BETWEEN TEXT AND IMAGE: AN ANALYSIS OF PSEUDO-GLYPHS ON LATE CLASSIC MAYA POTTERY FROM GUATEMALA

by

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Between Text and Image: An Analysis of Pseudo-glyphs on Late Classic Maya Pottery from Guatemala

Thesis directed by Professor Payson D. Sheets

Abstract

To explore the parameters of literacy for members of Late Classic Period Maya society (A.D. 550-950), this dissertation focuses on the morphology and provenience of pseudo-glyphs on pottery recovered from government sanctioned archaeological projects in the Southern Lowlands of Guatemala. As defined by Longyear (1944, 1952), the term "pseudo-glyph" describes elements or signs that resemble hieroglyphs in terms of placement on the vessel and general physical appearance but that do not conform to the established canons of Maya hieroglyphic inscription. Pseudo-glyphs mimic writing but do not form coherent phrases. To define the nature of pseudo-glyphs, this research integrates data from epigraphy, archaeology, art history and statistical analysis.

This dissertation examines 121 pseudo-glyph decorated sherds and whole vessels from Altar de Sacrificios, Motul de San José, Arroyo de Piedra, Dos Pilas, Tamarindito, Piedras Negras, Poptún, Seibal, Tikal and Uaxactun. Epigraphic analysis led to the creation of a Maya Pseudo-glyph Catalogue illustrating the 314 individual elements not included in the corpus of recognized Maya hieroglyphic signs. Few of these elements appear on more than a single ceramic vessel.

The majority of pseudo-glyphs derive from undecorated, small bowls recovered from middens and construction fill. Comparison of the corpus of vessels with pseudo-glyphs and a sample of 100 Classic Period Maya ceramics embellished with legitimate hieroglyphic texts indicates that greater resources, labor investment, artistic expertise and esoteric knowledge are displayed on pottery with real glyphs. However, examination reveals that the burials of Maya rulers and elites contain more pseudo-glyph decorated vessels than ceramics with real glyphs. Legible writing was not the only criterion employed in deciding which objects to include as grave goods. Although pseudo-glyphs do not represent a script tradition, archaeological provenience, iconographic motifs and resource costs identify these vessels as a valued component of Classic Period Maya culture.

Dedication

For Charles Calvin, without whom it wouldn't matter

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Chapter 1 — Introduction

Decipherment of Maya hieroglyphic writing has been the focus of intense research over the past 40 years, with firm results that define the canons of hieroglyphic writing and reveal historical information about elite society. Employing a mixed phonetic and logographic system of writing, Maya text was inscribed on stone monuments and architecture; carved into wood, bone and stone ornaments; and painted on ceramics, textiles and murals. A neglected component of this epigraphic research, however, is study of the pseudo-glyphs that often embellish well-made, decorated vessels found in a variety of Late Classic Period (A.D. 550-950) contexts.

Defined by linguists as *full writing*, Maya hieroglyphics form a system of graphic symbols that could convey any thought by rendering the spoken word in permanent form (DeFrancis 1989:5). By contrast, pseudo-glyphs morphologically resemble hieroglyphs but do not conform to the established canons of Maya inscription (Longyear 1944, 1952; Thompson 1940:18). This research seeks, through comparative analysis, to answer questions related to the nature of pseudo-glyphs on Southern Lowland Maya pottery. Broadly summarized, the two major goals of my investigations are (1) to define the physical characteristics of pseudo-glyphs on Maya pottery and establish whether epigraphic rules apply, and (2) to explore the roles of pseudo-glyphs in Classic Period Maya society.

The Nature of the Project

To address these issues, my research began with the identification and photography of 121 pseudo-glyph decorated sherds and whole vessels from government authorized archaeological projects in Guatemala. This has led to the creation of a computerized database to organize information about the ceramics and to identify the individual glyphs or pseudo-glyphs found on each vessel. From this documentation, I have developed a Maya Pseudo-glyph Catalogue that illustrates the 314 pseudo-glyphs that were painted and carved on the vessels but that do not appear as part of the corpus of recognized Maya hieroglyphics.

Because no writing system can be composed exclusively of idiosyncratic symbols or logographs (Daniels 1996b:4), I have recorded instances in which the same pseudo-glyph appeared on multiple vessels. My research reveals that only 24 of the 314 pseudo-glyphs appeared on more than a single piece of pottery. The majority of these replicated pseudo-glyphs derive either from the same excavation unit or site, or else are so generic in form as to suggest independent invention. The pseudo-glyphs that comprise the Maya Pseudo-glyph Catalogue do not form an alternative writing system — these pseudo-glyphic elements are not signs or symbols that replicate spoken language or convey meaningful words.

Having defined the morphology of pseudo-glyphs, I turned to an exploration of what social roles pseudo-glyphs may have played in Maya society. By comparing vessels from the pseudo-glyph corpus with a sample of 100 vessels with real glyphs, I have confirmed that both conventional glyphs and pseudo-glyphs embellish dishes,

bowls, jars, plates, drums and vases. Pseudo-glyphs occupy the same locations on the pottery as conventional Maya text: encircling the rim and body, in vertical columns and next to the human or anthropomorphic figures that often decorate the vessel surface.

Statistical analysis reveals that pseudo-glyphs appear most frequently on undecorated, slipped bowls and that a majority of pseudo-glyphs were created using two pigments. The median size of bowls with pseudo-glyphs is significantly smaller than the bowls included in the sample of vessels with real glyphs. When combined with epigraphic evidence that identifies bowls as containing various types of cornbased comestibles, it seems likely that bowls with pseudo-glyphs were used for individual, quotidian consumption. By contrast, real glyphs most frequently appear on vases decorated with scenes of multiple-character interaction. Real glyphs are painted with as many as four pigments, including rare examples of blue and yellow. Statistical analysis confirms my hypothesis that greater resources, labor investment, artistic expertise and esoteric knowledge are displayed on vessels with legitimate hieroglyphs than on pottery with pseudo-glyphs. The combination of these factors, along with the presence of hieroglyphic text specifying the contents of vases as *cacao* ("chocolate" — a valued luxury item), suggests that vases endowed with hieroglyphic text represented a more valued commodity than bowls displaying pseudo-glyphs.

Geographically, my research establishes that ceramics painted with pseudoglyphs are not restricted to a few sites or region but appear throughout the Southern Maya Lowlands of Guatemala. Based on dated mortuary contexts, ceramics bearing pseudo-glyphic inscription were manufactured during the early part of the Late Classic Period (A.D. 662 to 781). Both epigraphically and archaeologically, these years represent a period of dynamic social change for the Southern Lowland Maya, with many new sites displaying hieroglyphic texts on monuments for the first time in their history. The identification of pseudo-glyph decorated ceramics in some of the most elaborate Maya burials of the period suggests that manufacturing costs or artistic expertise were not the only factors influencing the decisions as to which ceramics should be included as grave goods. I suggest that both social and metaphysical constraints influenced the production and deposition of pottery with pseudo-glyphs. The tendency of some archaeologists (Foias 2004:157, Webster 2001:148) to identify all polychrome pottery as equally part of a prestige, political or wealth economy and produced by artists attached to palaces misses the finer distinctions revealed through the epigraphic and archaeological analysis of pseudo-glyphs.

