated and incised
2. Dishes
Flared or outcurved rim: incised
3. Bowls
Incurved rim with ring base: incised
Hemispherical: punctated and incised
4. Vases
Cylinder: incised
Pyroform: incised

5. Jars
Short, constricted neck: incised
Gallinero Fluted Type
1. Bowls
Hemispherical
2. Vases
Cylinder
Barrel shaped
Martins Incised Type
1. Vases
Barrel shaped: fine-line glyphs
Big Falls Gouge-incised Type
1. Vases
Barrel shaped: gouge incised glyphs
Puhui-zibal Composite Type
1. Vases
Cylinder: carved glyphs and painted lines
McRae Impressed Type
1. Dishes
Flared rim with slab feet
Type unspecified
1. Bowls
Incurved rim: appliquéd with ring base
2. Jars
Closed: effigy spouts
*San Lorenzo Black Group
*San Lorenzo Black Type
1. Cylinder vases: channel-groove incised
2. Bowls: channel-groove incised

Vinaceous Tawny Ash Ware

Chunhuitz Ceramic Group
Benque Viejo Polychrome Type
1. Plates
Flared
Hemispherical
2. Dishes
Flared
3. Bowls
Flared: painted or painted and fluted
Incurved
4. Vases
Cylinder
5. Jars
Xunantunich Black-on-orange Type
1. Bowls
Hemispherical
*Vinaceous Tawny Polychrome-on-natural Type
1. Bowls
Flared or outcurved rim
White-slip (Anonal?) Polychrome Type
1. Red/orange on cream polychrome
Bowls
Hemispherical

Outflaring rim
2. Red/black on cream polychrome (type unspec.)
Bowls
Flaring rim
Hemispherical rim

Peten Gloss Ware
Palmar Ceramic Group
Palmar Orange-polychrome Type
1. Vases: glyph and figure painting
Holmul Cream style (type unspec.)
1. Unknown
Zacatel Cream-polychrome style: crushed volcanic temper (type unspec.)
1. Bowl
Flared rim
2. Jars
3. Vases
Cylinder: glyph painting

Special items
1. Figurines and molds
2. Post-fire painting

TERMINAL CERAMIC ASSEMBLAGE

Uaxactun Unslipped Ware
Cayo Ceramic Group
Alexander Type
1. Large jars
Tall, open necks
Piecrust lip variety
Flaring lip variety
2. Closed ollas
Cambio Ceramic Group
Miseria Appliquéd Type
1. Incensarios
2. Lids
Basin: plain or incised

Tumbac Unslipped Ware
*Macaw Bank Group
*Micaceous Self-slipped Type
1. Short, open necked jars
2. Closed ollas
3. Incensarios

Pine Ridge Carbonate Ware
Vaca Falls Group
Kaway Impressed Type
1. Incurving bowls: plain or fingernail punctations
Roaring Creek Red Type
1. Shouldered bowls: plain
2. Short, constricted necked jars: plain
3. Carinated bowls: plain (Tinaja Red style)
Mount Maloney Group
Mount Maloney Type
1. Bowls
Incurved: TC variety

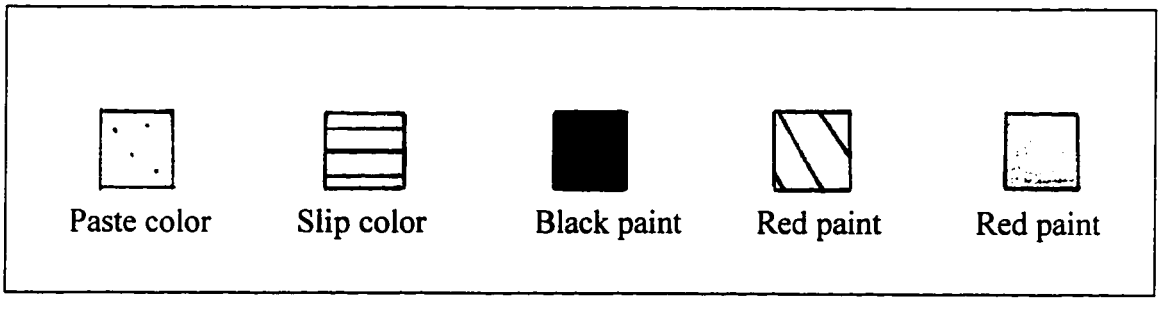
Rimmed
2. Closed ollas
3. Jars
Tall, constricted neck: TC variety
Tall, open neck
Garbutt Creek Group
Garbutt Creek Red Type
1. Incurving bowl: plain

British Honduras Ash Ware
Belize Red Group
Platon Punctated-incised Type
1. Dishes
Flared rim: Incised
2. Bowls
Rimmed: punctated-incised
Hemispherical: punctated-incised
Incurved rim: incised
3. Vases
Barrel shaped: TC variety
McRae Impressed Type
1. Dishes
Flared or outcurved rim: appliquéd, notched basal angle with oven feet
2. Bowls
Incurved: appliquéd, notched basal angle
3. Vases
Barrel-shaped: notched, incised appliqué

Vinaceous Tawny Ware
Chunhuitz Ceramic Group
Chunhuitz Orange Type
1. Bowls
Flared rim
Incurved rim

Fine Orange Ware
Altar Group
Cedro Gadrooned Type
1. Necked Vase
Pabellon Model-carved style (type unspec.)
1. Vase?

Figure E.1: Key to pottery surface color in all illustrations

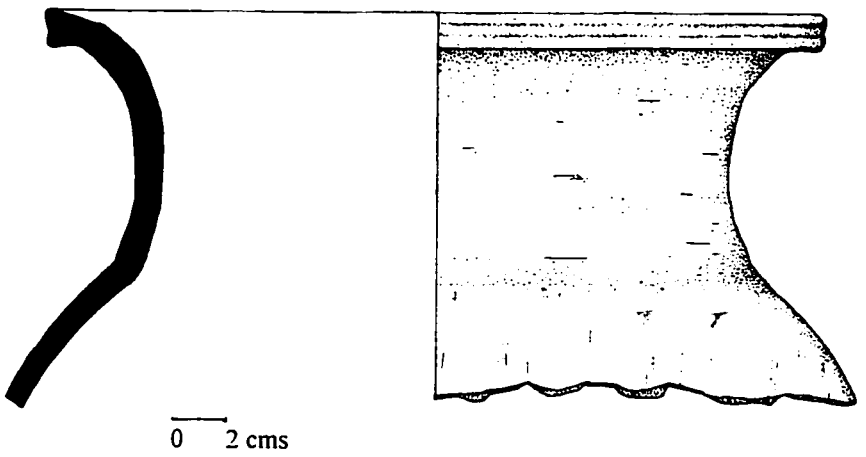


Uaxactun Unslipped Ware

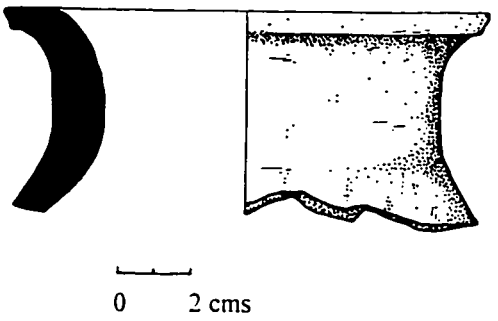
Unslipped plain ware at Xunantunich is identified by its wiped, matte brown to light, grayish surface indicative of its calcite tempered brown paste. Most plain ware types are members of the Cayo Ceramic Group -- a component of Uaxactun Unslipped ware. Plain ware is produced in large, thick walled forms carelessly wiped around the rim. Near or below the collar exteriors exhibit non-patterned striations and drag marks. Fire clouding, calcite speckling, and inclusions protruding through the surface finish are common and adds to the irregular appearance of the surface.

The paste is generally light brown with less than fifty percent of all sherds exhibiting firing cores. Paste colors range from light gray or pale brown to brown (10 YR 4/3; 5/2-4; 6/2-6; 7/2; to 7.5 YR 4/2; 5/3-6; and 6/3-6) -- exemplary of the Cayo Ceramic Group. However, some forms, such as large flaring bowls, censers, and lids, exhibit more red or reddish brown pastes (7.5 YR, 5 YR, or 2.5 YR hues within 5/4-8 value and chroma) and are defined as members of the Cambio Ceramic Group. In both groups, gray core colors range from 10 YR 3/1-2; 4/1-2; 5/1-3; to 6/2. Tempering material is fair to poorly sorted, large (.5 to 3 mm), abundant (usually 40 % of paste) calcite and limestone inclusions with occasional magnetic pellets, granitic fragments, and other coarse materials.

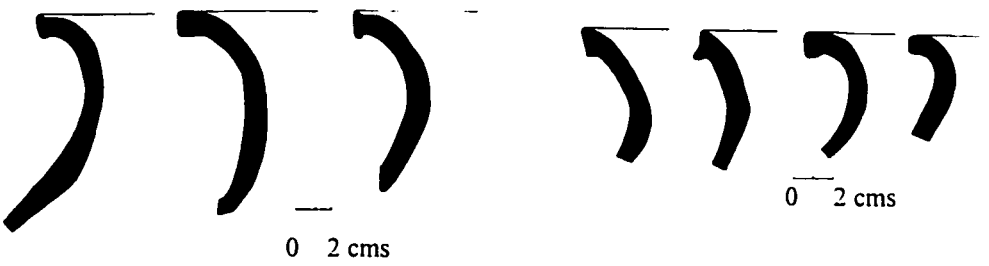
Plain ware is commonly produced in large jars and censers. During the LCII period, the most common jar type is the large, tall necked, open mouthed Alexander Type: Alexander Variety with its square lip sometimes grooved along its vertical face (Figure E. 2a). Large constricted jars with high necks and narrow collars, however, can also be found within this variety (Figure E. 2b). The very large, thick walled Alexander Type:



a.

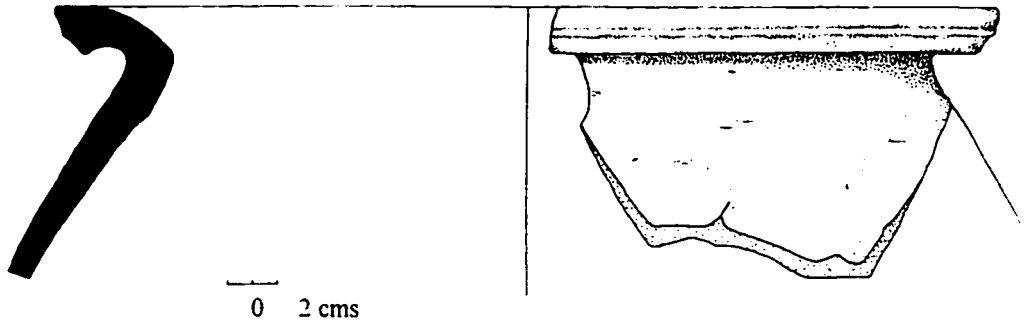


b.

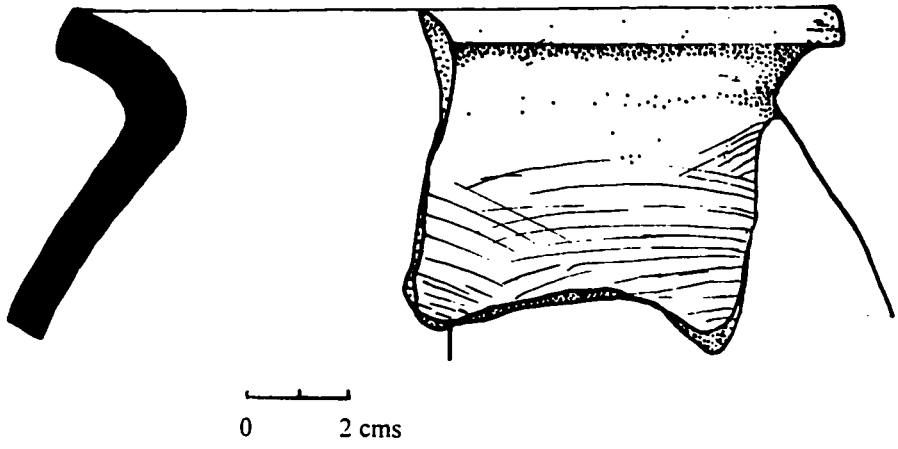


c.

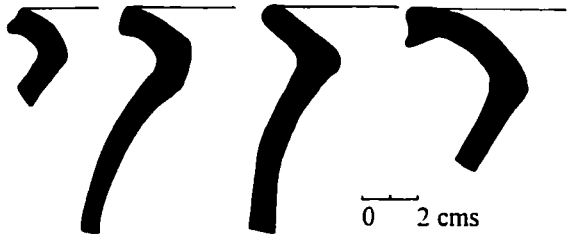
Figure E.2: Cayo Unslipped Type jars. Large open jar (117A/2.10523) a.; small open jar (117 F/2.12929) b.; rim variations (117 I/4.10658; 117 A/2.10522; 85J/1.6458; 76 H/1.8000; 85G/1.6279; 117C/2.10581; 95 H/3.8745) c.; left to right.



a.



b.

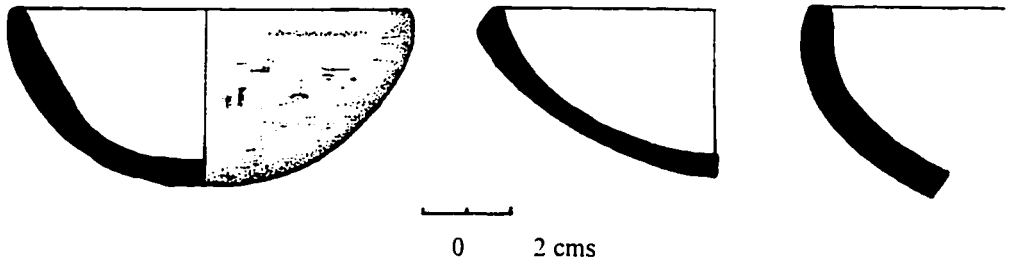


c.

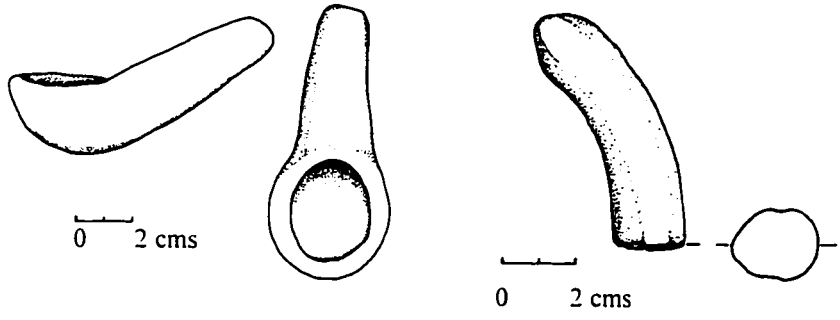
Figure E.3: Open jars with short necks. Alexander Type, Beaverdam Variety (123C/4.11332) a.; Tu-Tu Camp Striated Type (123C/4.11335) b.; rim variation (85M/2.6634; 123A/8.11217; 74Z/1.11720; 90C/2.10210) c.; left to right.

Beaverdam Variety has a short neck and open mouth with an elaborated lip much like that of the Alexander Variety (Figure E. 3a). Lastly, a few jars with short necks and open collars exhibit patterned striations along the shoulder. These moderately-sized jars are a variety of Tu-Tu Camp Ceramic Group (Figure E. 3b). During the Terminal period, open jars exhibit flaring lips with or without pie crust appliqués (Figure 5.3). Flaring rims without pie crust lips may have originated earlier during the LCIIb period, but they are most commonly associated with the Terminal period.

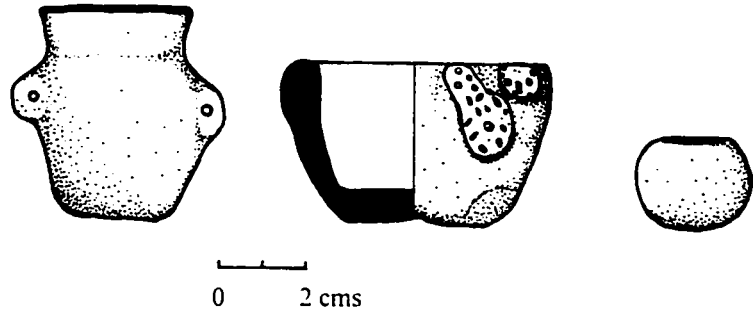
Many plain ware vessels have ritual functions. Late Classic incensarios are cylindrical vessels with slightly outcurving rims, a form which can be easily mistaken for a jar. Xunantunich censers are stylistically similar to Seibal's Pedregal Type: Appliquéd Head Variety (Figure 7.5) with their crudely modeled faces and appliquéd ear flanges (Sabloff 1975: Fig 217-225). Censer bases have prefired circular holes to allow air into the low, pedestal base; bases and lids are commonly sooted. Faces have large eyes which can be either 1) solid and mold made or 2) open and hand-make. Bulbous mouths, often exhibiting lip plugs, are also generally open for smoke to escape. Noses are made from narrow slabs with appliquéd circular nostrils; however, some have a more Romanesque profile. The slab-made ear flanges have decorative dots and U-shaped appliqués applied to the front and sometimes the back of flange. Typically, lids and conical segments are found associated with censer fragments. Leventhal suggests that the small, solid conical ceramic objects are plugs for censer lids and should be included in the incensario complex (Figure E. 4b). Generally, plugs have a slightly curved, narrow extremity; the other end is always found broken. Censer lids are either flat or conical. The most easily recognized



a.