Organization of the Dissertation

In the following chapters I present the background and results of my examination of the roles and nature of pseudo-glyph decorated ceramics from Late Classic Maya sites in Guatemala. In Chapter 2, my study opens with a statement of my research goals and objectives. My research integrates evidence from archaeological, epigraphic and iconographic sources to explore the multiple social goals of past practices. In this chapter, the geographic and cultural context of my study, as well as the epigraphic nomenclature employed in this work, are defined. I review the various Guatemalan museums in which pseudo-glyph bearing ceramics are curated and the procedures employed in my collection of data. In addition to

addressing the nature of the sample, I present the assumptions and hypotheses that guide my research and pose a series of questions by which these hypotheses will be tested.

Chapter 3 summarizes the history of Maya hieroglyphic decipherment generally, before turning to a more in-depth review of the history of glyphic decipherment on Maya ceramics. Because pseudo-glyphs do not conform to the epigraphic rules or morphology of conventional hieroglyphs, Chapter 4 reviews the canons of Maya writing. In particular, the glyphs that comprise the Dedicatory Formula inscribed on ceramics of the Late Classic Period are reviewed in detail.

Chapter 5 surveys the archaeological contexts from which pseudo-glyph decorated ceramics have been recovered. In order to establish the social role that this pottery may have played, I examined each vessel in terms of its location within the structure, midden or burial from which it was excavated. Attention is paid to the artifacts and human remains with which the pseudo-glyph decorated pottery is associated. I include a block-by-block reading of the pseudo-glyphs on each vessel.

In Chapter 6, I present my analysis of pseudo-glyph decorated pottery. To establish whether pseudo-glyphs represented an alternative script system or served the same function as conventional hieroglyphic text, I survey the locations where the blocks appear on the vessels. I review the Maya Pseudo-glyph Catalogue in terms of the number of times pseudo-glyphic elements are repeated on various vessels. I present the results of a series of statistical tests to compare vessels decorated with pseudo-glyphs with a sample of 100 Late Classic Period Maya ceramics. Additional

statistical analyses examine the differences between pseudo-glyph Categories and the locations whence vessels were excavated.

Chapter 6 also addresses the social and metaphysical factors that may have influenced pseudo-glyph production. I suggest that the excavations at Buenavista del Cayo may provide one model for further research concerning the political and economic nature of ceramic exchange. The analysis finishes with a brief look at cross-cultural examples of pseudo-glyphs from outside the Maya area. I close the dissertation with Chapter 7, in which I present my conclusions and suggest possible directions for further research on this topic.

Chapter 2 — Research Goals and Objectives

While acknowledging that the archaeological record itself does not express an utterance or text by some unknown author (Tschauner 1996:25), this research seeks, through detailed examination of Maya pottery decorated with pseudo-glyphs combined with analysis of the archaeological context from which the vessels derive, to infer human behavior from material remains. While I make no claims toward building nomothetic models, my research is guided by testing explicitly-stated assumptions and hypotheses (Binford 1965, Cordell, et al. 1987:565, Earle and Preucel 1987:503). In order to approach an emic point of view, my analysis begins in etic terms to quantify the nature of the data, before turning to more abstract interpretations from art history and iconographic studies (Sugiyama 2005:12-13). My research seeks to develop a more rigorous baseline for understanding past practices as well as to create a model for future hypotheses, inferences and research.

Geographical and Cultural Context

For purposes of this study, *Maya* refers to those individuals living along the southern area of the culturally interactive region defined as Mesoamerica (Kirchoff 1943). Geographically, this limits the Maya region to about 400,000 square kilometers within the modern nations of Belize and Guatemala, the southern portion of Mexico, and the western parts of Honduras and El Salvador. More specifically, my research is centered on Maya sites in the Department of Petén, Guatemala

(Figure 1). Known as the Southern Lowlands, this area represents the center of Maya civilization during the Classic Period (A.D. 200-950) (Table 1). The term *Classic Period* defines the time during which the Maya erected monuments inscribed with hieroglyphic text and calendrics that calculated dates from a specific starting point (Morley 1915).

At the time of the Spanish arrival, the Maya formed 28 separate ethnolinguistic groups (de la Garza 1998:19-27). As discussed by Houston, et al. (2000:322), a close reading of the hieroglyphs, combined with rigorous linguistic analysis, establishes that the majority of Classic Period Maya texts were written in an ancestral form of the Eastern Ch'olan languages, historic Ch'olti' and modern Ch'orti', known as Classic Ch'oltian (Figure 2). Based on the geographic distribution of this written tradition, it appears that during the Classic Period (A.D. 200-950), the majority of peoples living in the Petén of Guatemala spoke this language. After A.D. 650, texts from monuments indicate that increasing numbers of loan words from Central Mexico and Yucatan entered the language (Grube 1994b:184-185). By the end of the Classic Period (ca. A.D. 900), hieroglyphic writing may have been used to record a prestige language spoken by a minority of the population (akin to Medieval Latin; see Houston, Robertson, et al. 2000:326).

Epigraphic Terminology

Because terms are used in a variety of ways in the linguistic, epigraphic, anthropological and semiotic literature, it is important to establish how the following words (rendered in *italics*) are used in this dissertation. Of premier importance is the

meaning of *writing*. I hold with Houston (2004b:286, 292) that writing must be defined by the following criteria:

- a fixed writing and reading order
- graphic representation of a specific language as indicated by sequenced elements that form pronounceable words
- words that can be set into linear sequences that expand into greater degrees of syntactical complexity
- a limited and codified set of signs that are systematically organized and employed consistently over a wide areas

Additionally, writing is an artifact as well as a message (Houston et al. 2003:432). As with the Maya, the presence of a particular writing system often distinguishes and separates a culture from its neighbors. The temporal and physical dimensions of a writing system provide an anthropological and linguistic view of culture (Harris 1995:5 in Pettersson 1998:419).

Linguistic and semiotic theorists define a *sign* as a mark that represents a relationship between a signifier, a signified and a given context. A *symbol* is a type of sign that bears an arbitrary relationship to its referent. The words sign and symbol both "represent the irreducible element of script; synonymous with *glyph*" (D. S. Stuart, et al. 1999:II 74). In accord with epigraphic conventions articulated by Stuart (1995, 1999), the terms sign, glyph, and hieroglyph are synonymous and will freely alternate in this study. In linguistic parlance, the word *grapheme* shares this same meaning (Zender 1999:10).

As employed in the epigraphic literature (G. E. Stuart 1988b), *logograph* equates to our concept of a word-sign, in which the meaning of the sign remains the same regardless of spoken language. A logograph can represent either an entire word or a *morpheme* (the smallest meaningful linguistic unit and, for the Maya, equivalent to a syllable). As will be described in Chapter 3, the Maya inscribed words using both (1) logographs to which morphemes had been appended to specify pronunciation, and (2) compound syllabic morphemes. The term *collocation* applies to these compound signs joined to form words. I employ the terms *real*, *conventional* or *legitimate* to distinguish the hieroglyphic signs that record Classic Ch'oltian Maya words.

Morphologically, Maya hieroglyphs form roughly square *blocks*. On the majority of monuments, each glyph block represents a single word or unit of meaning. However, on pottery or other artifacts, a word can extend across several blocks. A *text* or *phrase* consists of a sequence of multiple glyphs that represent syntactical complexity — analogous to a sentence. The noun *inscription* refers to a legible text composed of legitimate hieroglyphs; the verb form *inscribe* is used only in reference to real glyphs.

The earliest Maya hieroglyphs, inscribed predominantly on portable artifacts although also found painted in the murals of San Bartolo (Saturno, et al. 2006), date to the Late Preclassic Period (400 B.C. to A.D. 200). Most of these early texts consist of a series of single glyph blocks, suggesting that the writing system was largely logographic. Head variants, often forming lists of deity names, appear frequently (Houston 2000:144). "The majority of these early texts were self-referential,

focusing on the dedication and presentation of the objects that carried the inscriptions" (Fahsen and Grube 2005:77). As will be described more thoroughly in Chapter 3, after A.D. 650 increasing numbers of new phonetic signs (with each sign representing a morpheme or syllable that more closely replicates spoken language) are added to the Maya hieroglyphic corpus (Grube 1994b:184-185).

Over the last 100 years, the documentation of repeated signs has resulted in the identification and cataloguing of several hundred signs. Recent glyph dictionaries have been published by Coe and Van Stone (2001); Bricker (1986); Montgomery (2002a, 2002b, 2002c); Mathews (2006); Stuart (2005b); and Thompson (1962), among others. Many glyphs have been *deciphered*, meaning that a full explanation of a sign in terms of its iconic referents, its definition and sound, and its development through time has been established (Houston 2000:126). Other glyphs have been *translated* or *glossed*, signifying that the content or an interpretation of the inscription is expressed in some language other than the original (Hopkins 1997:77). Finally, some hieroglyphic signs remain undeciphered, although their grammatical role (as noun, verb, etc.) may be understood by the fully legible or deciphered hieroglyphs that surround them.

As documented by Longyear (1944, 1952:60-62), pseudo-glyphs violate the form and structural conventions of Maya hieroglyphs. In my analysis, I use the word *element* to describe the individual pseudo-glyphs that can combine to form a single block. An element is morphologically analogous to the glyphic syllable or logograph, but lacks **any** semantic association.

In this study, pseudo-glyphs and hieroglyphics share some nomenclature. Contiguous pseudo-glyphic elements, like conventional glyphs, combine to form *blocks*. I use the generic term *component* to refer to the pseudo-glyphic elements as well as hieroglyphic logographs and syllables that merge to form a single block. I employ the word *outline* to indicate the bold, calligraphic line that defines the exterior form of both glyphs and pseudo-glyphs. Although Coe and Kerr (1997:154) proposed the word *formline* to describe the calligraphic exterior border of a glyph block, element or sign, I prefer the term *outline* to avoid confusion with the "formline" employed in describing Northwest Coast Indian art (Holm 1965, 1976). Like real hieroglyphs, a series of pseudo-glyph blocks could be organized in a linear, phrase-like manner; however, the pseudo-glyphic blocks do not form a coherent statement.

My transcription of legitimate hieroglyphic text will follow the conventions established by the Center for Maya Research (G. E. Stuart 1988b). Literal renderings of the inscribed glyphs appear in **bold** type, with **BOLD CAPITAL** letters indicating word signs or logographs, and **lower-case** letters representing phonetic elements. Transliterations that reproduce actual Maya words are printed in *italic*. Because of the volatile nature of phonetic decipherment and in an effort to establish a database that will be useful to subsequent researchers, I employ the syllabic orthography proposed for Guatemalan Mayan languages (England and Elliott 1990). However, I render site names using spellings that can be found on a map rather than orthographic reconstructions.

Data Collection

Upon receiving a *Constancia para Trabajo de Campo* ("Permission to Conduct Fieldwork") from the *Instituto Antropología e Historía* (IDAEH), I initiated research by visually inspecting and identifying pseudo-glyph decorated ceramics in the collections of the Museo Nacional de Arqueologia y Etnología and the IDAEH Ceramoteca in Guatemala City; the Museo Morley, Parque Nacional Tikal; and the Proyecto Piedras Negras. The curating institutions or IDAEH provided site information and registration numbers. In cases where a piece of pottery displayed multiple numbers, I employed, in descending order, the following hierarchy of identification: (1) K-number (assigned by either Kerr or Calvin when the vessel was photographed with the rollout camera), (2) museum number, (3) IDAEH registration number, (4) reference number used in the site report or monograph, (5) number created during excavation ("field number"), (6) number assigned by the Smithsonian Institution for purposes of instrumental neutron-activation analysis at the Conservation Analytical Laboratory ("INAA Number"), or (7) any number inscribed on the vessel. For those ceramics without an identifying number and in the case of duplicate numbers, I assigned a number.

Photographic Documentation

I photographed pseudo-glyph decorated ceramics using 35mm, digital and 2-1/4" rollout technologies. To minimize distortion or subjective interpretation in my analysis of the inscription, I documented reconstructed vessels with rollout photographs. This photographic technique began in the 19th century with the British

Museum publication of the Fenton Vase. Their image, that showed the entire surface of the vase in a single photograph, was created by overlapping a series of individual images to form a composite. It was not until 1975 that Justin Kerr perfected the technique of photographing cylindrical ceramics with a single negative. The inclusion of Kerr's rollout photos in *Lords of the Underworld* (Coe 1975) provided accurately scaled reproductions of the hieroglyphic texts as inscribed by the Classic Period Maya artists. In subsequent years Kerr (2005) made rollout photos of several thousand vessels and established a computerized database of iconic motifs. In 1995, Justin Kerr generously shared his expertise with me by providing instructions for manufacturing and using the rollout camera used in this research.

The production of a rollout photograph begins with measuring the height and circumference of the subject vessel. The vessel is placed atop a variable-speed turntable (Figure 3). The distance between the camera and turntable is adjusted so the height of the vessel's image does not exceed the 6 cm vertical dimension of the film. The speed of the turntable is calibrated to reproduce the entire circumference of the vessel onto a 5.72 cm high by 12.7 cm wide strip of film. The rollout camera consists of a Hasselblad 6-x-6-cm body modified with a synchronous motor that advances the film at a constant speed past a vertical slit cut into the film magazine's dark slide. The photography of each vessel requires an entire roll of film (110 cm in length), with each roll recording multiple revolutions of the vessel as the film moves past the open shutter.