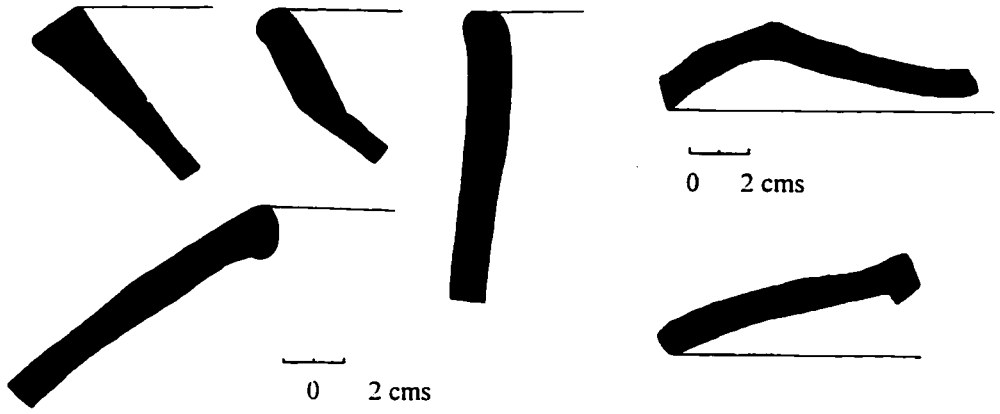


b.

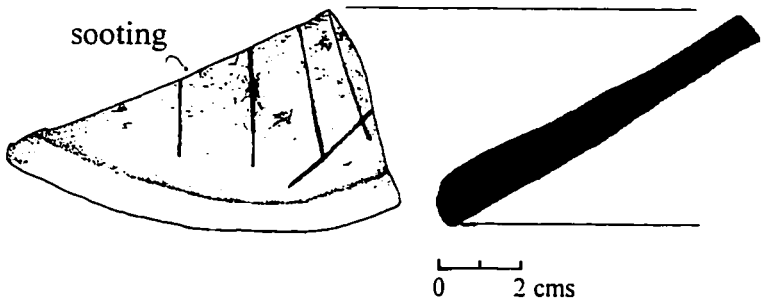


c.

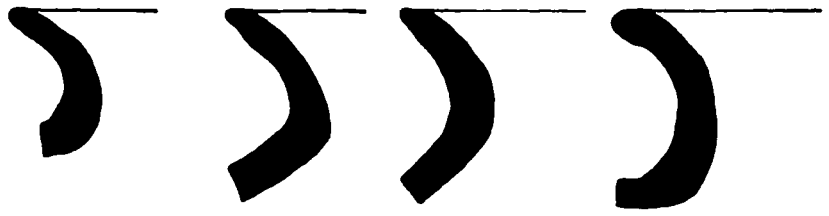
Figure E.4: Cayo Unslipped Type forms. Lip-to-lip cache vessels (74II/2-P1.11739, 74II/2-P4.11740, 74II/2-P2.11738) a.; ladle (22U/3.12121) and censer plug (76G/1.13167) b.; miniature vessels (129A/3.11518, 123A/10.11245, 39J/1.2245) c.; left to right.



a.



b.



c.

Figure E.5: Cayo Unslipped forms. Deep bowls (76F/1.8031, 117I/8.10684, 138C/1.12683), basin lid (85B/1.5963), closed olla (117A/4.10570), basin lid (130H/2.12173) a.; incised lid with sooting (37B/2.1523) b.; LCI jars (23J/2.13146, 23J/2.13146, 23K/2.8008, 23J/1.8004) c.; left to right.

lids are those with "wing nut" handles. These flat lids generally have smoke holes spaced regularly around the top which also makes them easily recognized. However, other censer lids appear to be tall caps which have either conical or elliptical profiles such as those illustrated by Smith (1955: fig. 9a and 9b) and lack smoke holes. Censer ladles are rare but appear to have small, thick bowls and crude solid handles which taper at the end (Figure E. 4b). Other ritual forms include small, hemispherical lip-to-lip vessels and miniature jars and bowls (Figure E. 4a,c; Smith 1955: fig. 12b). During the Terminal Classic, spike appliquéd censers (Figure 5.2) replace god-head censers, although the use of god-head censers may never disappear totally. The spiked style is characteristic of Miseria Appliquéd: Variety Unspecified (Sabloff 1975: Fig. 333-6; Smith 1955: Fig. 13o).

Less standardized, plain ware forms found during the LCII period include 1) large, flaring rimmed bowls with a single groove on the interior offset (Figure E. 5a), 2) crudely made hemispherical bowl exhibiting external drag marks 3) closed ollas, 4) tall gentle outcurving rimmed jars, and 5) tecomates.

Lastly, lids abound in the Late Classic II and continue into the Terminal Classic (E. 5a,b). The most easily recognized lids have basin-shaped centers and flaring or slightly concave rims that drape over the edge of jar rims. Apparently, basin-shaped lids nest down into the jars and its' rim drapes down over the rim of the jar. Often, basin-shaped lids have soot along the rim top. Some basin-shaped lids are deeply incised with linear or cross-hatched lines that also can be sooted over. Thompson suggested that basin lids were used as censer covers during the Terminal Classic but XAP has also found them in Late

Classic deposits. Simple lids have rounded or slightly flaring tops. No scutate lids have been found intact although isolated modeled knobs have been found.

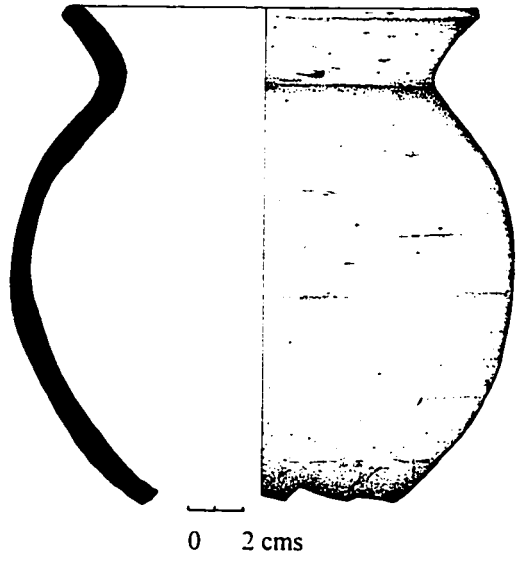
Other plain ware

Two other plain ware groups have been found at Xunantunich: a micaceous brown ware and an unidentified sandy ware. The micaceous brown ware, Macaw Bank Group, resembles Gifford's Negroman Punctated-incised: Negroman Variety a component of the Protoclassic Tumbac Unslipped Ware. At Xunantunich, however, this ware makes up approximately 5 to 7% of the Late to Terminal Classic assemblage. The sandy ware is extremely rare and not well documented. Thus temporal designations are not possible.

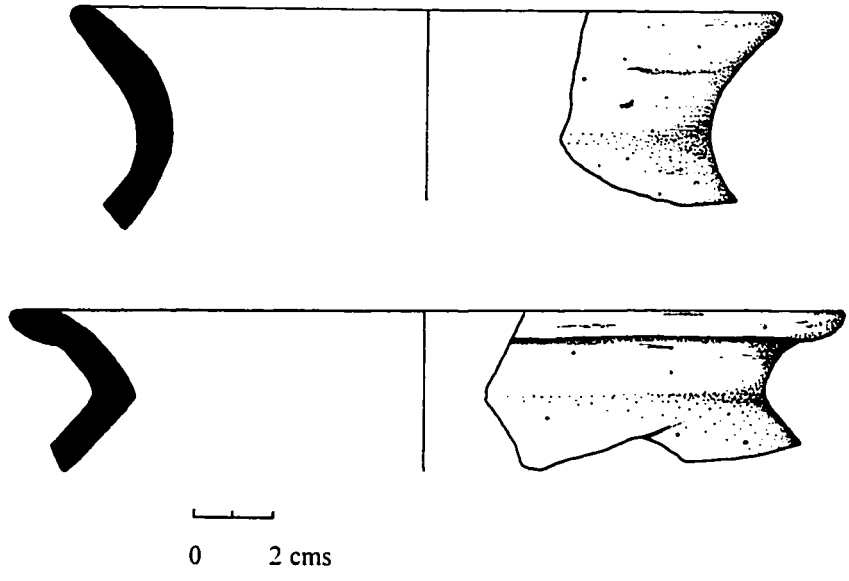
Macaw Bank Group

The defining characteristic of the Macaw Bank Group is its well-wiped, self-slipped, reddish-brown surface which contains reflective particles of gold mica or biotite (Figure E.6). Commonly, jar forms have a single linear or curvilinear row of punctations or incising across the shoulder.

Macaw Bank paste is medium to coarsely textured -- often, in cross-section the paste is visibly layered and poorly consolidated -- and reddish brown in color (10 YR 6/4, 4/2, 3/2; 7.5 YR 6/4, 5/4, 4/4-3; 5 YR 7/4, 6/6, 5/8-4, 4/6-4, 3/3; 2.5 YR 5/6, 4/8). Half of all rims exhibit firing cores. Temper material consists of abundant, poorly sorted, large angular fragments of granitic material sometimes containing mica. Cleaved, non-spherical quartz and mica commonly appear on the surface and reflect light. Weathered samples exhibit a rough, grainy texture.



a.



b.

Figure E.6: Macaw Bank Group. Globular olla with with organics (85J/4.6497) a.; rim variations (116C/3.10875; 143 A/2.12282) b.; left to right.

Macaw Bank Self-slip type is produced in small jars with short, outcurving necks and open collars. Closed ollas and incensarios also may be produced. Impressed designs along the collar consist of smeared, punctated dots or lines; plain or punctated fillets; or simple non-smeared punctates or curvilinear lines.

Sandy ware

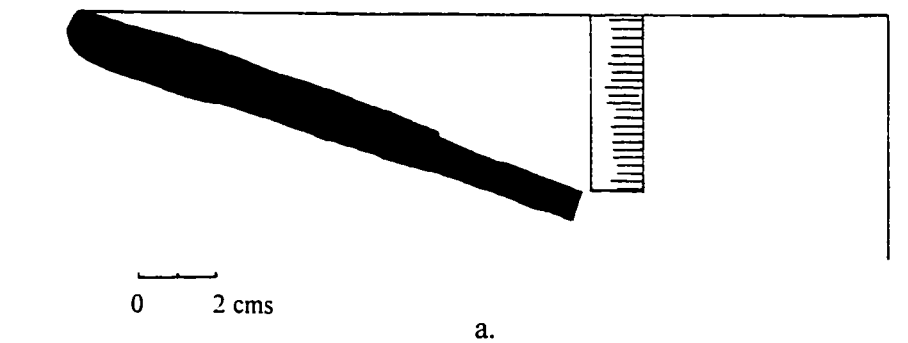
Sandy ware is a very thin-walled, crudely-made, and poorly-fired ware. The paste is red (2.5 YR 4/8-6), friable, and coarsely consolidated. The temper is poorly sorted, moderately large to large sand grains. Sandy ware appears to be limited to the Late Classic II period. It was produced in small bowls or possibly lids forms which may have been used as special, disposable vessels.

Pine Ridge Carbonate Ware

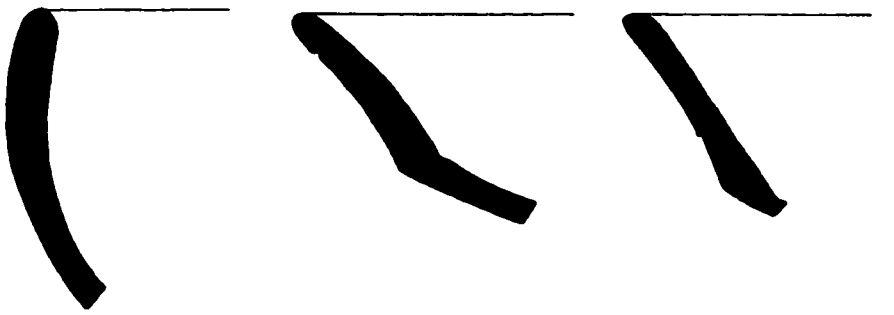
Pine Ridge Carbonate Ware at Xunantunich is comprised of at least three ceramic groups: Dolphin Head Red, Vaca Falls Red, and Mount Maloney Black. Mount Maloney Black is the most common and dates from the LCI through the TC period. Dolphin Head Red is restricted to the Late Classic II period, whereas, Vaca Falls Red is present in the Terminal Classic. Garbutt Creek Red, another calcite red ware, is rarely found at Xunantunich (Figure E. 8c). When encountered, the red slipped bowls are very eroded and have a grainy surface texture. The paste color can have a slight green tint. Usually Garbutt Creek Red rims are found in association with other Terminal Classic diagnostics.

Dolphin Head Ceramic Group

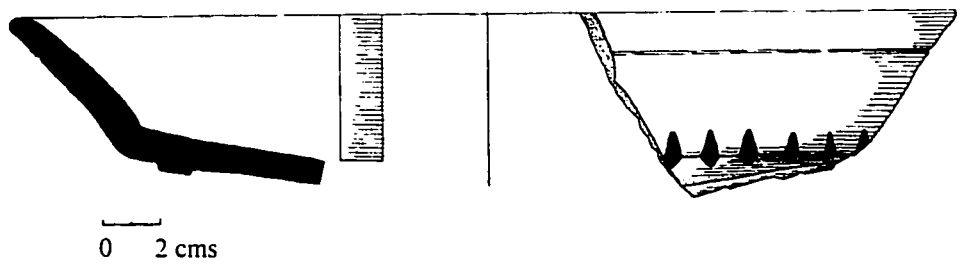
Dolphin Head Red Group is identified by its velvety red slip (Munsell 2.5 YR 4-5/8 or 10R 5/8) applied to a calcite tempered red paste. The thick, lustrous slip is found



a.

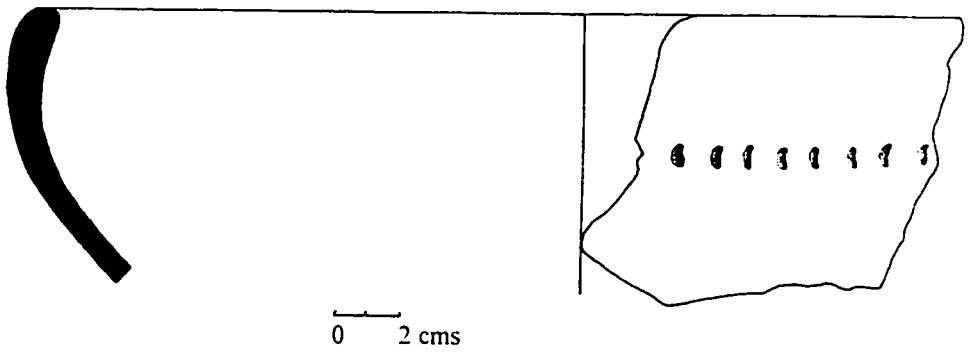


b.

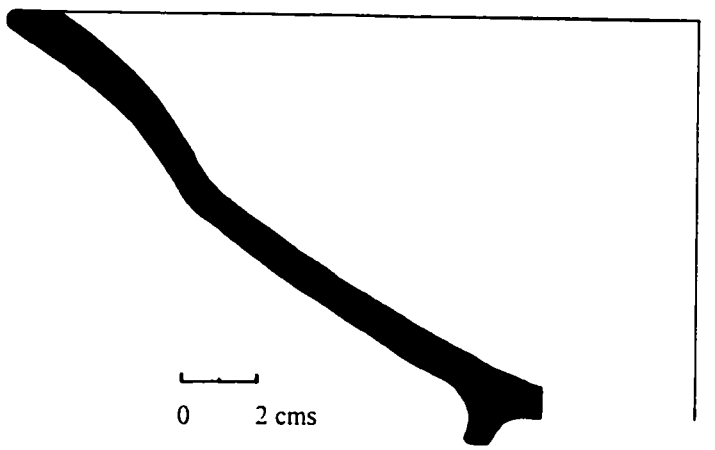


c.

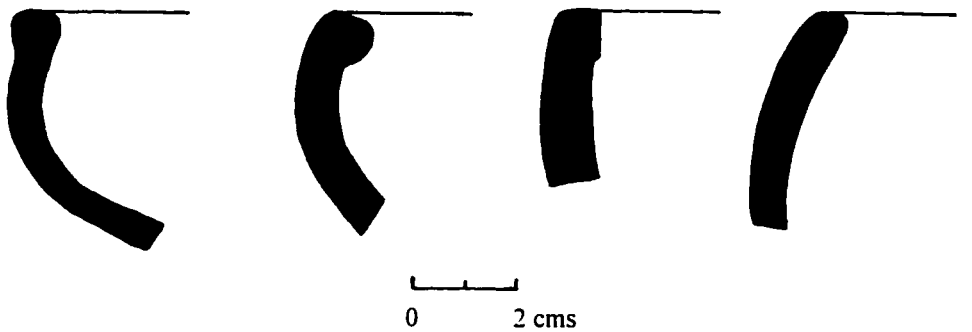
Figure E.7: Dolphin Head Red Group. Dolphin Head Red Type plate with internal offset (79BB/5.7027) a.; Dolphin Head Red Type bowls and dishes (39M/1.4415, 85H/1.6377, 116A/3.10930) b.; Silver Creek Impressed Type dish (117D/1.12956) c.; left to right.



a.



b.



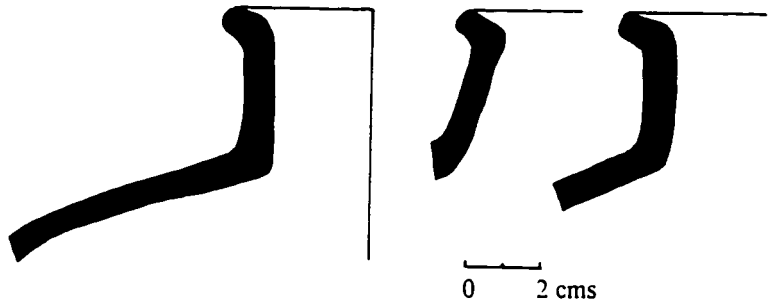
c.

Figure E.8: Red ware bowls. Vaca Falls Group -- Kaway Impressed Type (39N/1.4440) a.; Vaca Falls Group -- Roaring Creek Red Type (74Q/2.11695) b.; Garbutt Creek Type bowl rims (110S/9.13248, 110G/9-D1.13243, 129D/13.13249, 117G/3.10752) c.; left to right.

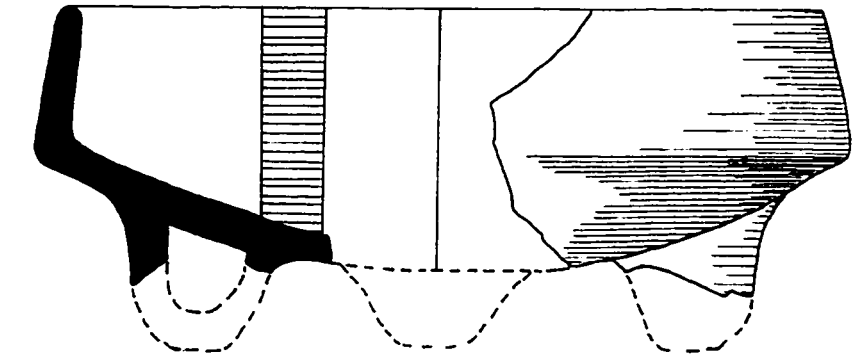
generally on the interior of plates and dishes, however, some dishes and bowls can be slipped on both the exterior and interior (Figure E.7). When the exterior is not slipped, the surface exhibits scrape marks along the body and base as well as tan colored fire clouds along the basal angle.

Dolphin Head Red Group paste is consistently red (Munsell 10 R 6/4, 5/8-6, 4/8; 2.5 YR 6/8, 5/8, 4/8; with an occasional 7.5 YR 6/6, 5/4 or 5 YR 5/6). Over 78% of all pastes are 10R 5/8, 4/8 or 2.5 YR 5/8 and roughly 90% have brown or gray (10 YR 6/4-3, 5/6-2, 4/1-2, 3/1) firing cores. The paste has a medium-fine texture which characteristically breaks into angular fragments. Tempering material is fairly sorted, abundant (20 to 30 %), moderately sized (.5 to 2 mm), angular to subangular calcite and granitic inclusions. Red nodules are common.

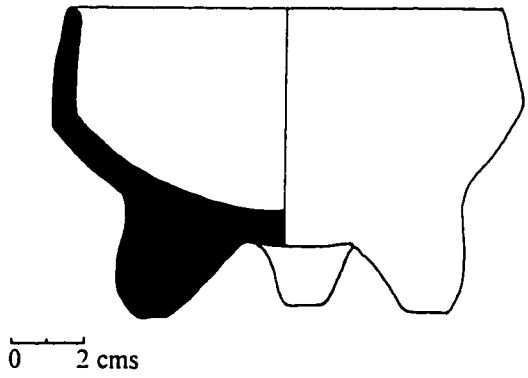
Dolphin Head Red is generally produced in open forms. Three forms are common: 1) vessels with basal angles and rounded bases -- some are supported by tripod feet, 2) large, shallow plates with internal offsets and countersunk circle bases, and 3) smaller incurving bowls and dishes. Forms with basal angles can be either plates, dishes, or bowls which are generally slipped on the exterior and have groove incised lines encircling the rim and base. Large, shallow plates are nearly flat with either flaring or simple silhouette rims and square lips; nearly all exhibit internal offsets and no external slip. Incurving bowls and dishes are generally plain without incised decoration. The Silver Creek Variety is characterized by notching along the basal angle and is associated with the LCI period (Figure E. 7c).



a.



b.



c.

Figure E.9: Vaca Falls Group. Roaring Creek Red Type jars (110A/4.12346, 85O/5.6742. 22T/1.11458) a.; Vaca Falls Red Type (Tinaja Red style) tripod dish (110N/9.12424) b.; eroded red ware tripod bowl (14MMM/1) c.; left to right.

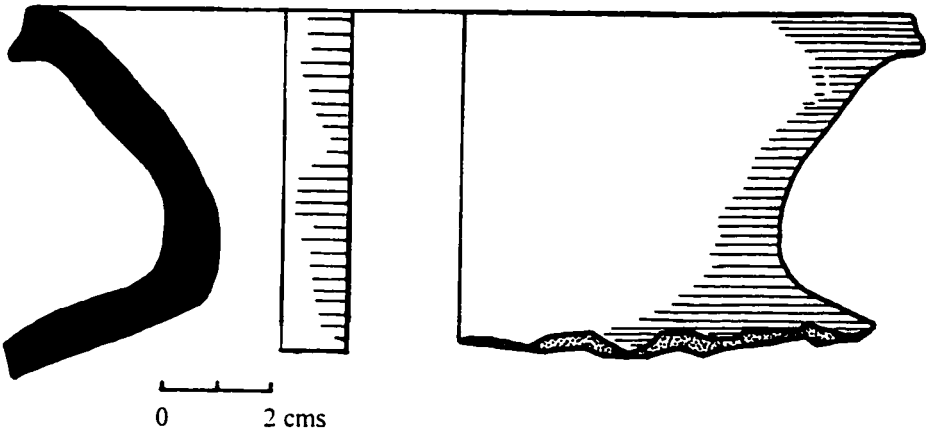
Vaca Falls Ceramic Group

Vaca Falls Ceramic Group represents a small fraction of the Terminal Classic assemblage (Figure E. 8a,b and E.9). Vaca Falls Red Group is characterized by a soft, friable, irregular textured, red to reddish brown paste (Munsell 10 R 6/3, 5/8; 2.5 YR 5/8-6, 4/8-6; 5 YR 6/6, 5/8-4, 4/6-4; 7.5 YR 6/6-4, 5/4, and 4/3). Paste color is not highly standardized nor is the temper type, size, or sort uniform indicating a variety of production sources. The most common paste color is red (2.5 YR 5/8 or 4/8) which is approximately one third of the variation recorded. Tempering material is usually calcite, limestone and some granitic material with both magnetic and clay pellets present. Given this conglomeration of material, inclusion shape ranges from angular to rounded, although angularity is more common. Inclusions can be poorly to well sorted; generally it tends to be moderately sorted and large in size (1 to 2 mm). This morass of compositional variation may well be linked to forms and/or production centers.

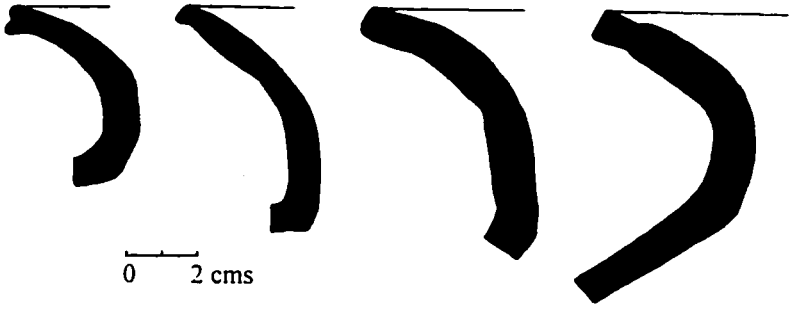
Forms are limited to four types: 1) small, carinated bowls with tripod supports (Tinaja Red style), 2) shouldered bowls with ring bases (Roaring Creek Red: Roaring Creek Variety), 3). incurving bowls with or without a single line of fingernail impressions along the point of inflection (Kaway Impressed: Kaway Variety and Vaca Falls Red: Vaca Falls Variety, respectively), or 4) small, highly constricted jars with short, almost straight necks and everted lips (Roaring Creek Red: Roaring Creek Variety).

Mount Maloney Black

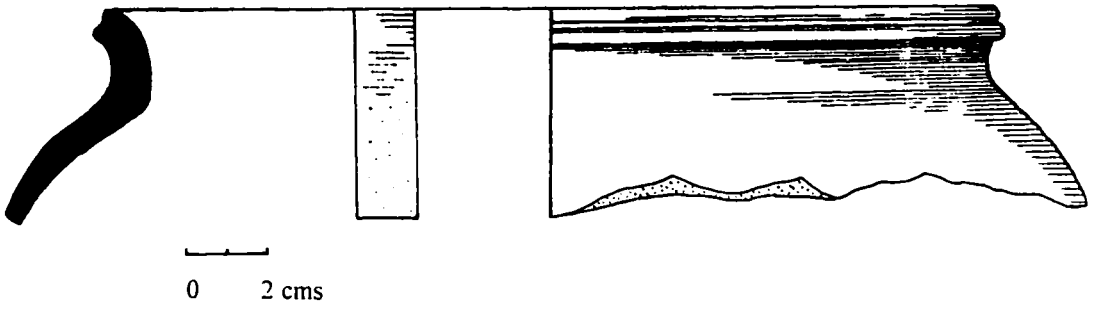
The Mount Maloney Group is identified by its black, matte slip applied to a calcite tempered brown paste. The black slip is found on both interior and exterior of open and



a.

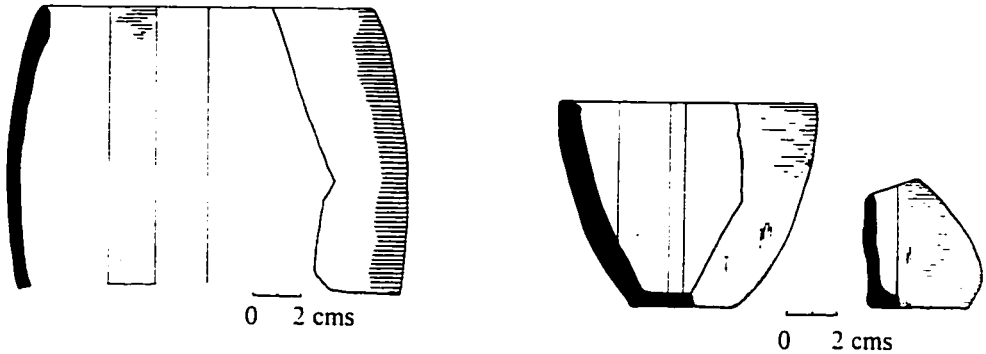


b.

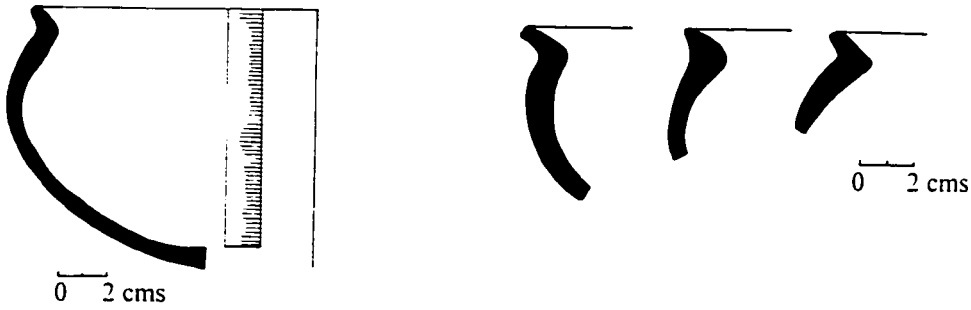


c.

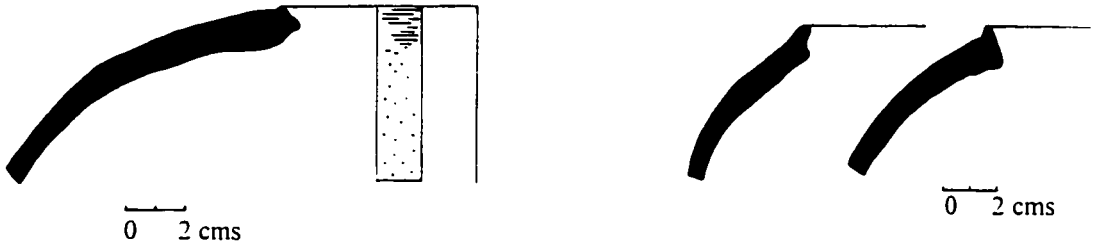
Figure E.10: Mount Maloney Group jars. Constricted jar (22O/3-P1.4464) a.; rim variations (90 E/3.100023, 123 C/6.11316, 95D/1.8503, 85I/1-D1.6418) b; open jar (90G/8.7552) c. Left to right.



a.



b.



c.

Figure E.11: Mount Maloney Group. Vase (117C/5.10610), deep bowl (116M/3.12917), "candelero" (117A/3.12123) a.; rimmed bowls (18C/5.4047, 85C/1.6031, 123C/4.11324, 90F/1.8882) b.; closed ollas (117G/1.10711, 79MM/1.1511, 85G/5.6324) c.; left to right.

closed forms. Open forms are slipped on the exterior to just below the rim -- below this point the rough exterior exhibits horizontal drag marks and striations. Jar forms are externally slipped to the base and internally slipped only to the collar break.

The paste is brown and 90% of sherds exhibit large gray cores. Paste colors range from light brown to strong brown (7.5 YR 6/2-6; 5/3-6); reddish yellow/yellowish red (5 YR 6/4-6; 5/6); and an occasional light red (2.5 YR 6/6). The light red color is the result of fire-clouding. The paste is finely textured for a calcite ware and generally well-fired and hard. Core colors range from very dark gray to brown to yellowish brown (Munsell 10 YR 6/2-6; 5/1-4; 4/1-3; and 3/1). Tempering material is consistently small (0.5 - 1.0 mm), crushed (well-sorted), abundant (30 to 40% of paste) subangular calcite; sometimes opaque limestone chunks and red pellets occur.

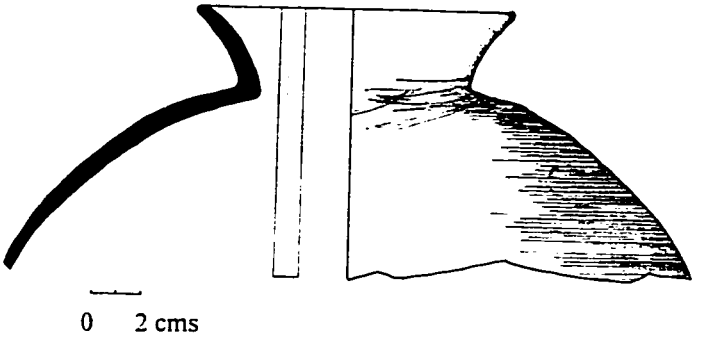
The most abundant and easily recognizable form is the incurving bowl which makes up approximately 30% of the assemblage during the Late and Terminal Classic periods at Xunantunich. Temporally diagnostic lips are the hallmark of this vessel form (Figure 5.6). The earliest bowls, found in LCI period, have flat vertical lips which are rounded along the top and bottom face. Through time, lips bevel upward and exhibit sharply tooled edges with LCII bowl lips exhibiting elaborated edged and grooved faces. The upward bevel of the lip culminates in the Terminal period when lips are square and oriented horizontally to the rim orifice. Constricted jar forms also show temporally diagnostic attributes (Figure E. 10b). Earlier jars have smooth outcurving necks and pinched lips, whereas, Late Classic II jar lips are square with elaborated edges. Terminal jars exhibit widely outcurving necks which result in a distinct angular break along the

outcurving rim profile. Closed ollas, found throughout the Late and Terminal Classic period, also show marked lip and rim variation; however, sample sizes are not large enough to clearly determine temporal patterns (E. 10c). It is also interesting to note that closed ollas exhibit the largest range variation in paste colors and tempering materials. Other Mount Maloney forms include rimmed bowls (Terminal Classic) and occasionally open jars, plates, drums, and deep bowls or vases which date predominantly to the LCII period (Figure E11).

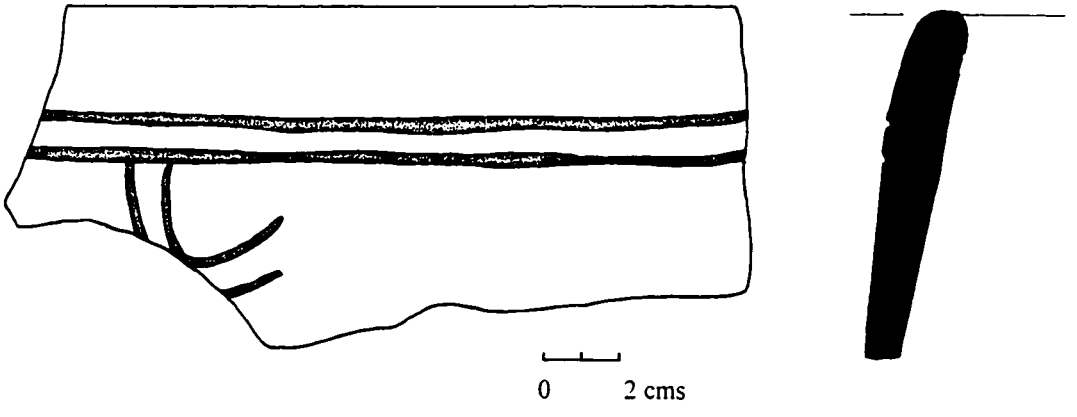
Opaque Carbonate Ware

Chial Ceramic Group

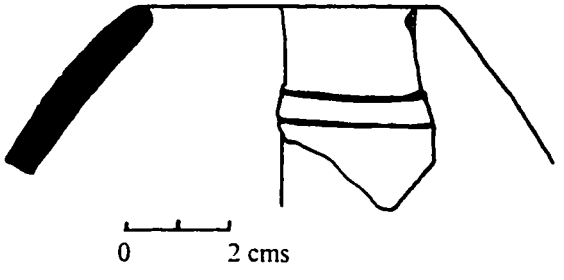
The Chial Ceramic Group is the sole member of Opaque Carbonate Ware at Xunantunich. This distinctive white calcite ware was first identified at Xunantunich by Anna O. Shepard (Thompson 1940). The Chial Ceramic group is a set of well-made, highly polished types which comprises less than 10% of the LCII period assemblage but also is present in the earlier LCI period. Vessels are thin-walled, well-fired, and generally lack organic cores thus they "clink". Surface color ranges from yellowish-red to red (Munsell 5 YR 4/6, 5/6-8; 2.5 YR 4/6-8). Although the majority of vessels are plain ware, some exhibit polychrome painting or groove incised geometrical designs. Designs are usually simple circular or V-shaped patterns along the shoulder of jars or rims of tecomates. Jar rims are polished on the exterior down to the collar where polishing produces an irregular set of diagonal streaks. Interiors are not polished but show uniform, horizontal wipe-marks resembling wheel-thrown pottery.



a.