As part of this study, I also photographed plates, dishes and sherds — with shapes that preclude the rollout format — using conventional 35-mm and digital

photography. These photographs and on-site measurements, combined with museum registration reports, provided the basis for my analysis. It is essential to stress that the pseudo-glyph bearing ceramics included my study do not, in any manner, form a representative sample. To define and assess the non-representative nature of the sample requires a review of the various factors that have combined to create this corpus.

Nature of the Sample

As with any archaeological sample, a variety of noncultural (*n*-transforms) and cultural (*c*-transforms) processes affect the archaeological record (Schiffer 1976, 1985, 1987). In terms of preservation, each site exhibits a unique history of environmental and geomorphological activities that influence whether an artifact can be recovered. Additionally, the behavior of the Classic Period Maya in terms of pottery deposition is by no means consistent. Decisions on the part of the ancient Maya, including those regarding which items were deposited in middens, which were reused as construction and which were conserved, influences contemporary interpretation of the archaeological record (Dobres and Robb 2000). Patterns of occupation (including specialized, ritual and quotidian use) as well as site abandonment have an effect on artifact preservation.

Equally significant is the way this pottery has been recovered archaeologically. Depredations by looters pose a significant postdepositional c-transform that has distorted the relationship between systemic and archaeological contexts. The documented preference by art collectors for Late Classic Period polychrome ceramics

embellished with figures and text has resulted in a significant quantity of decorated pottery being alienated from its original context (Paredes Maury 1996). Modern ceramic "restoration" of this unprovenienced pottery has created an additional *c*-transform that further obscures meaning. Contemporary demand has stimulated the looting and illegal sale of polychrome ceramics embellished with text or text-like elements, while leaving less-marketable vessels strewn about the site for the salvage archaeologist (Adams 1999, Hansen, et al. 1991, Reents-Budet 1994).

Unfortunately, the pottery recovered in the course of legitimate archaeological research also presents a skewed sample. The historical bias by professionally trained archeologists to probe the monumental pyramids and largest residential compounds of the Classic Period Maya has favored the recovery of prestige goods from elite contexts. Only recently has archaeological attention focused on the non-elite sustaining zones. Because the majority of provenienced, whole vessels curated in the Museo Nacional and the Museo Morley derive from site core excavations, the question whether similar examples exist in the less elite-dominated periphery remains unanswered.

Sherds and vessel fragments from archaeological projects stored in the *bodegas* of the IDAEH Ceramoteca in Guatemala City and the Morley Museo in Tikal are also included in this study. However, reconstructing the original context of this pottery has represented a considerable challenge. Over the years, archaeologists have employed a variety of conservation strategies that affect negatively the study of museum collections. Some ceramicists have retained only a portion of their sherds and discarded the remainder without noting the reason for such decisions or

explaining whether the curated material forms a representative sample. In other cases, bags and boxes have disintegrated to commingle collections and identification numbers have abraded from the pottery surface. As an example, I could not establish whence the Rio Azul sherds derived because the barely legible or duplicated numbers inscribed on the ceramics did not match those of the published reports.

Although I had intended to examine only ceramics from sealed primary deposits, the number of vessels recovered from archaeologically documented contexts was so small as to preclude this goal. Instead, my corpus includes pottery recovered from fill and middens, as well as vessels from published, but not personally examined, sources. My sample favors pseudo-glyphs on pottery from Classic Period elite contexts and includes material identified as being from a particular site but without excavation records to specify provenience. By way of compensation, few of the vessels have been restored or over-painted.

Finally, my sample includes those only vessels that I identified as bearing pseudo-glyphs. Based on my subjective knowledge, I documented only those vessels that appeared to me not to meet the morphological standards of conventional Maya hieroglyphs. Consequently, I ignored examples of atypical spellings or non-normative glyphic affixation that may indicate regional linguistic innovation in favor of examining the physical morphology and possible social role of pseudo-glyphs. However, my own biases and subjectivity must be acknowledged as another post-depositional c-transform that affects the sample.

Cataloguing the Pseudo-glyphs

From the photographs and museum registration material, I established a database using Microsoft Access to record the pseudo-glyphic elements and conventional signs that comprise each glyph block (Table 2). To specify the position of the components that formed an individual block, I employed Thompson's (1962:32-33) system of punctuation. When transcribing compound glyphs or pseudo-glyphs, a period separates parallel elements, a colon indicates the second element is below the first, and brackets enclose infixed elements.

As noted above, Longyear (1944, 1952:60-62) was the first to identify the non-legible "inscription" on Copador and Ulua-Yojoa pottery from Copan and El Salvador with the term pseudo-glyph. However, the elements he identified bear little resemblance to the pseudo-glyphs painted and carved on Southern Lowland Maya pottery in terms of orientation or morphology. The geographical distribution of Copador (Beaudry 1984, Bishop, et al. 1986a, 1986b) correlates with populations that may be linguistically and culturally distinct from the Classic Period Maya living in the Southern Lowlands and Yucatan (Demarest 1988). Based on these stylistic and linguistic disparities, Longyear's forms are not included in this study.

The individual pseudo-glyphs were examined initially as isolated artifacts, without regard to the archaeological context of the vessel. Inspection revealed that blocks consisted of a either a single pseudo-glyph or multiple, joined pseudo-glyphic elements. Each unique element was illustrated in the Maya Pseudo-glyph Catalogue (Appendix 1) and its location on the vessel was recorded. The creation of a catalogue

that focuses on the physical characteristics of the inscription is an essential first step in the analysis of any writing system (Daniels and Bright 1996, Grube 2001). As an organizational tool, I assigned each unique pseudo-glyph a Catalogue Number, beginning with "PG001". Unlike the system devised by Thompson in his *Catalog of Maya Hieroglyphics* (1962), these numbers are not ordered in hierarchical fashion and do not indicate the number of times an individual element was identified.

To define the physical characteristics and establish whether the pseudo-glyphs on pottery conformed to Mayan epigraphic rules, I began by asking: "Do pseudo-glyphs represent a communicative script that in some fashion conveyed information? Do pseudo-glyphs function as *signs* that represent a relation between a signifier, the signified and a given context? Might pseudo-glyphs be functioning as an alternative script system, expressing the same information as Maya hieroglyphs but using a different set of symbols?" To answer these questions, I proposed the following hypotheses, each of which is followed by a query designed to test the hypothesis:

• If pseudo-glyphs fill the same function as hieroglyphic text, they should appear on vessels in the same locations. If pseudo-glyphs are intended to replicate the role of hieroglyphic text, they should encircle the vessel rim or body like the Dedicatory Formula¹, identify the individuals depicted on the vessel body and present information relevant to the scene illustrated. If pseudo-glyphs are intended to signal the message "this is a graphic system"

The Dedicatory Formula or Primary Standard Sequence (or "PSS," Coe 1973), consists of series of glyphs inscribed on pottery that record vessel shape, function and ritual dedication — this subject will be discussed at length in subsequent chapters.

(as opposed to decorative filler), then they should be marked by placement and scale different from the pictorial scene (Baines 1989:474).

Test: Are the vessels inscribed with real text in the same places as those with pseudo-glyphs? Do pseudo-glyphs conform to the orientation and spatial vocabulary displayed by hieroglyphs?

• Without specifying whether pseudo-glyphs represent logographs or phonetic symbols, if the elements have communicative value and convey language, then the same elements should be found on multiple vessels. "The reduplication of signs is a prerequisite for recognition and reading" (Taube 2000b:4). Even if pseudo-glyphs are functioning as semasiographic units that record ideas without reference to language, the same signs should be encountered in multiple contexts. As seen with the writing systems of the Aztec, Mixtec and Zapotec, that employ signs conveying bundles of meaning rather than recording a specific spoken language, repetition remains essential for deciphering the intended message (Benson 1973, Boone and Mignolo 1994, Marcus 1992, Urcid Serrano 2001)

Test: How often are the same elements repeated on different vessels?

Based on the established rules of decipherment for any unknown script,
 counting the number of different characters should aid in establishing whether
 the signs form an alphabetic (±30 signs), syllabic (±100 signs), or
 logographic/logosyllabic (+150 signs) system (Daniels 1996a:142). However,
 since epigraphic research indicates that no purely logographic script was used

by any culture (Daniels 1996a:142), a catalogue composed of only unique elements does not represent a writing system.

Test: Based on this sample of vessels archaeologically excavated in Guatemala, how many unique pseudo-glyphs can be identified?

By examining the pseudo-glyphic element as an independent artifact, this portion of the analysis focuses on whether pseudo-glyphs conformed to Mayan epigraphic rules. Identifying the elements and recording patterns of substitution should establish whether pseudo-glyphs represented an alternative graphic system employed by members of Classic Period Maya society. If pseudo-glyphs did form a second writing tradition, its use and function by the Maya could be compared with the multiple script systems employed by the ancient Egyptians (Houston, et al. 2003, Ritner 1996) or the various calligraphic traditions used by Arabic speakers (Khatibi and Sijelmassi 1996:77-83). In both of these cross-cultural examples, the choice of script was determined by function: one set of symbols was restricted to texts of a religious, legal or historical nature, while a different system was employed for matters of business or bureaucratic administration (Baines 1983:582, Welsh 1988:30-31). Might pseudo-glyphs form an alternative writing tradition to signal a specific purpose?

Questions Regarding the Social Role of Pseudo-glyphs

Anthropological questions regarding the role of pseudo-glyphs in Classic

Period Maya society led to the formation of additional hypotheses and the creation of
an expanded database. Theoretically, this phase of my research derived from the

classic position that the manufacture, use and deposition of artifacts represent culturally defined behaviors (Kroeber 1948, Taylor 1967). I accept Hodder's (1991) position that close scrutiny of material objects, in this case Southern Lowland Maya ceramics decorated with pseudo-glyphs, and their contextual relationships, is essential to infer the purpose and possible meaning of artifacts. To infer the value of vessels decorated with pseudo-glyphs, I compared the pseudo-glyphic decorated pottery with vessels displaying conventional hieroglyphic text. To establish who might have used pottery decorated with pseudo-glyphs, I examined the archaeological locations from which the ceramics were recovered.

The Nature of Pseudo-glyph Decorated Pottery

With the decipherment of Classic Period hieroglyphs and the reconstruction of Maya history has come the recognition that writing was one tool used by the elite to assert and maintain their social status (by, among others, Marcus 1992, Miller and Martin 2004, Schele and Miller 1986). The production of polychrome pottery decorated with writing during the Classic Period represents significant labor and material investment by literate specialists familiar with esoteric artistic motifs and ceramic processes (Rice 1987a, 1987b). This perspective by contemporary scholars suggests three assumptions that relate to pseudo-glyphs: (1) the most exotic and ritually laden objects should be decorated with conventional hieroglyphic text and in the possession of the most elite members of Maya society, (2) vessels with pseudo-glyphs that resemble real glyphs will be more highly valued than those that do not, and (3) pseudo-glyphs should appear on less exotic or finely decorated objects of a

more quotidian nature and would most likely be recovered from lower status contexts. To test these assumptions, I proposed a series of hypothesis with which to examine the vessels upon which pseudo-glyphs (N=121 whole and broken) and conventional texts (N=100) appeared:

- As will be discussed in greater detail in Chapter 3, many cylinder vases bear a hieroglyphic text around the rim that records the vessel was used for drinking *cacao* ("chocolate," see D. S. Stuart 1988). At the time of the Spanish conquest, *cacao* was a valued Maya trade item, exchanged for salt, cotton textiles and slaves, and employed in ritual contexts (Thompson 1956:102-106, Tozzer 1941:164). By contrast, hieroglyphic texts record that corn-based foods, including tamales (Zender 2000) or various forms of corn gruel (MacLeod and Grube 1990), were placed in bowls, dishes and plates. Based on the relative value of the contents, some scholars (Coe 1988) have proposed that polychrome vases decorated with hieroglyphic text were more valued than bowls, dishes or plates.
 - Test: Based on this sample, do vases display legitimate hieroglyphic text more often than pseudo-glyphs? Are pseudo-glyphs more frequently found on bowls, plates and dishes?
- Based on complexity of artistic motif, is there a relationship between surface
 decoration and type of glyph? Assuming scenes of multiple, interacting
 characters engaged in ritual activities to require greater artistic skill and
 esoteric knowledge, are these images associated primarily with real glyphs?

Test: Are real glyphs most frequently associated with the most complex icons, while pseudo-glyphs appear most often on vessels with decorative motifs or plain wares?

• In terms of the resources employed, are pseudo-glyphs created with the same number of pigments as real glyphs? The application of some pigments (particularly blue) requires sophisticated knowledge about the effects of combining organic and mineral materials (José-Yacamán, et al. 1996:225).
The use of exotic pigments and multiple firing techniques provides evidence of long-distance trade, as well as specialized training. Additionally, the presence of more than a single pigment reflects greater labor costs in terms of time as well as materials.

Test: Are real glyphs composed of more pigments than pseudo-glyphs?

And, if so, what colors are employed?

The ultimate goal of this section is to identify whether vessel size, shape or decoration differentiate pottery embellished with real glyphs from that with pseudoglyphs.