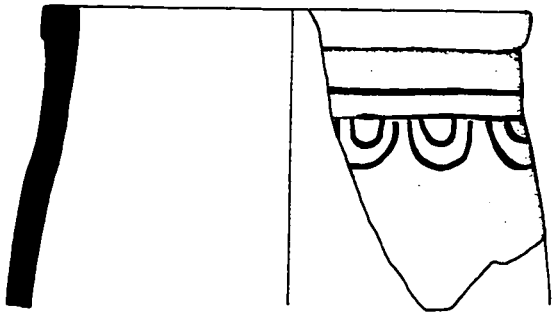


b.

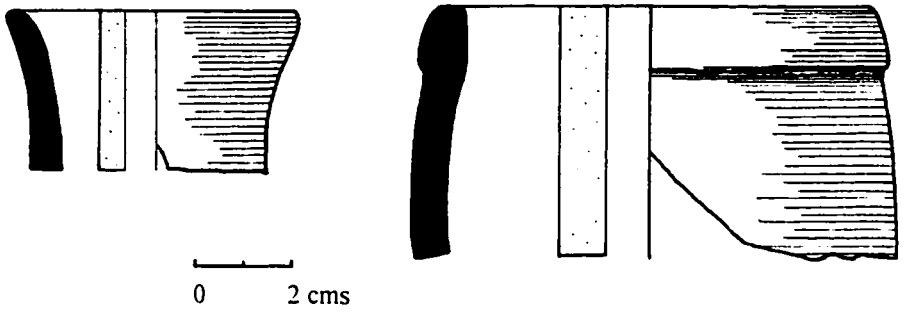


c.

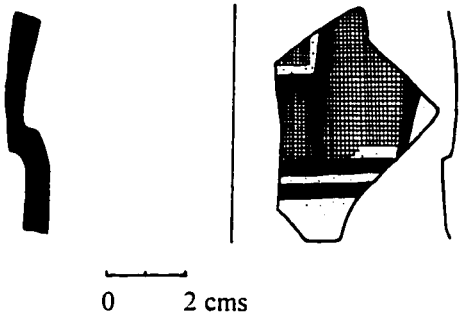
Figure E.12: Chial Ceramic Group. Chial Orange-red Type jar (40LL/2.8033) a.; Chial Incised Type (147B/4.15182) b.; Chial Incised Type closed bowl (95B/5.8336) c.



a.



b.



c.

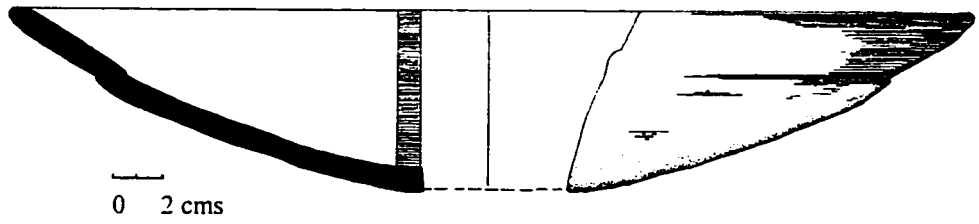
Figure E.13: Chial Ceramic Group. Chial Incised Type (39O/2.4233) a.; Chial Orange-red Type (40G/1.13142, 95B/4.6876) b.; Chial Polychrome drum (79BB/6.7033) c.

The Chial Ceramic Group resembles Gifford's Macal Group (1976:214-5). Surface color, production techniques, forms, and some decorative styles are strikingly similar, however, after comparing collections in the Department of Archaeology in Belmopan, I found the two groups are distinctively different in composition. In addition, the Chial Group was produced in a larger array of types and forms and for a longer time than the Macal Group. It can be suggested that the two groups are regional variants.

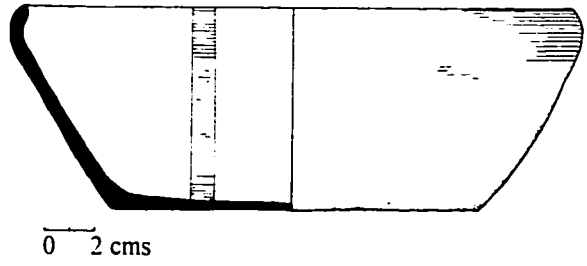
The paste is fine textured for a calcite ware; paste color ranges from red to reddish yellow to an occasional brown (Munsell 2.5 YR 4-5/6-8; 5 YR 6/6-4 or 5/6; 7.5 YR 6/6 or 5/6-3; 10 YR 4/3-2 or 5/4-2). Jar pastes are highly standardized in color and tempering material with 75% of jars having either 2.5 YR 5/8 or 4/8 (Red) pastes. Other forms exhibit a slightly greater range of paste color. Only one quarter of all forms exhibit firing cores which are generally brown Even those sherds exhibiting firing cores are well-fired and hard. Tempering material is well-sorted, small (0.5 to 1 mm), abundant (30%), angular white carbonate inclusions.

The Chial Group is produced in a large number of forms which suggests village level production. The most common form is the constricted jar with a small collar and moderately sized neck (Figure E. 12a). Some of these jars have large, unsupported spouts. Less common jar forms include constricted, tall necked vessels, bottles and possibly, necked vases (Figure E.12 and E.13). Closed ollas, tecomates with thickened lips, drums, small bowls, and a form Gifford called, "Brandy snifters" also are produced. Polychrome and non-decorated drums have also been found (Figure E. 13c).

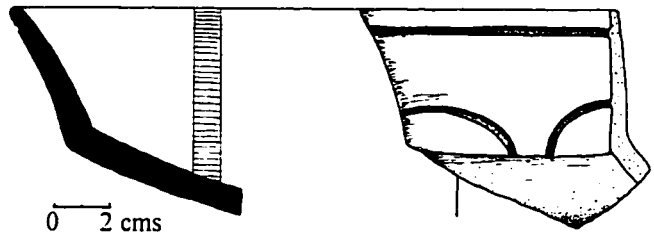
British Honduras Ash Ware



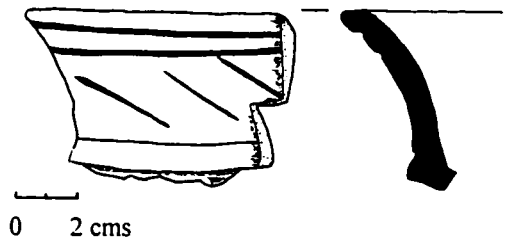
a.



b.

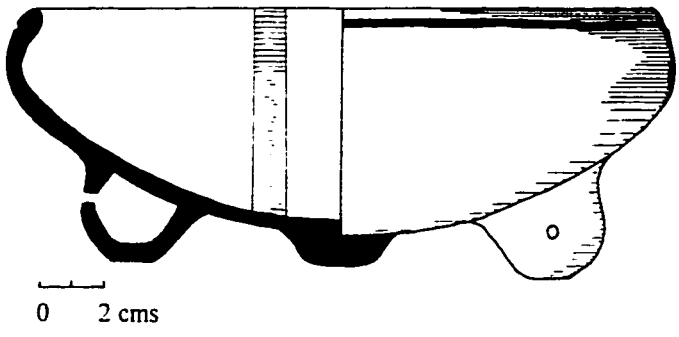


c.

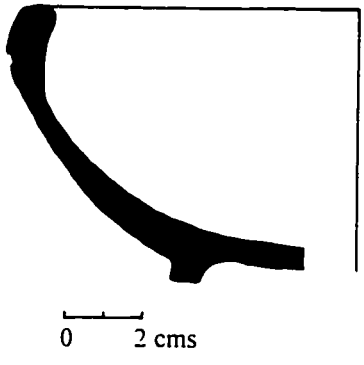


d.

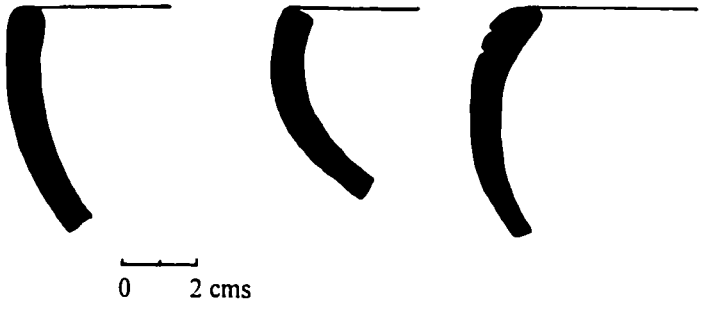
Figure E.14: Belize Red Group. Belize Red Plain dish with internal and external offsets (123A/11.11309) a.; Belize Red Plain bowl (76H/1.7120) b.; Belize Red Incised dishes (117A/3.10542, 112M/2-D1.13129)c.; left to right.



a.



b.



c.

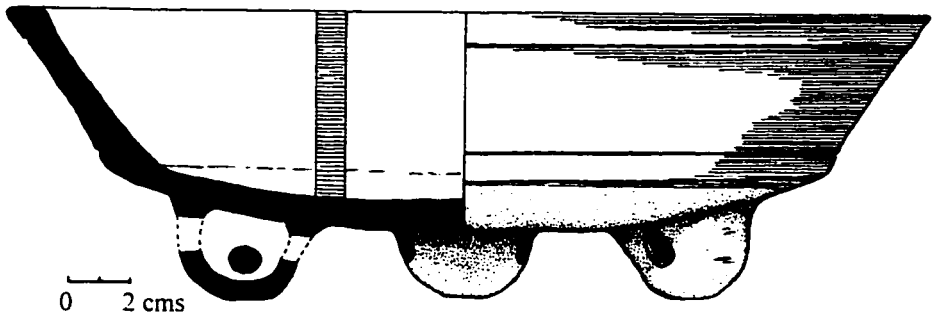
Figure E.15: Belize Red Group incurving bowls. Bowl with incised rim and oven feet (123A/7.11197) a.; with ring base (74K/1.11595) b.; and rim variation (95H/1.8576, 85G/2.6288, 117C/3.10589) c.; left to right.

Belize Red Ceramic Group is the major component of British Honduras Volcanic Ash Ware. The group is identified by its polished "Belize Red" slip applied to an ash tempered paste. It is generally produced in open serving vessel forms that can be elaborated with incising, impressing, and appliquéing. The type is easily recognized by the very gritty feel of its surface which is usually highly weathered. When the surface is intact, the finish is polished to a high luster and the slip color is invariably red (Munsell 10R or 2.5 YR 5-4/6-8).

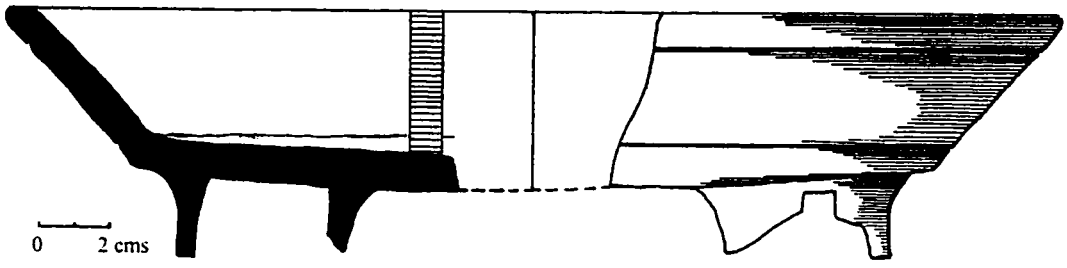
Paste colors ranges from pinkish gray to pink or light brown to reddish yellow (Munsell 7.5 YR 6/2-6; 7/4-6) with an occasional 10 YR hue within the same range of value and chroma. The most common paste color is 7.5 YR 6/6 (reddish yellow). Reduction or overfiring produces light to dark gray pastes in the range of 10 YR 4/1; 5-8/2; and 7.5 YR 6/3; 7/2. Tempering material is consistently well-sorted, small (.5 to 1.0 mm), infrequent (<10 to 20%), crushed or powdered ash.

Belize Red is a highly diverse group composed of numerous decorative types produced in a wide range of forms including plates, dishes, bowls, vases and occasionally small constricted jars. The following is a brief summary of decorative types. See the list at the beginning of this appendix for a summary of forms associated with each type.

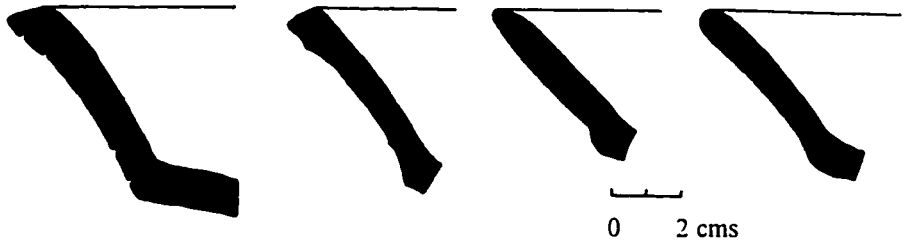
Belize Red Plain is a slipped but otherwise undecorated type found from Late Classic I until Terminal Classic period (Figure E. 14a,b and E. 15c). It is most commonly produced in incurved bowls and small constricted jars although vases may also be common in Belize Red Plain. Those Belize Red types exhibiting a single line of incising at the rim or base are called Belize Red Incised Type in this dissertation (Figure E. 14c,d; E. 15a,b;



a.

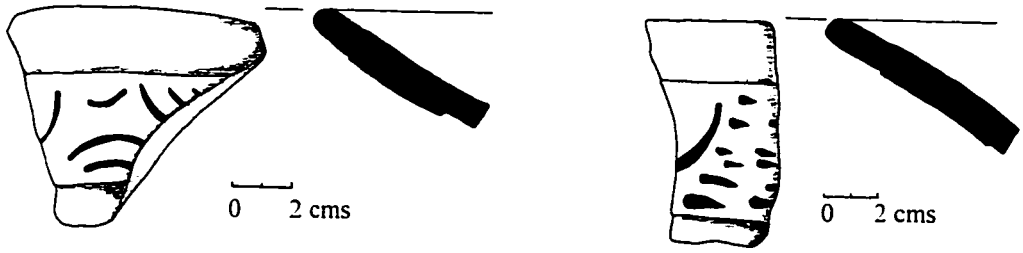


b.

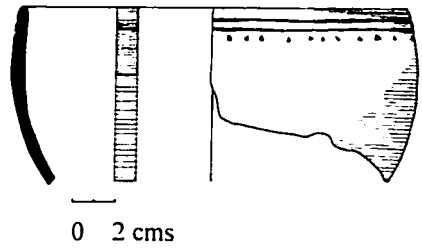


c.

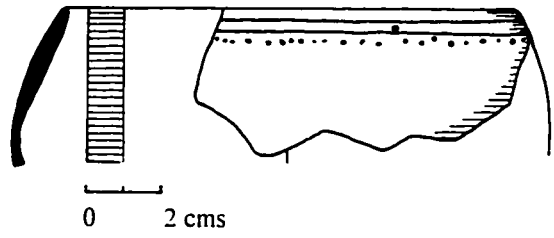
Figure E.16: Belize Red Group. Belize Red Incised dish (IE/12-P2.20067) a.; Belize Red Incised plate (40NNN/2.8036) b.; rim variation (147B/6.15175, 85C/1.6003, 23H/2.13132, 86C/4-D2.5934) c.; left to right.



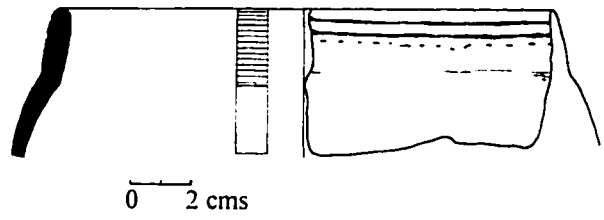
a.



b.



c.



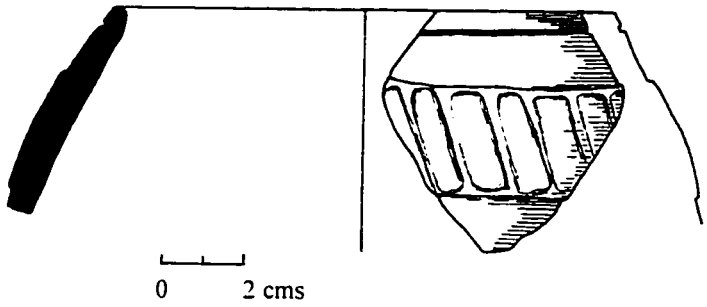
d.

Figure E.17: Platon Punctated-incised Type. Open forms (95I/1.8579, 130D/2.12082) a.; bowl (22Y/4.11562) b.; bowl (211H/2.20032) c.; and rimmed bowl (22W/1.11539) d.