Pseudo-glyph Categories

Comparative analysis led to the creation of a typology that organized pseudoglyphs according to their relative similarity to conventional hieroglyphics, in particular the signs of the Dedicatory Formula (Stuart 2005b:114) or Primary Standard Sequence inscribed on Classic Period ceramics. While acknowledging that all typologies ultimately reflect the biases and limitations of the researcher and that the typologies I employ may or may not parallel criteria perceived as significant by the makers and users of Late Classic Maya pottery (Dunnell 1986), I believe it is important to organize the material to identify patterns beyond the absent/present dichotomy. Blocks of pseudo-glyphic elements form phrase-like compositions that divide typologically into three major categories:

Category 1 — A series consisting of elements that cannot be pronounced and that do not match any of the legitimate hieroglyphic signs identified by Thompson (1962) or subsequent scholars (including, among others, Coe and Van Stone 2001; Macri and Looper 2003; Montgomery 2002a, 2002b; Ringle 1996). When such elements encircle the vessel rim or body, no clear reading order or starting point is indicated. Physically, these elements range in shape from ovoid globules to anthropomorphic faces. Morphologically, this category includes:

- elements without an outline and composed of only a single paint color that differed from the slip
- elements formed of only an outline in a color different from the slip with no secondary color to fill the interior
- elements consisting of an outline of one color with the interior in a contrasting color
- unknown head variants

Category 2 — Blocks composed, in whole or part, of phonetic or logographic signs that lack an established meaning and do not form pronounceable Southern Classic Mayan words. Category 2 phrases often lack a definite

starting point or reading order and do not conform to known rules of syntax or grammar. Included in Category 2 are:

- known phonetic or logographic signs joined with Category 1
 elements to form a compound that has no linguistic correlate
- a known phoneme or logograph joined with the same phoneme to form a repeated block
- a known phoneme or logographic combined with another known phoneme that does not form a meaningful word

Category 3 — Glyph blocks composed of pronounceable Southern Classic Mayan hieroglyphs with a deciphered meaning, but having extremely limited or not readily understood communicative value. This category more clearly could be identified as "pseudo-text" because the glyphic phrases lack coherent structure. Category 3 includes phrase-like expressions consisting of:

- the repetition of a single, deciphered glyph block
- a series of deciphered glyphs that can be individually pronounced or glossed semantically but that lack structural sense as a phrase
- glyphs from the Primary Standard Sequence that do not form a coherent statement and may include sequences of repeated glyphs

Category 1 elements bear little resemblance to the conventional corpus of Maya hieroglyphs, although blocks composed of compound elements more closely replicate Classic Period glyph morphology than those consisting of a single element. Category 2 look more like known signs; however, the elements do not combine to form meaningful words. The pseudo-texts of Category 3 do not conform to Classic

Mayan standards of word order or spelling, although they may have conveyed meaning not subject to decipherment.

• If the Categories form a hierarchal typology based on their similarity to legitimate hieroglyphic text, in particularly the conventions established by the Dedicatory Formula, then Category 3 should most closely resemble the patterns of vessel shape, artistic motif and number of pigments displayed by real glyphs. Category 1, composed exclusively of pseudo-glyphic elements, should not replicate these patterns.

Test: Is there a relationship between vessel shape and pseudo-glyph category? Are vessels with Category 3 glyphs more likely to appear on vases while bowls predominantly bear Category 1 pseudo-glyphs?

Test: Based on surface decoration, is there a relationship between decorative motif and category? Are vessels with complex images of multicharacter interaction more likely to display Category 3 pseudo-glyphs?

Test: Are the same number of pigments used to create all Categories?

Through analysis of the number of pigments employed, does the production of Category 1 pseudo-glyphs involve as much labor and expense as Category 3?

Ceramic Context

In addition to examining the pseudo-glyphs as autonomous artifacts, my research focused on the archaeological provenience of the ceramics. In particular, I sought to identify whether patterns in deposition might reveal whether vessels with

pseudo-glyphs represented a stylistic signaling of identity (Coulmas and Ehlich 1983:7). I developed the following set of research questions to examine the relationship between pseudo-glyphs and particular vessel types, dates and contexts:

• If pseudo-glyphs replicated conventional pottery texts of the Classic Period, they should appear on bowls, plates and vases during this same time.

Test: During what period are pseudo-glyph decorated vessels manufactured or used? Temporally, does the frequency of pottery with pseudo-glyphs change during the Classic Period?

• If hieroglyphic text was more valued than pseudo-glyphs, then pottery bearing real glyphs should most often be found in and near the large structures of the site core, and pseudo-glyph decorated pottery should appear in settings related to lower-status individuals.

Test: From what archaeological contexts are pseudo-glyphs excavated? Are vessels with pseudo-glyphs more frequently found in the burials or activity areas dominated by lower-status individuals (Hendon 1987)?

Test: Do both conventional and pseudo-glyph decorated ceramics appear in a single burial or cache? If so, are these vessels segregated based on glyphic type?

Test: Are vessels decorated with both pseudo-glyph and conventional hieroglyphs? If so, from what contexts are these vessels recovered.

To address these questions, I added information to the database concerning vessel form and shape, its spatial and temporal provenience and, where possible, the place of manufacture (Table 3). Measurements, more specific archaeological

provenience, and typological designations were established through personal inspection, examination of site reports and communication with various project ceramicists and excavators. To insure that I used the same terms consistently in describing context, I conformed all data to the following typologies: (1) the description of vessel shape and form followed the standards established by Sabloff (1975:23) at Seibal (Figure 4 & 5), (2) elite-dominated Maya architecture (Figure 6) was described using the nomenclature employed by Andrews (1975), and (3) I used the grave typology established by Welsh (1988:16-18) in his analysis of Classic Maya burials (Table 4).

Summary

My study of pseudo-glyphs on Classic Period Maya pottery embraces the academic domains of epigraphy, archaeology and anthropology. My corpus of pseudo-glyph pottery consists of those archaeologically provenienced vessels and sherds that I documented in museum collections and from in-process excavations in Guatemala. The corpus includes only ceramics from the Southern Maya Lowlands and, due to a number of noncultural and cultural transforms, does not form a representative sample.

My research has led to the creation of a Maya Pseudo-glyph Catalogue that identifies individual pseudo-glyphic elements. By looking for patterns or repetition that might signal equivalence, I seek to establish whether pseudo-glyphs represent a communicative script. To function as a graphic tradition, individual pseudo-glyphs must appear on multiple vessels.

My research examines the contexts from which pseudo-glyph decorated pottery derive. As articulated by Basso (1989:428 in Houston 2004b:224), "... 'situation' is inherently sociological, referring to contexts, participants, and the relations between them." In attempting to identify the actors involved in the manufacture and use of pseudo-glyph decorated pottery, I have sought for patterns in the archaeological context that might reveal the social value of pseudo-glyph decorated vessels. To investigate the degree of hieroglyphic literacy displayed on each vessel, I have established a typology that compares the pseudo-glyphs with the corpus of identified hieroglyphs and, in particular, the signs employed in the Dedicatory Formula. This research could not have been conducted 40 years ago, before the parameters of Maya inscription had been identified. To understand how my research fits within the historical trajectory of epigraphic studies, the next chapter will briefly review the steps leading to the decipherment of carved monuments as well as the path of ceramic inscription.

Chapter 3 — A Summary of Maya Hieroglyphic Studies

In recent years a number of in-depth and self-reflective surveys on the history of hieroglyphic decipherment have been presented, including Bricker (1995);

Coe (1992); Houston (1989, 2000); Kelley (1976); Lounsbury (1989, 1991); D. Stuart (1995); G. E. Stuart (1988a, 1989, 1992, 1994); Stuart and Houston (1989); and Thompson (1960, 1962, 1965). Houston and Nelson (2001) also offer a comprehensive list of publications related to the history of decipherment. My intent is not to reiterate this information; however, because this dissertation builds on previous glyphic studies, a quick review of the history of glyphic decipherment is merited. Briefly presented is a chronicle of how the field of Maya epigraphy has advanced from the identification phase to the present period, in which the texts inscribed on Classic Period Maya ceramics are being deciphered phonetically. As will be shown in a subsequent chapter, I employ a similar strategy in my investigations of pseudo-glyphs.

The History of Hieroglyphic Decipherment

Euro-Western academics received their first practical guide to deciphering Maya hieroglyphic writing in 1865 with Abbé Charles Etienne Brasseur de Bourbourg's translation of Friar Diego de Landa's *Relación de las Cosas de Yucatán* (Tozzer 1941). Scholars recognized that the same dates and numbers appeared in both Landa's volume and in the Precolumbian Maya texts and codices.

By contrast, researchers found little correspondence between the crudely drawn characters of Landa's manuscript and either the elegant Classic Period hieroglyphs or the script of the Postclassic Period (A.D. 950–1520) Maya codices.

Russian linguist Yuri Knorozov (1952) noted that the Maya corpus of hieroglyphs consisted of about 400 symbols at any one time; a system too small to be composed exclusively of logographs and too large to employ only phonetic signs.

Instead, proposed Knorozov, Maya script represented a logosyllabic writing system.

Knorozov declared that Maya writing was rooted in spoken language and that Landa's chart of hieroglyphs represented a syllabary (a series of consonant plus vowel combinations) rather than an alphabet. Both Cyrus Thomas (1892, 1893) and Benjamin Whorf (1935) had suggested similar theories earlier, but without Knorozov's principle of synharmony. Knorozov asserted that the phonetic syllables in Maya writing combined in synharmonic groupings of CVC(V) – a consonant-plus-vowel combination in which the second vowel duplicated the first, although this second vowel was not always pronounced.

It was not until the 1960s that Tatiana Proskouriakoff established that Maya hieroglyphic text recorded historical events. Based on her meticulous study of monuments at Piedras Negras, Naranjo and Yaxchilan, Proskouriakoff (1960, 1963, 1964, 1993) documented a consistent pattern of sculptural motif, monument placement and calendrical notation that never exceeded the span of a human lifetime. By comparing the actions depicted on the monument with the hieroglyphic text, Proskouriakoff (1960) identified the verbs related to birth, accession, capture and

blood-letting. Her scholarship revealed that hieroglyphic text formed phrases composed of dates, verbs and the names of rulers and their families.

Also significant during this period was the publication of *A Catalog of Maya Hieroglyphs* (1962) by J. Eric S. Thompson. Building on the glyph inventories of Beyer (1932), Gates (1931) and Zimmermann (1956), Thompson presented examples of signs from ceramic vessels; objects of jade, obsidian, and shell; all known monuments; as well as codices. His compilation comprised "370 affixes; 356 main signs other than portraits but including animals; 88 portraits..., and 48 in the dubious "purgatory" group" (Thompson 1962:5). Each glyph was drawn, assigned an identifying T-number (Thompson-number), and both its archaeological provenience and location within the text was noted.

Subsequent researchers have identified a number of flaws in Thompson's system (especially Macri and Looper 2003). Such flaws include (1) mistakes regarding the role and identification main signs and affixes, (2) the incorrect grouping of glyphs with different values, and (3) the assignment of different T-numbers to variants of the same sign. However, because of its largely non-presumptive nature (with T-number assignment based on frequency and broad groupings of morphologically similar graphs); Thompson's system remains the nomenclature by which a sign is identified until a phonetic or linguistic reading can be established.

During the 1980s, Knorozov's hypothesis that glyphic symbols reflected a morphological, rather than lexical, linkage to Mayan language was reexamined and found productive. Lounsbury (1973) and Kelley (1962, 1976) were among the first to recognize the strength of Knorozov's arguments. Their studies stimulated a new

phase of research that emphasized the contemporary and linguistically reconstructed languages of the Maya. Beginning in 1973, symposia at Palenque (Robertson 1974), Dumbarton Oaks (Benson 1973, 1983), Yale (Houston 1983b), SUNY-Albany (Justeson and Campbell 1984), and the University of Texas-Austin (begun in 1977), established that the inscriptions on Classic Period Maya monuments exhibit the same grammatical syntax as modern Maya ritual speech. Such investigation confirmed Proskouriakoff's (1960, 1963, 1964, 1993) assertion that hieroglyphic texts were composed of phrases that begin with dates, followed by verbs, objects, and end with subjects.

Dubbed "structural analysis," this strategy emphasized pattern recognition and the identification of glyphic substitutions that signaled equivalence or, at least, signs in close, alternating relationships (Hopkins 1997:77, Houston 2000:127). Using dates to anchor phrases, epigraphers sought to reconstruct the history of the Classic Period Maya. By isolating patterns of glyphic substitution — in particular, verbs (Schele 1982) — it became possible to identify an event even when it was not possible to decipher pronunciation or recover the exact meaning. For example, Schele and Miller (1983) semantically interpreted the various rituals associated with accession long before being able to translate the constituent glyphs. Structural analysis facilitated the identification of rulers at Palenque (Lounsbury 1974, 1976, 1980, Mathews 1980, Mathews and Schele 1974, Schele 1992), Tikal (Jones 1977, 1982), Caracol (Grube 1994a, Houston 1987a), Dos Pilas (Houston 1993, Houston and Mathews 1985), and Copán (Riese 1984, 1992).

Building on the model of equivalent substitution, epigraphers turned to the constituent parts of a glyph block to isolate and identify individual phonetic syllables (Bricker 1985, 1986, Mathews 1984, Mathews and Justeson 1984, Stuart 1987). These studies confirmed that Classic Period Maya writing combined logographic, semantic, and phonetic signs to create pronounceable Mayan words. During this period, epigraphers codified the procedure by which the meaning of a hieroglyphic sign could be ascertained (Justeson 1978, 1985, Justeson and Campbell 1984). Such methodology involves (1) the descriptive phase in which all examples of the glyph are compiled, using T-numbers to note contexts and associations; (2) proposing a hypothetical reading based on comparison with other uses of the symbol; and (3) cross-checking all syllabic combinations against contemporary Mayan dictionaries to establish a grammatical reading (Grube 2001, Hopkins 1997). As noted by Victoria Bricker (1992:71), this line of research confirmed Knorozov's linguistic hypothesis and proved Landa's alphabet to be an "inventory of syllabic and logographic signs corresponding to the Spanish names for the phonemes of Classical Yucatec." Such is what one would expect of Colonial Period Maya scribes trying to render Spanish sounds (in which alphabetic "A" would be pronounced as ah; "B" would equal **be**, etc.) using an autochthonous system of Maya hieroglyphic symbols.