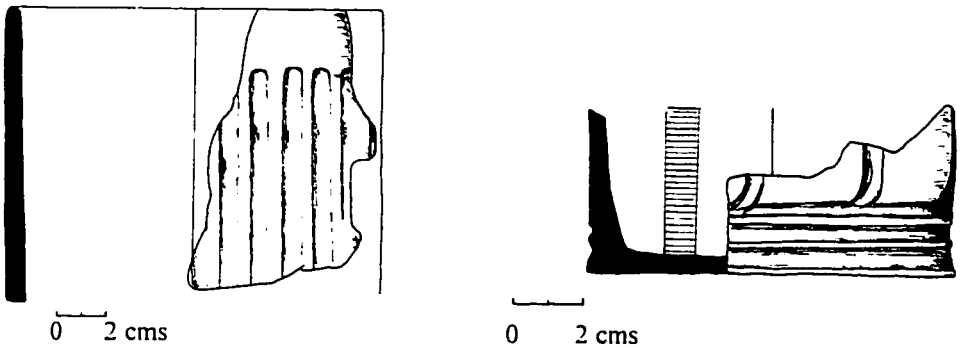
and E.15). These simply incised vessels are included in Gifford's Platon Punctated-incised Type. In this dissertation, Platon Punctated-incised Type is reserved for vessels with both punctations and incising (Figure E.17). Commonly, Belize Red Incised Type is produced in plates, dishes and bowls. Rims with incising are tricky to classify because many Belize Red Group types exhibit incising around the rim plus tooling on the body or basal angle of the vessel. These additional decorative techniques are used to define types such as McRae Impressed, Gallinero, etc. However, I feel it is better to place them in a new category (Belize Red Incised) rather than foul the Platon Punctated-incised Type with items which do not fit the type description. At Xunantunich, Platon Punctated-incised Type is restricted to simple silhouette dishes or bowls in the Late Classic I period and rimmed bowls in the Terminal Classic. Gallinero Fluted Type, found predominately in the Late Classic II period, is a fluted and incised vessel produced in bowls and vases (Figure E.18). Martins Incised Type is a fine-line incised vase decorated with pseudo-glyphs. Like many elaborated types, it is found only in the Late Classic II period (Figure E. 19b). McRae Impressed Type has an appliquéd basal angle or apron which is notched and sometimes incised (Figure 5.5). McRae Impressed rims may also be incised with a single line. Big Falls Gouge-incised and Puhui-zibal Composite Types are very rare at Xunantunich. Both display carved glyphs, representative motifs, and decorative elements along the rim of vases. The Big Falls cylinder vase which was encountered in a cache from Structure B-2 has wide vertical black bands running from the lip to the base.

Summary of Belize Red Group forms

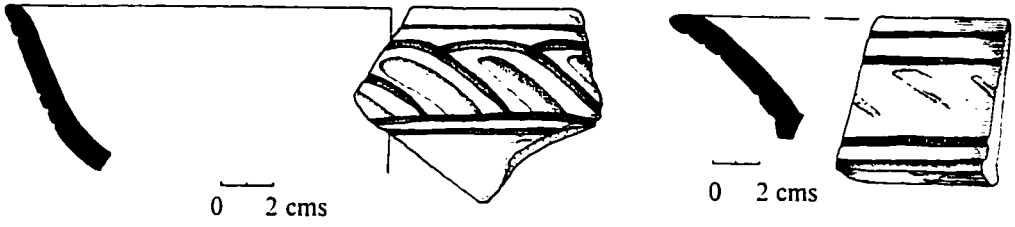
Belize Red plates can be produced with flared, slightly outcurved, or simple



a.

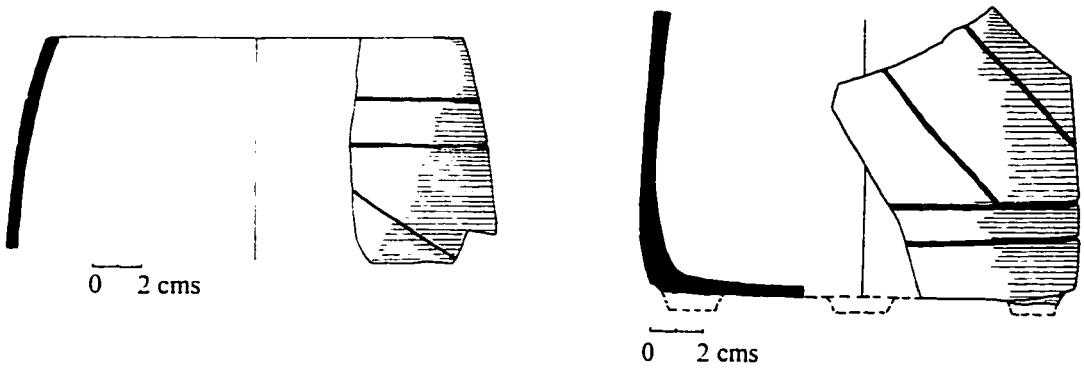


b.

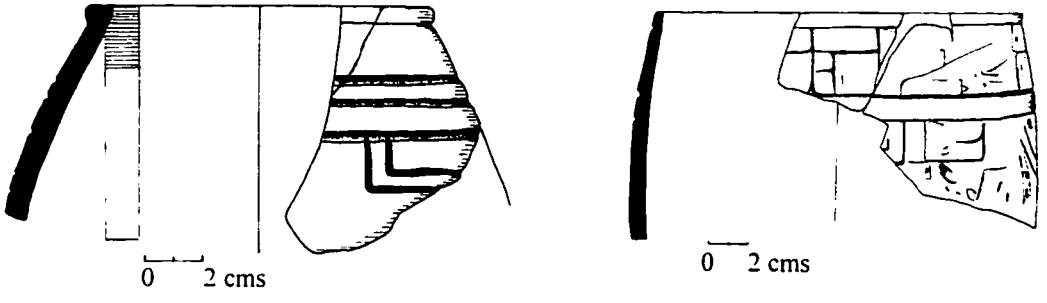


c.

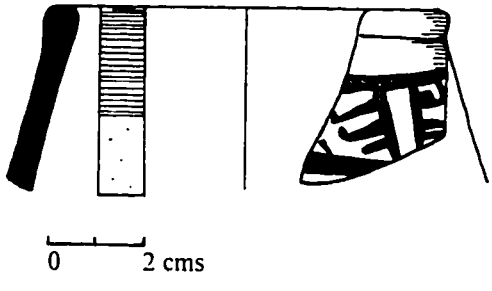
Figure E.18: Gallinero Fluted Type. Bowl or barrel-shaped vase with fluted panel (95B/4.6878) a.; cylinder vases (117A/2.101517, 79BB/6.7034) b.; dish (112O/3.13128) and plate (76H/1.13130) c.; left to right.



a.



b.



c.

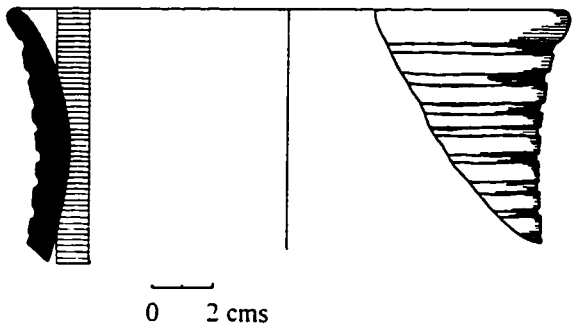
Figure E.19: Barrel-shaped vases. Belize Red Incised (110S/8.12510, 123 A/9.11232) a.; Belize Red Incised (90B/4.8106) and Martin's Incised (22T/1.11437) b.; Big Falls Gouge-incised (85O/1.6661) c.; left to right.

silhouette rims. All forms are slipped on both the exterior and interior with little variation in the quality of the polished surface. Flared and slightly outcurved plates have flat bottoms, many of which were supported by tripod feet. These extremely similar forms can be either non-decorated or simply incised with one or two sets of grooved lines along the rim and/or above the base. Simple silhouette plates have rounded bottoms, with countersunk circle or ring bases. These forms can be non-decorated, incised, or punctated-incised. Some simple silhouette plates have interior and/or exterior offsets. Most plates date to the Late Classic II period although those with hollow columnar feet may date to the LCIIb period.

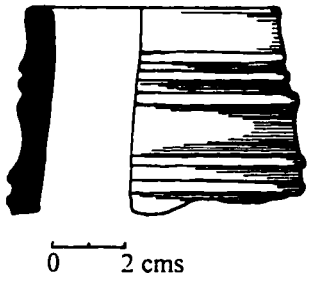
Dishes can be produced in three secondary forms: 1) flared or slightly outcurved, 2) rounded, or 3) simple silhouette rims. All dishes are slipped and well polished on both exterior and interior surfaces, although slipped surfaces below the basal angle are not highly polished.

The majority of dishes have flared or outcurved rims and basal angles with round bottoms. They are supported with ring bases or tripod feet. Dishes exhibit the most stylistic variation. Belize Red Plain dishes may or may not have offset angles. Belize Red Incised dishes have one or two sets of lines along the rim and/or base. McRae Impressed dishes have appliquéd basal angles with notching and sometimes incising. Those McRae Impressed dishes supported by oven feet date to the Terminal Classic, whereas, those with slab or tau-shaped feet date to LCII period. Gallinero Fluted dishes can have diagonal fluting along the exterior body.

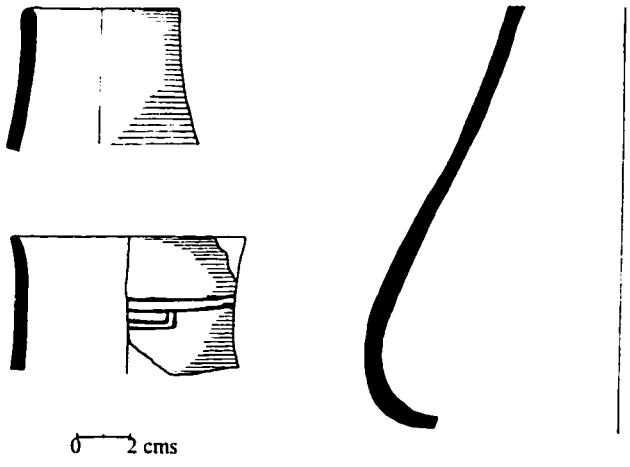
Rounded and simple silhouette dishes are rare at Xunantunich. Round rimmed



a.



b.



c.

Figure E.20: Belize Red Group special vases. Channel-grooved vase (79FF/13.3512) a.; channel-grooved and tooled vase (85C/1.6029) b.; pyroforms (117G/4.10763 plain, 117I/10.10200 incised, 117G/4.10763 body without pedestal base) c.; left to right.

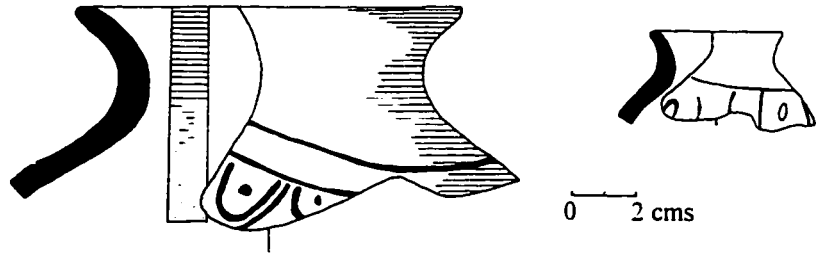
dishes also have round bases and can be plain or fluted. Simple silhouette dishes are plain (Belize Red Type) or have punctated and incised panels (Platon Punctated-incised Type). Those simple silhouette dishes exhibiting lateral ridges date to the LCI period.

Bowls can be produced in three secondary forms - incurving, hemispherical or rimmed.

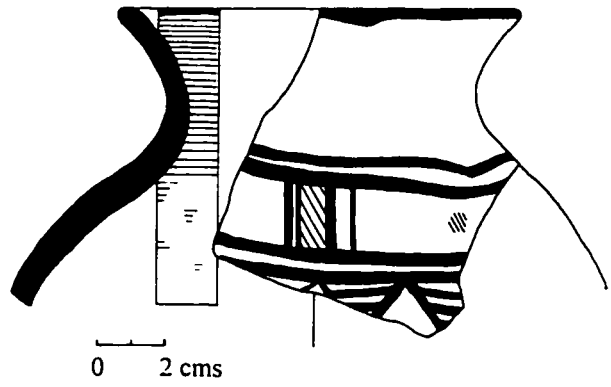
Incurving bowls are the most common and, stylistically, vary widely across the Late and Terminal Classic periods. Incurving bowls are usually slipped and well polished on both the interior and exterior to the point of inflection. Below this point, slips grades from polished to unpolished on the interior and exterior; often slips become smudged then fade away altogether at the base. There are four variants of incurved bowls: 1) Belize Red Plain (non-decorated type) with a flat base, 2) Belize Red Incised (an incised type with either a single or double set of incised lines along the rim) with either a ring base (LCII) or three hollow oven feet (TC)), 3) McRae Impressed Type (notched and sometimes incised, appliquéd basal angles), and 4). an un-named appliquéd type with decorative lines and nubbins along the body and rim. McRae Impressed Type with hollow oven feet date to the Terminal Classic period.

Hemispherical bowls can be produced in Belize Red Type (plain, undecorated), Platon Punctated-incised Type (punctated-incised), or Gallinero Fluted Type (fluted-incised). Some of these forms appear to date to the LCII period. Small rimmed bowls are usually punctated-incised and date to the Terminal period.

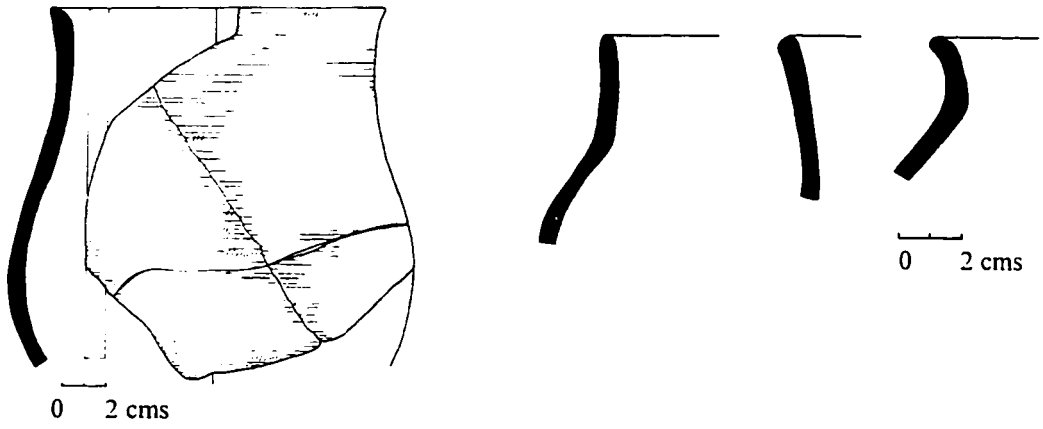
Vases can be produced in three secondary forms - cylinder, barrel-shaped and pyroform with pedestal bases. Cylinder vases can be produced in Belize Red (plain,



a.

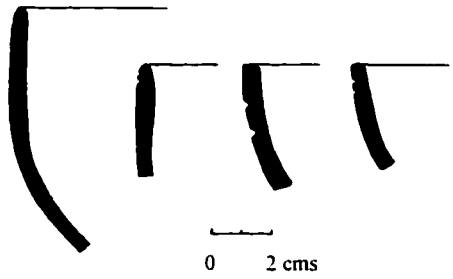


b.

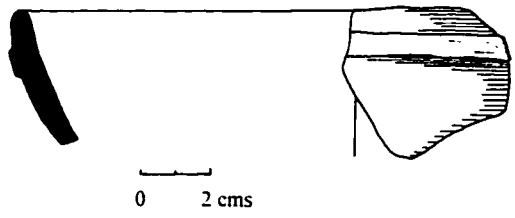


a.

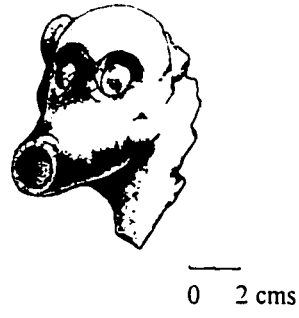
Figure E.21: Ash ware jars. Belize Red Incised (85O/5.6746, 95B/5.8363) a.; Benque Viejo Polychrome (116J/5.13006) b.; Chunhuitz Orange Group (possible polychrome) (211K/5.20082), eroded (102LL/3.15127), and Belize Red Group (116A/3.10925, 95B/5.8350) c.; left to right.



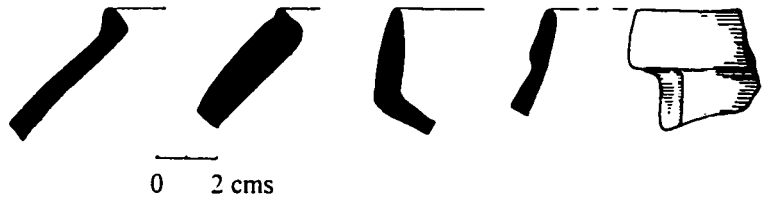
a.



b.



c.



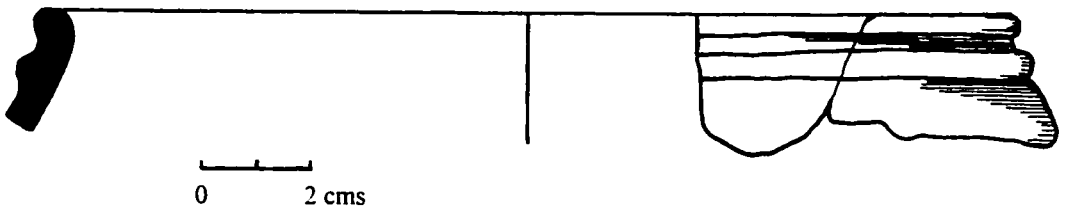
d.

Figure E.22: Belize Red Group. Hemispherical bowls (89J/1.10315 plain, with incising 110E/1.12312, 110I/2.12377, 117A/2.10532) a.; simple silhouette with appliquéd rim band (86B/2.5783) b.; howl monkey spout (74O/5.11509) c.; rimmed bowl (110O/3.12432), closed olla? (116J/2.13006), Tinaja Red style bowl (85L/3.6560), fluted barrel-shaped vase (211N/5.20002) d.; left to right.

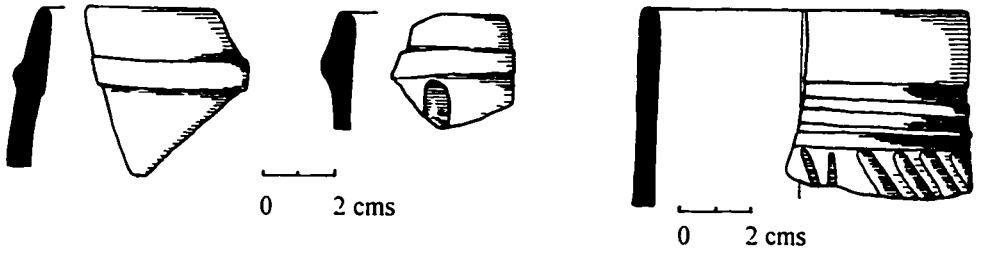
undecorated), Belize Red Incised (incised), or Gallinero Fluted (fluted); most date to the LCII period. Barrel-shaped vases display distinctive motifs. During the LCII period, pseudo-glyphs or complex geometric bands found along the rim are usually rendered in either groove, gouge or fine line incising (Figure 5.7a). However, during the Terminal Classic period, banded designs are less common and are replaced by a simple stepped motif that pend down from horizontal lines along the rim (Figure 5.7b). These steps traverse down the body to just above the maximum diameter of the vessel. Notched and incised appliqués barrel-shaped vases (McRae Impressed Type) may also date to the Terminal Classic period. Pyroforms are very rare and date to the LCII period. They can be produced in either Belize Red (plain, undecorated) or Belize Red Incised (simply incised) Types (Figure E. 20b,c).

Small, constricted necked jars are rare and date predominately to the LCII period (Figure E.21). These jars can have either a sharply cornered or a smooth collar point. Those with tall, outcurving necks may actually be pyroform rims. All but one jar rim encountered is a Belize Red Group type; one is a Benque Viejo Polychrome with a complex black and red geometric pattern painted along the shoulder. Belize Red types are commonly undecorated, although 2 out of 15 rims had an incised geometric pattern encircling the shoulder.

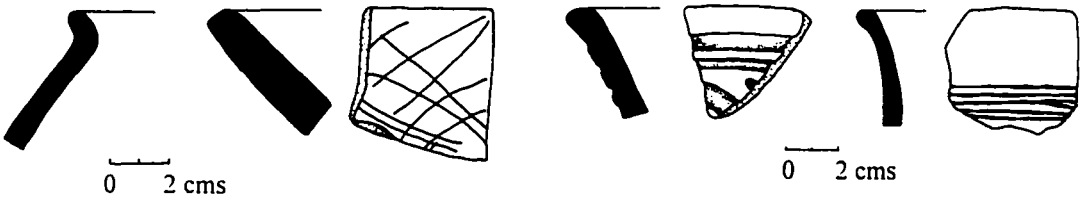
Effigy spouts, assumed to be associated with jars, are found molded in the form of howler monkeys and appear to be exactly like those found at Uaxactun (Smith 1955: fig. 24 11 & 12b). Two of these unsupported spouts are slipped red; one is slipped orange (Figure E. 22c and E. 27c, respectively).



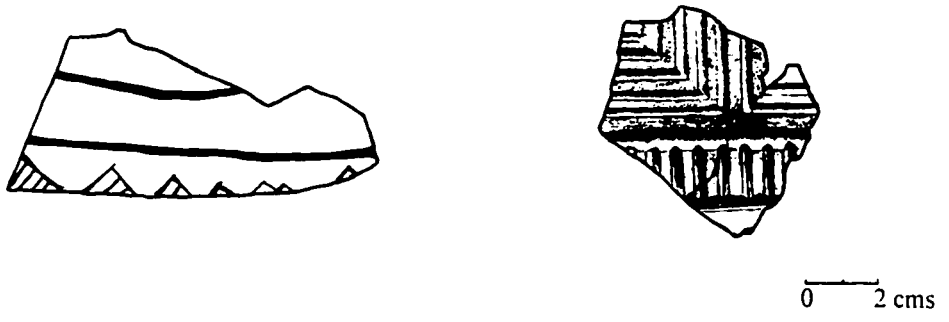
a.



b.



c.



d.

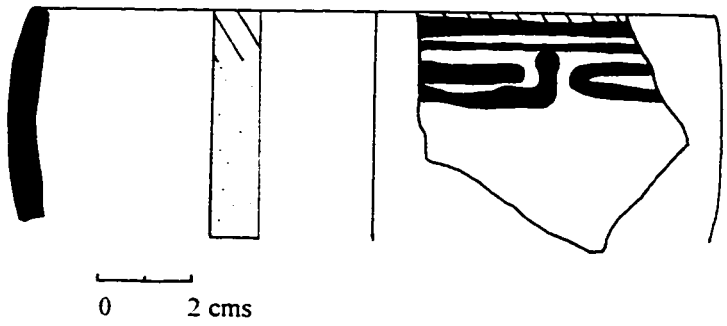
Figure E.23: San Lorenzo Black Group. Bowl (113 F/6.12586) a.; vases (90 F/3,4.8931, 146C/2.12849, 79JJ/46.15091,) b.; open forms (79MM/15.15115, 7M/5.5030, 110A/4.12345, and 79JJ/25.15037 with scratching) c.; incised (79JJ/47.1509) and channel-grooved (79KK/27.15105) bodies d.; left to right. Gray scale illustration of channel-grooved body sherd courtesy of Vickie Liddiard.

San Lorenzo Black

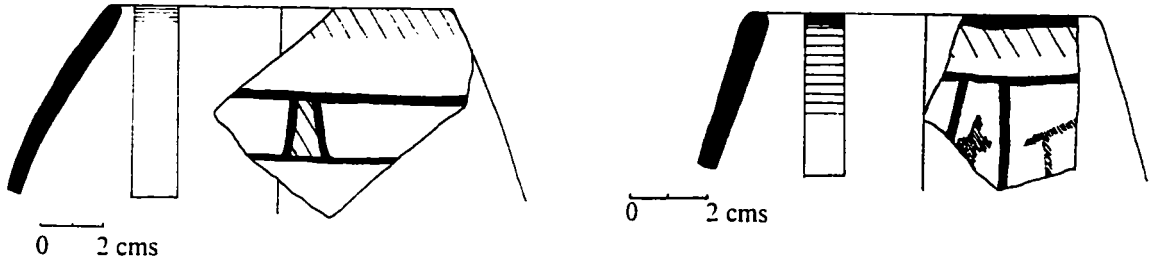
High polished black slipped ash ware has not been previously identified. And, in fact, this new group is rare at Xunantunich (Figure E.23). The San Lorenzo Black Group is composed of highly polished, channel-groove incised vessels produced in cylinder vases and outcurving bowl forms with flat bottoms. Vases have moderately large but well-executed channel-groove incised decorations that cover most of the vessel body. Grooves are deep, square, and have standard dimensions which suggested a square gouge was used to produce them. Designs are simple and repetitive consisting of horizontal, diagonal, or vertical lines or sometimes elaborate hatched designs. Rims are polished but not grooved or channel-grooved incised.

Paste colors ranges from very pale brown to brown or dark gray (10 YR 7/6-2, 6/4-2, 5/3, 4/2-1; 7.5 YR 6/3). Most profiles exhibit black margins which suggest vessels were fired in reducing rather than oxidizing atmospheres. Three rims which exhibited the characteristic grooves were red rather than black slipped. This pattern also suggests that the group may actually be a reduced Belize Red Type. Tempering material is generally more coarse and abundant than other ash wares. Some exhibit coarse, crushed ash or pumice.

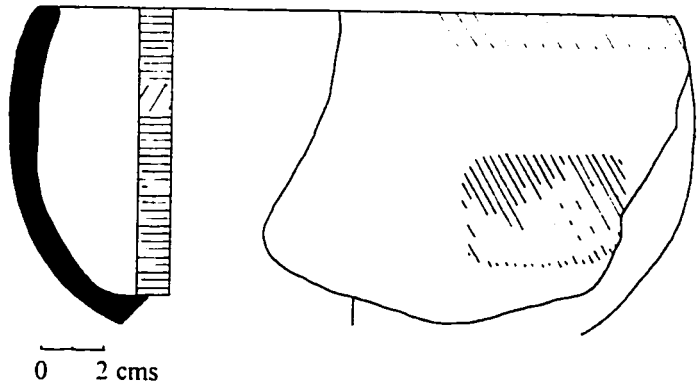
Although the sample is quite small, all rims appear to date to the LCII period. Thompson documents eight fragments of black slipped ash ware (1940: fig. 25a-c) and XAP has recovered 12 sherds associated with this group. Gifford's Achote Black Type may be a similar in style, however, San Lorenzo Black Group is consistently ash tempered (1976: f:156 a-c).



a.

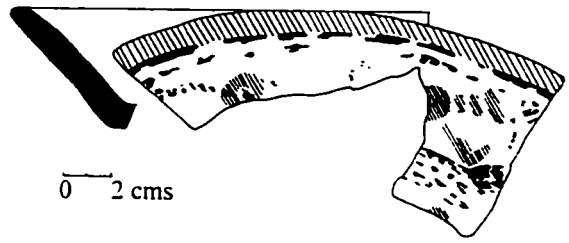


b.

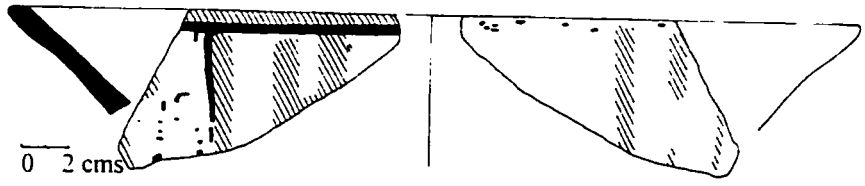


c.

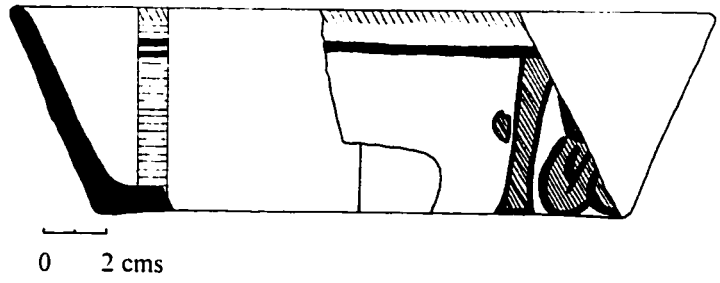
Figure E.24: Chunhuitz Orange Group. Benque Viejo Polychrome bowl (79BB/11.3835) a.; Benque Viejo Polychrome barrel-shaped vases (147H/4.15181, 79 BB/9.7040) b.; Benque Viejo polychrome (?) bowl (122F/2.15142) c.; left to right.



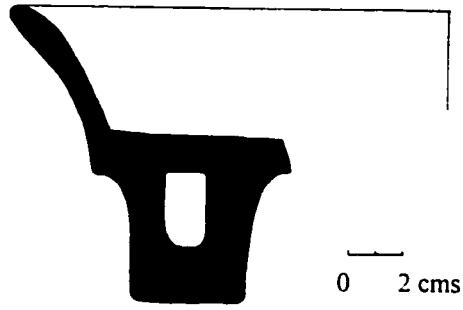
a.



b.



c.



d.

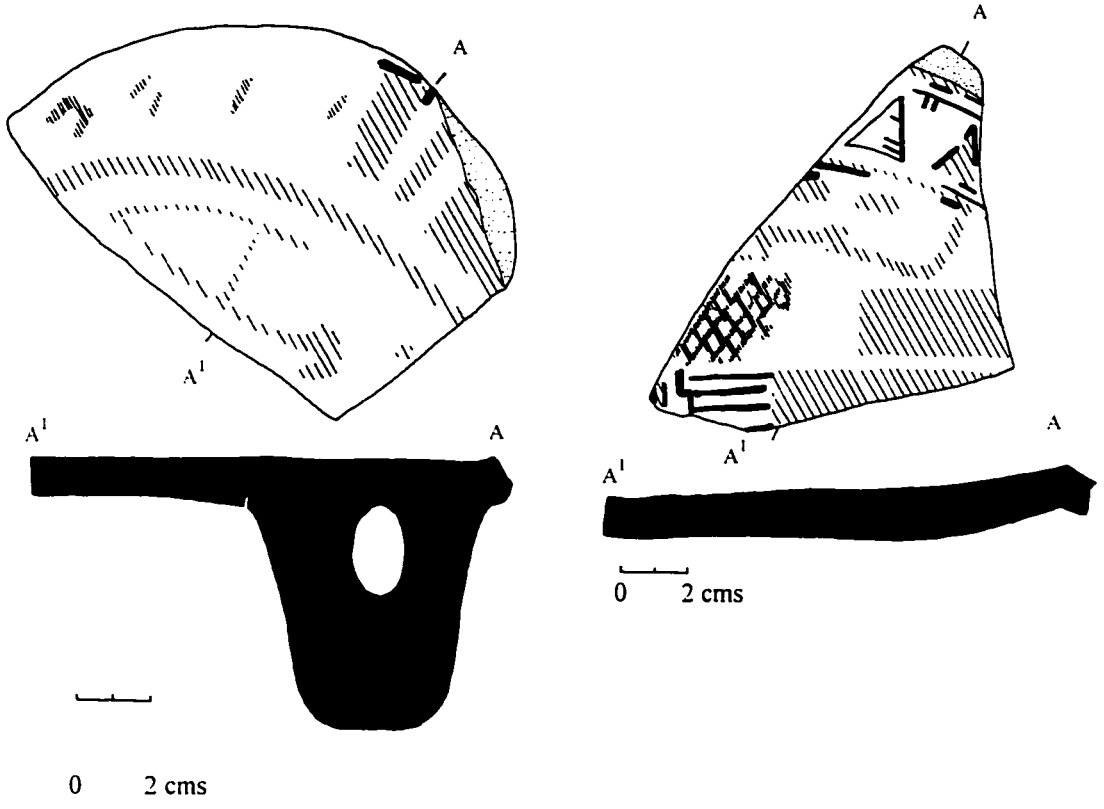
Figure E.25: Chunhuitz Orange Group. Benque Viejo Polychrome plates (95B/4.6860, 95B/5.8356) a.& b.; Benque Viejo Polychrome dish (79JJ/47.5093) c.; Benque Viejo Polychrome plate (116M/4.11116) d.; left to right.

Vinaceous Tawny Ware

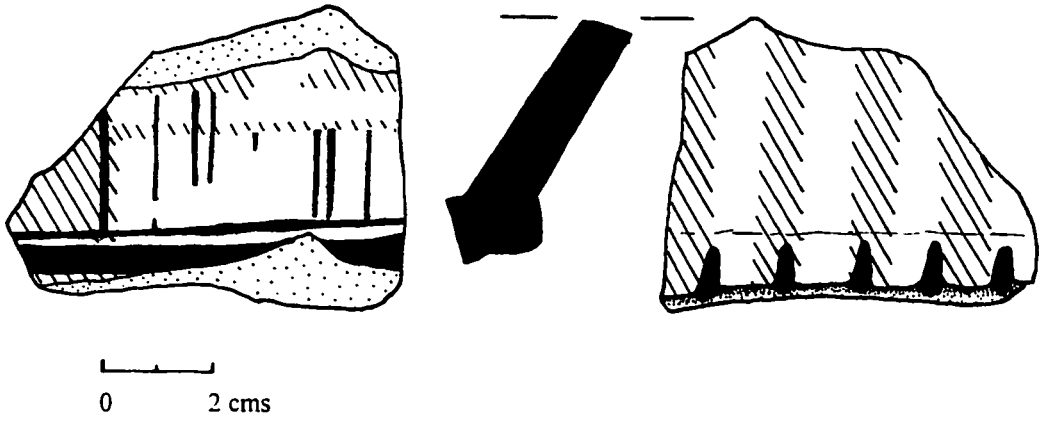
Chunhuitz Orange Ceramic Group

Orange slipped ash ware at Xunantunich is a member of the Chunhuitz Ceramic Group, a major component of Vinaceous Tawny Ware. Vinaceous Tawny Ware was first identified at the site by J. E. S. Thompson in 1940. This ash ware is identified by its orange slip applied to an ash tempered paste. Benque Viejo Polychrome, the painted type, was produced throughout the Late Classic period, whereas, the non-painted type, Chunhuitz Orange, appears to have been produced into the Terminal Classic. The orange slip is either a semi-polished matte (Munsell 5 YR 7/6, 6/8, 5/8 or 2.5 YR 6/6-4) or rarely high polished surface (Munsell 2.5 4-5/8; 5 YR 5/4-6; or 7.5 YR 5-6/4). When polished, the slip color closely resembles Belize Red. Sometimes vessels are slipped on a single surface while the opposite side is solely polished and serves as a natural ground for polychrome painting.

Vinaceous Tawny Ware sherds are usually found highly weathered and information concerning decorative motifs are limited (Figure E.24). The most common design element is a red triangle often found widely spaced between black framing lines just below the rim. Red or black triangles are also found on the base of plates. Plate interiors exhibit geometric designs in complex layouts. Kin signs appear on the interior of plates and less commonly on the exterior of bowls (Thompson 1940: Figure 57). Sets of simple vertical bands or spread panels -- often grading from red to orange -- is another common motif found on the exterior of bowls or dishes. Lastly, simple blocks of red paint are used to

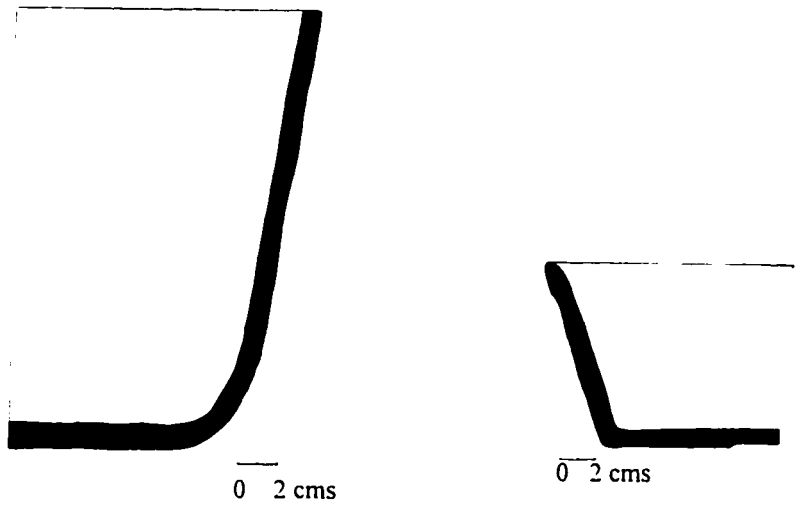


a.

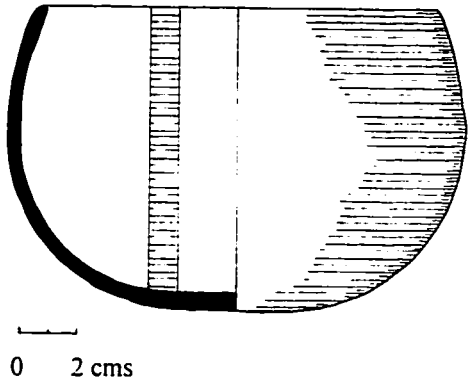


b.

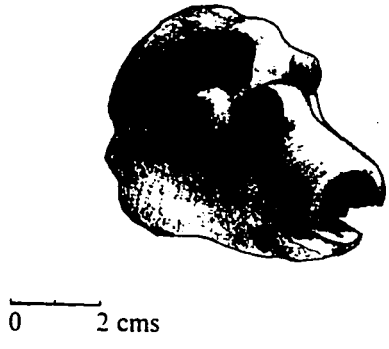
Figure E.26: Benque Viejo Polychromes. Polychrome with hollow column foot (102LL/3.15129) and with notched basal apron (123A/11.11290) a.; with notched basal apron (79KK/32.15107) b.



a.



b.



c.

Figure E.27: Chunhuitz Orange Group. Chunhuitz Orange Type (monochrome) deep bowl (22F/4-D1.644) and bowl with countersunk circle base (123A/11.11289) a.; incurving bowl (123A/7.11185) b.; monkey effigy spout (22G/2.2498) c.; left to right. Effigy spout illustration courtesy of Vickie Liddiard.

decorate exteriors. Generally, single red or double red and black lines are found near the rim on the side least decorated. Polychrome painting can be applied to fluted bowls and

Paste colors ranges from very pale brown to strong brown and yellowish red to red (Munsell 10 YR 7/4; 7.5 YR 7-6/6, 6/4-3, 5/6; 5 YR 6-5/6; and 2.5 5/6) but in more than half the sample the paste is consistently reddish yellow. This color range overlaps with pastes associated with the Belize Red Group. However, Chunhuitz Orange pastes appear more varied but consistently browner than Belize Red paste colors. Tempering material is consistently well sorted, small (.5 to 1.0 mm), infrequent (<10 to 20%), crushed or powdered ash.

In contrast to Belize Red, Chunhuitz Orange Group forms are limited. The most common forms are plates, dishes, and bowls with flared or slightly outcurving bodies and flat bases (Figure E.25). Vessels generally show no sign of support but some have short nubbins or slab feet -- one bowl has a counter-sunk circle base. Those dishes or plates with tall, hollow columnar feet date to the late LCII period (Figure E. 25d and E.26). Barrel-shaped vases or slightly incurving globular bowls are also common. Stylistically, they display triangles dispersed within a set of black framing lines found below the exterior rim. During the Terminal Classic period, globular bowls are produced in Chunhuitz Orange Type (monochrome) (E. 26b). Hemispherical bowls are less common and may have been produced solely in the LCI. Typically, hemispherical bowls exhibit high polished slips (almost red in color) with a wide range of geometric motifs. Cylinder vases are rare and highly eroded. Shepard (Thompson 1940:17) suggested variation within painted varieties is the result of many centers of polychrome production. During the

Terminal Classic period, only Chunhuitz Orange Type (monochrome) incurved and flared bowls were produced.

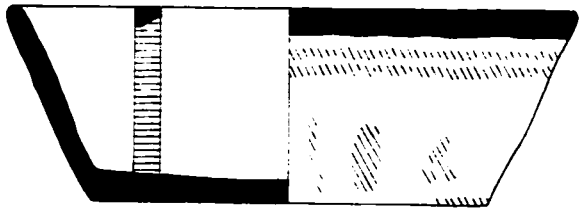
Vinaceous Tawny Polychrome

Polychrome painting applied to a polished, natural background has been defined by Thompson as Red and Black on Vinaceous Tawny Type. Pastes are generally light brown (Munsell 7.5 YR 6/6-4, 5 YR 5/6) and tempered with ash, however, some were produced with calcite temper and may be more appropriately classified as a member of the Saxche Ceramic Group. Motifs are generally more complex on Vinaceous Tawny Type than on Benque Viejo Polychrome. Red and black kin motifs are common and found on the exterior of dishes and bowls (Figure E. 28c,d). Polychrome painting is also found over fluting. The most common form is an outcurving or almost flaring sided vessel with a flat base. Thompson suggested that these forms could be supported by solid, truncated cone-shaped legs (1940: fig. 35).

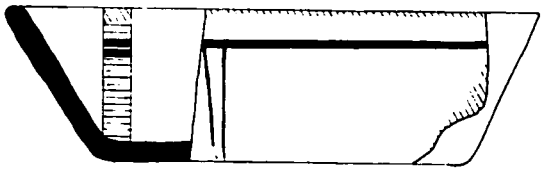
Wares Unspecified

Cream Slipped Polychromes

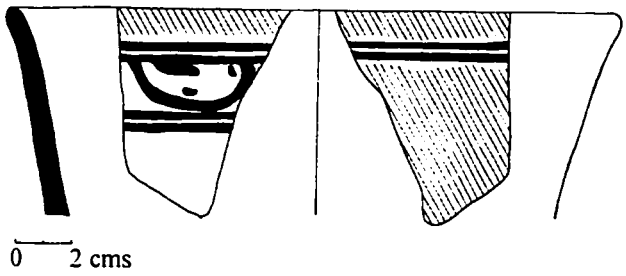
Cream slips are applied to a number of different compositional types. Pastes are consistently fine and light colored with colors ranging from very pale brown, pink, light brown to reddish yellow (10 YR 7/6-3, 6/4; 7.5 YR 7/4, 6/6-4, 5/3; 5 YR 6/6, 5/6). Plus tempering and/or inclusion type is highly variable including ash, mixed ash and calcite, or calcite with flecks of gold biotite. Generally, temper is well to moderately sorted and infrequent. Those sherds exhibiting biotite inclusions exhibit greater amounts of crushed



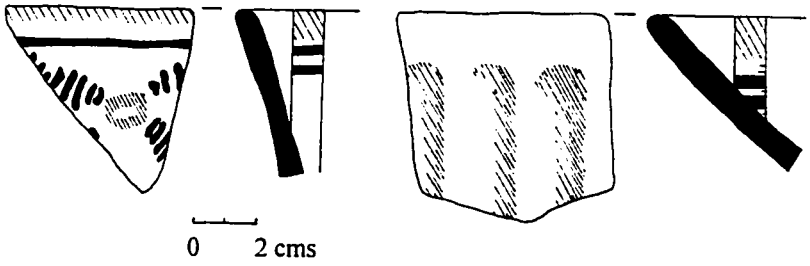
a.



b.

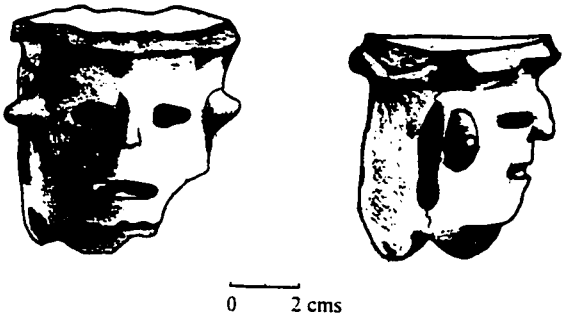


c.

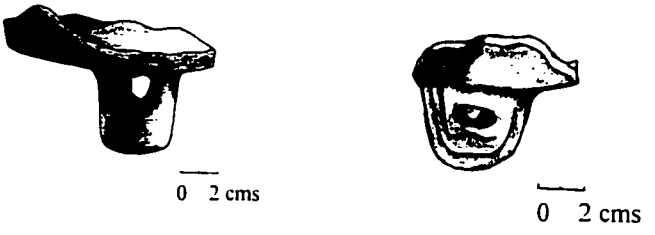


d.

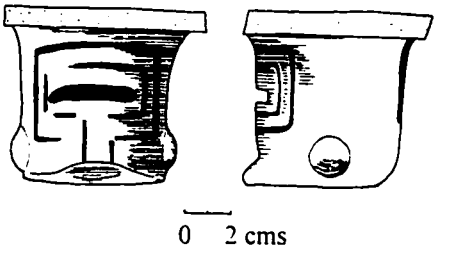
Figure E.28: Vinaceous Tawny Ware. Benque Viejo Polychrome bowl (123A/10.11260) a.; Benque Viejo Polychrome dish (79KK/26.15103) b.; Black and Red on Vinaceous Tawny bowl (79JJ/32.15050) c.; Black and Red on Vinaceous Tawny bowl (79T/36.3829) and Benque Viejo Polychrome plate (117L/6.12992) d.; left to right.



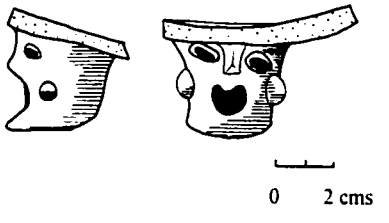
a.



b.



c.



d.

Figure E.29: Late Classic II and Terminal Classic hollow feet styles. Effigy (122I/1.12447) a.; column (116 M/4.1116) and oven-foot with incising (85O/5.6136) b.: column with incising (85G/4-P1.6310) c.; effigy (146B/3.12120) d. Gray-scale illustrations courtesy of Vickie Liddiard.

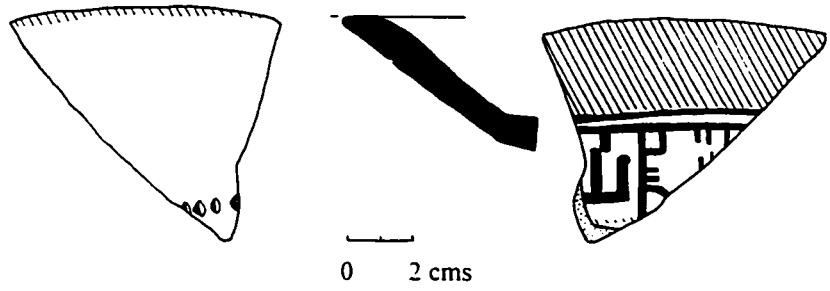
inclusions. Because tempering material is quite variable, detailed petrography analysis is required to distinguish groups and types.

Backgrounds are produced by thick or thin coats of cream slip. Thin cream slips approach the color of the ash paste. Slips are used as background for polychrome painting, however, bichromes may be produced. Presently, I have identified at least 3 cream slip types, not including Holmul style.

1. Ash ware with red and black painting on a white background. Motifs are quite variable. Abstract designs can be found on dishes or bowls (Figure E. 30b). Red and black geometric or linear designs can be applied to dishes, vases and jars (Figures E. 31a,c). Red and black linear, blockish, or kin signs on very thin slips are applied to dishes or bowls (Figure E. 31b).
2. Ash ware monochrome with red linear or representational designs applied to bowls and miniatures (Figure E.31).
3. Complex layouts of figures and glyphs are applied to white or cream backgrounds. Most of these vessels display glyphs (mostly non-readable, imitations) along the rim and body (Figure E. 32a). These vessels exhibit the greatest range of paints, including specular red -- to outline figures -- and washes of brown, gray and light orange -- to fill glyphs and figures. This type is probably associated with Peten Gloss Saxche-Palmar Types, especially Zacatel Polychrome (Figure E.34). Probably, some of these vessels were not produced locally.
4. Holmul style vessels found at Xunantunich were produced using mixed tempers including gold biotite. Only three pieces of distinctive, finely executed, red and orange on cream Holmul sherds have been identified to date.

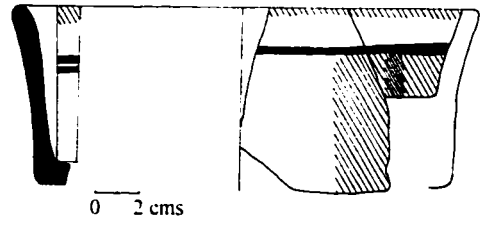
Peten Gloss Ware

Seven sherds exhibit a highly polished, yellowish slip which was used as a background for painted figures and glyphs. The yellowish slip (Munsell 7.5 YR 6/6 or 5 YR 7/8) may have been produced by using a light cream slip and an orange over-slip. Designs are well-executed in a large variety of paints and fill colors including brown, gray, white, and light orange, as well as black, red and orange. Although all sherds are bodies, I presume they are from cylinder vases and are associated with Saxche-Palmar Types.

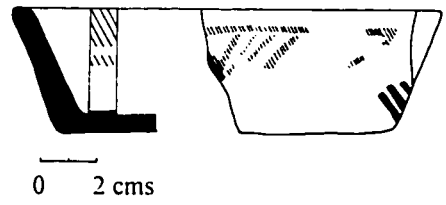


a.

b.

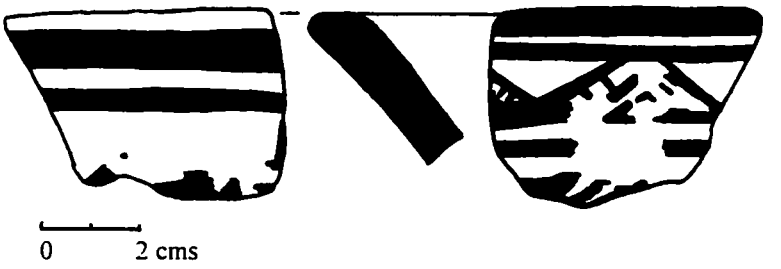


c.

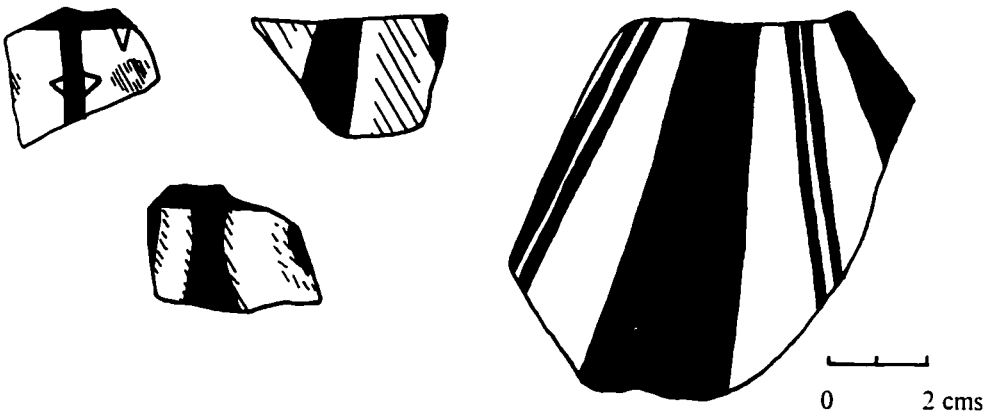


d.

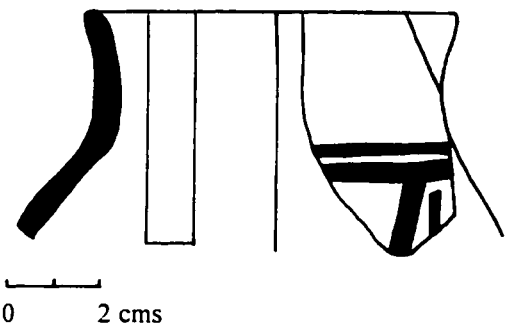
Figure E.30: White slipped ash wares. Plate with geometric pseudo-glyphs (79GG/9.7401) a.; bowls with geometric (12H/1.15154) and abstract designs (79JJ/45.15080) b.; red block motif on bowl (79JJ/40.15076) c.; and geometric designs on dish (79JJ/2.15007) d.



a.

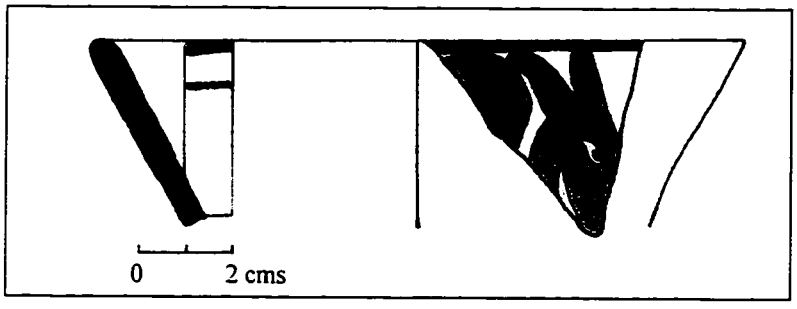


b.

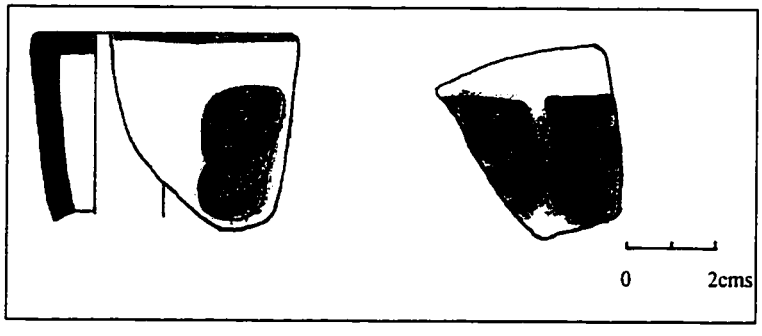


c.

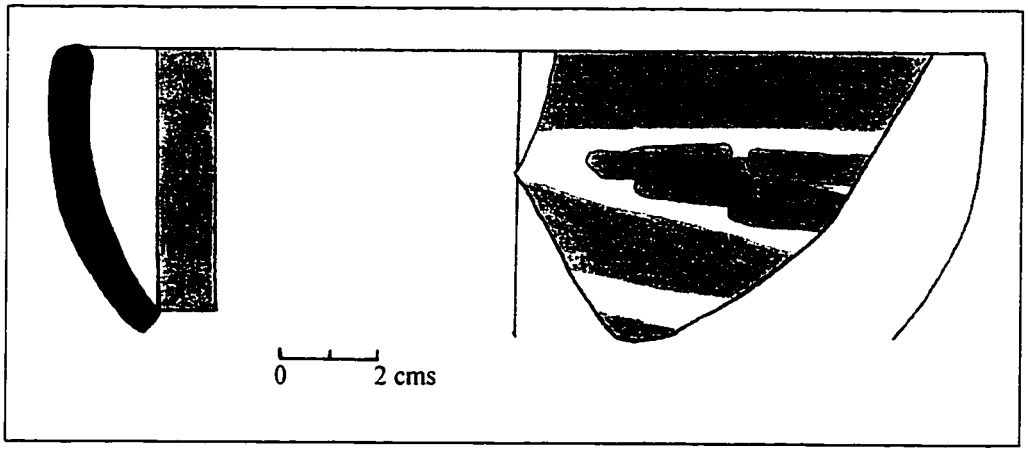
Figure E.31: Black and red on white slipped ash ware. Rim (79BB/5.7031) a.; bodies (79JJ/34.15051, 79BB/11.3836, 79U/35.3815, 79JJ/7.15031) b.; jar (211M/9.20164) c.: left to right.



a.

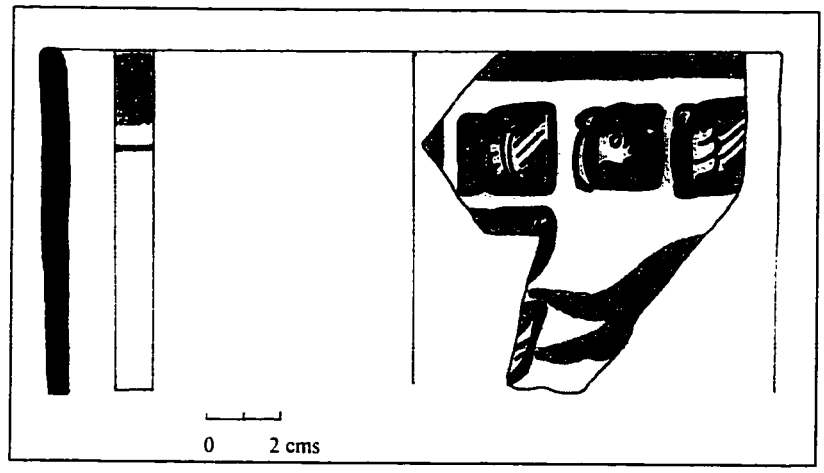


b.

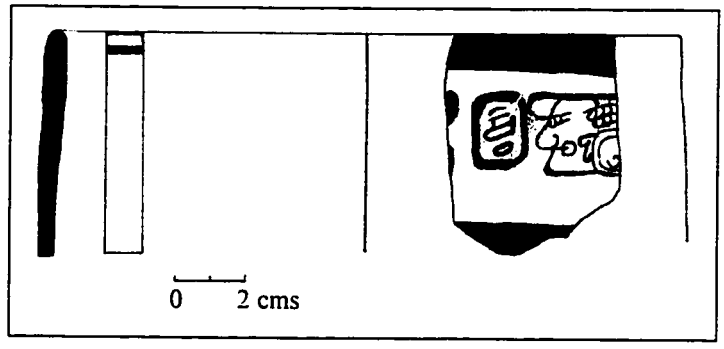


c.

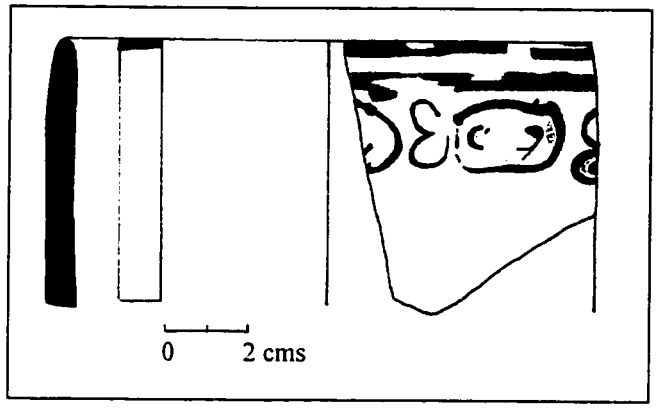
Figure E.32: Red and orange on white slipped ash ware. Bowl (79JJ/38.15061) a.; pseudo-glyphs (79JJ/45.15078, 79JJ/45.15079) b.; bowl (79JJ/40.15068) c.; left to right.



a.

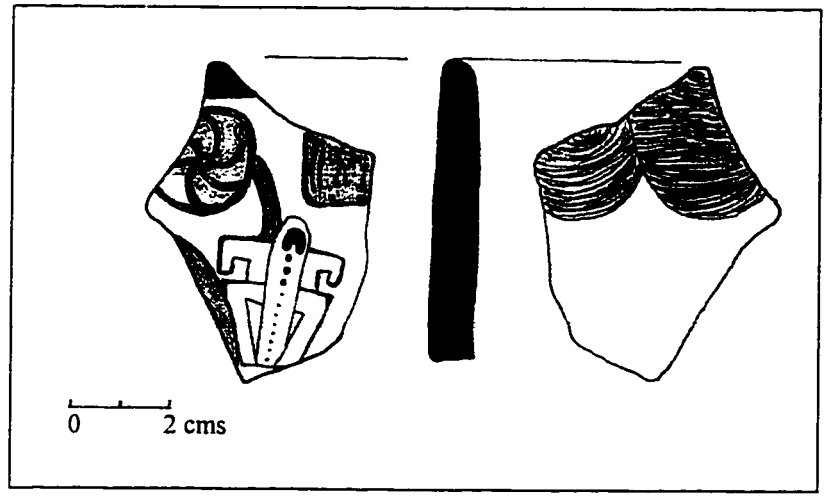


b.

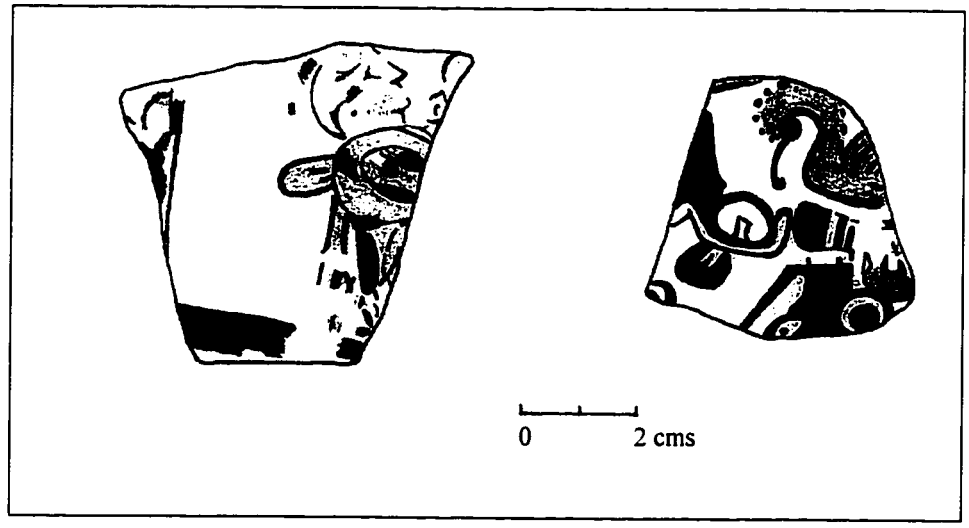


c.

Figure E.33: Cylinder vases with glyphs. White slipped ash ware (79JJ/42.15077) a.; Benque Viejo Polychrome (148A/1.13206) b.; Benque Viejo Polychrome (71C/2-B1.1952) c.



a.



b.

Figure E.34: Peten Gloss Ware. Cylinder vase with black, orange, brown, and specular red on bluff background (79JJ/40.15072) a.; bodies with black and red designs and orange fill on a cream background (211M/4.20167, 79MM/22.15120) b.; left to right.

Fine Orange Ware

Altar Orange Ceramic Group

Small quantities of Pabellon Model-carved and a one possible imported Cedro Gadrooned Type have been found at both Xunantunich and San Lorenzo.

Special Items

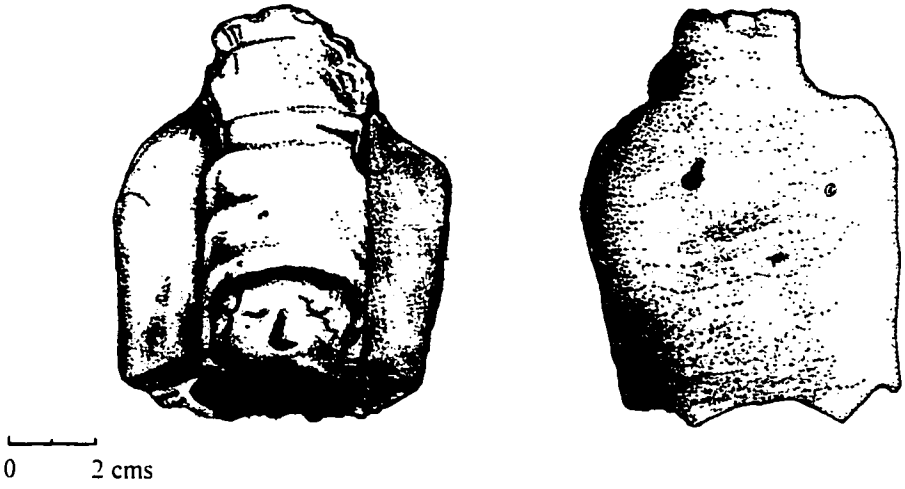
1. Figurines and molds

Late and Terminal Classic mold-made figurines and their molds have been found at Xunantunich (Figure E.35 and E.36). All figurines have fine pastes which range in color from red to light red or brown (2.5 YR 5/8, 5 YR 6/8, or 7.5 YR 6/6-4, 5/4). Inclusions can be calcite, ash, or mixed inclusions. Usually, ash ware figurines have little temper, whereas, calcite figurines have abundant (20 to 30%) and moderate-sized (.5 to 2 mm) inclusions.

Most Classic figurines are representations of kings with large headdresses, although one large item appears to be the midriff of an elite women holding a jar. One item is the base of a throne with imitation hieroglyphic text. None have been found complete. Most figures are hollow. Molds are made of brown, calcite tempered pottery and appear to produce segments, not entire, figurines.

2. Post-fire Painting

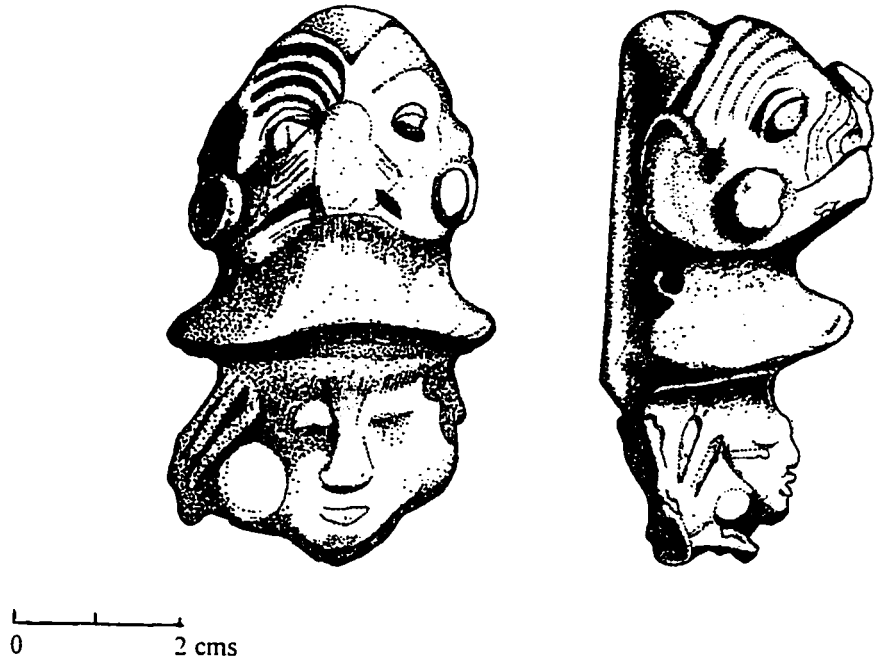
Evidence of post-fire painted vessels is rare at Xunantunich. Although post-fire blue paint is most commonly encountered color, we also have found red and yellow pigments in the cervices of incised or carved designs. Purple paint was found along the rim of a vase. Post-fire blue paint has been found along the rim of a cylinder vase.



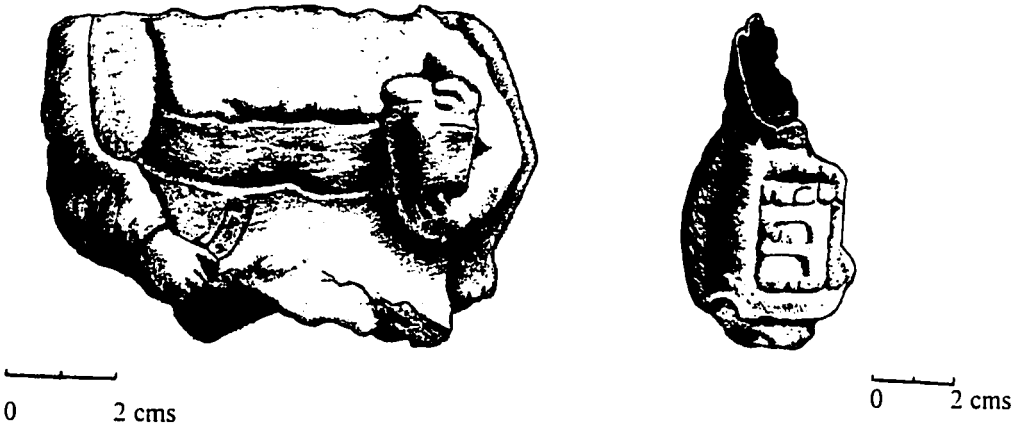
a.

b.

Figure E.35: Figurines and molds. Late Classic hollow figurine (91G/1) a.; figurine mold (22G/2.2463) b.; illustrations courtesy of Vicky Liddiard.



a.



b.

Figure E.36: Late Classic figurines. Hollow figurine (117G/4.12117) a.; solid figurine (118C/4.11517) and hollow figurine base with glyph (22 G/3.11502) b.; left to right. Illustrations courtesy of Vicky Liddiard.

Sherds with post-fire pigment are listed below.

1. Red on orange polychrome vessel with a slightly incurving rim has a post-fire blue line applied to the top of red rim band. Composition - mixed ash and calcite. (147B/6.15177)
2. Ash ware polychrome cylinder vase has a post-fire blue line over a red painted band located along base. (116D/4.10971)
3. Unique handled form has post-fire blue pigment applied over the top of a red painted line. These pigments are located on both rim and handle. This ladle or effigy pot exhibits a polished natural surface on which bands of red and light orange paint were applied. The fine paste is very pale brown with calcite temper. (147B/9.15173 and 147B/8.15174).
4. Small, fine ware effigy pot has blue post-fire paint and possible yellow ochre found embedded in incised semi-circle. (79 JJ/29.12118).
5. Small, round handle is covered with blue post-fire paint. (fine paste) (79 JJ/48.12125).
6. Pedregal Modeled censers are consistently found with post-fire blue on eyebrows, eyes, and flanges. (116G/3.12907, 130G/5-D1.12145, 130 H/1.12150, 130 G/5-D1.13258)
7. Ash ware cream slipped cylinder vase has post-fire blue on top of exterior rim band (211 K/6.20092). Possible Holmul style.

3. Specular Red

Specular red hematite paint is used as a decorative paint and slip on three sherds found at Xunantunich. Specular red paint is found on the rim bands of two Benque Viejo Polychromes (130 I/2.12234, 23K.4.4827) and as framing lines within a figural scene (79 JJ/40.5072). Specular red was also used as slip on a lateral ridged bowl (22T/1.11443). Apparently, powdered specular red pigment also was used in termination and dedicatory rituals. A substantial number of broken sherds were covered with specular hematite in a termination deposit at the junction of Structure's A-3 and A-4 first terraces. Sherds found in the fill of Structures A-1 (79 JJ/32.15045) and D-7 (22 FF/2.11768) also exhibit specular hematite covering their broken edges.

4. "Stucco" surface treatment

An extremely unusual surface treatment was found on a single vessel (22F/4.874, 22F/5-D1.875, 22F/6.887, 22F/7.929, 22G/1.2407, and 22G/2.2437). The surface consists of polished circles in a field of "stucco". The "stucco" surface has a red organic pigment adhering to the irregular exterior. The composition of these sherds appear to resemble Sotero Red-brown with brick red pastes and dark brown exteriors. The "stucco" may have been created by lifting up semi-liquid, yet, firm clay material with a moist tool to form irregular, low peaks like "stucco" on plastered walls. R E Smith also found a similar sherd at Uaxactun.