Recent linguistically-based epigraphic studies prove that almost all Classic Period Maya hieroglyphic texts were written in either proto-Ch'olan or proto-Yukatekan (Bricker 1986, Hopkins 1997, Kaufman and Norman 1984). Based on its internal consistency, explicable historical configuration, and ancestral affiliation with the Eastern Ch'olan languages, epigraphers Stephen Houston and David Stuart, with

linguist John Robertson (Houston, et al. 2001, Houston, Stuart, et al. 1998, Robertson 1992, 1999, D. S. Stuart, et al. 1999), have identified the majority of Classic Period texts specifically as a "prestige language ancestral to the so-called Eastern Ch'olan languages — the historically attested Ch'olti' language and its descendant, modern Ch'orti'" (Houston, Robertson, et al. 2000:322). The linguistic tradition of Classic Period Maya hieroglyphics has been labeled "Southern Classic Maya" or "Classic Ch'oltian."

Current epigraphic investigations center on quantifying the linguistic nature and structure of Maya hieroglyphic text. Such research includes identifying words written in Yukatek and what such language use may indicate about Classic Period Maya society (Barbara MacLeod and Mark Zender, personal communications 2000). Ongoing investigations continue to refine our knowledge of Mayan grammar, tense and aspect, inflection and derivation, mood and voice (Bricker 1992, Houston 1997, 2000, Houston, Stuart, et al. 1998, Lacadena 1997a, 1997b, 1997c, Robertson 1992, Wald 1994, among others). Over time, the decipherment and interpretation of hieroglyphic text has become rooted in linguistic and grammatical study of Southern Classic Mayan, in which glyphic meanings absolutely must be derived from phonetic values and not from literal interpretations of pictorial images alone. This is due to the fact, proven many times over, that the meaning or function of a sign and its representation can be widely divergent (Stuart 1995:311).

The field of Maya ceramic text decipherment has past through a similar, albeit faster, historical trajectory from identification and cataloging to phonetic reading and linguistic interpretation.

Maya Pottery Text Decipherment

Published in 1843 (Stephens 1963 (1843):162-163, Fig. 12), *Incidents of Travel in Yucatan* contains the earliest known description and illustration of a Maya vase recovered from Ticul, Yucatan. In 1904, E. P. Dieseldorff (Dieseldorff 1904a, 1904b) included descriptions of the ceramics recovered from his excavations at Chamá. Dieseldorff's illustrations present the first "rollout" drawings, in which the entire surface of a cylinder vessel was reproduced on a single sheet of paper (Miller 1989). Shortly thereafter, The University Museum, University of Pennsylvania published rollout drawings of Maya pottery from their own and other museums' collections (Gordon 1925, Mason 1928).

Because the form and order of glyphic symbols painted on Classic Period Maya pottery differed from those carved on stone Maya monuments, J. Eric S. Thompson (Thompson 1960) and the majority of scholars of the time believed these hieroglyphs to have been "purely decorative." Although Thompson (1962:14-15) expressed "doubt as to how many of such texts had any meaning," he included a sample of glyphs from ceramics in his Catalog of Maya Hieroglyphs. By way of caveat, Thompson (1962:15) noted that "the compiler can hardly suppress a series of texts because he suspects they may be meaningless. One must include such texts, but with a warning to the student that many of them may convey an aesthetic rather than a legible meaning."

Thus, it was not until 1971 that Michael Coe, while curating the exhibition *The Maya Scribe & His World* for the Grolier Club in New York, catalogued a

recurring pattern of certain symbols encircling the rim of Classic Period Maya cylinder vessels (Coe 1973). Coe recognized that the rim texts were organized in a standardized pattern that he called the Primary Standard Sequence or "PSS." Because the glyphs that comprised the PSS retained a consistent order regardless of the scene painted on the vessel, Coe (1973:17 18) speculated that the PSS recorded codified religious chants that were inscribed to accompany the dead and that were recited at burial. Subsequent decipherments of Primary Standard Sequence texts have shown this notion to be false. Instead, these rim texts relate to the form, function, and owner of the vessel itself. In 2005, David Stuart proposed identifying this series of signs by the term "Dedicatory Formula," so as to more accurately reflect their purpose (Stuart 2005b:114).

The creation of the rollout camera by Justin Kerr permitted examination of the vessel's imagery without interjecting subjective artistic bias. The compilation of a photographic database of Classic Period Maya vases by Barbara and Justin Kerr (http://www.famsi.org/research/kerr/) has been essential to the study of hieroglyphic texts on pottery. Also significant have been the numerous catalogs of pottery from private collections and museum exhibitions, including Coe (1975, 1978, 1997); Coe and Kerr (1997); Reents-Budet (1994); Robicsek (1978); Robicsek and Hales (1982); Grube, et al. (2000), and especially the Maya Vase Book series (Kerr 1989, 1990, 1992, 1994, 1997, 2000, now available through http://www.famsi.org/research/kerr/index.html). Access to a corpus enabled epigraphers Erik Boot (1985) and Stephen Houston (1986) to compare the substitution patterns of various glyphs and glyphic affixes — an essential first step on

the path to decipherment of the Dedicatory Formula. Their research established that Late Classic Period pottery texts were composed primarily of syllabic spellings rather than logographic signs.

A major breakthrough in deciphering the Dedicatory Formula came with David Stuart's (1987) publication "Ten Phonetic Syllables." Building on the work of Peter Mathews (1984), Stuart presented a comprehensive syllabary of Maya hieroglyphs as well clear rules for testing various phonetic readings. Stuart (1987) reported that the glyph *u tz'ib* found on many rim texts (Coe' "Fire-Imix"/"Wing-Imix"/"Fire-Quincunx") translated as "his/her/its writing" (Figure 7). Based on this reading, Stuart posited that Classic Period ceramic artists signed their work.

Subsequent analysis (Boot 2005, Houston, et al. 1989, Houston and Taube 1987, D. S. Stuart 1989) have identified the glyphs for various pottery shapes (Figure 8) and vessel contents (Figure 9); including *kakaw* or *cacao*, "chocolate" (D. S. Stuart 1988), *ul*, "atole or maize gruel" (MacLeod and Grube 1990), or tamales (Zender 2000).

While a number of scholars have focused on pottery texts (Grube 1985, Houston 1997, Jackson and Stuart 2001, Jones 1990, Stuart 2001, D. S. Stuart, et al. 1999, Walker 1990, among others), Barbara MacLeod presented the first rigorous linguistic analysis of the Dedicatory Formula (Grube and MacLeod 1989, 1990, MacLeod 1989a, 1989b, 1990a, 1990b, 1990, 1994). Her identification of the various allographs (signs that can be interchanged without altering meaning) that comprise the Dedicatory Formula established the foundation for subsequent compilations by Boot (2002) and Mora-Marín (2003). Reviews by Nikolai Grube (1990, 1986, 1990c) and Alfonso Lacadena (1995) of the glyphic substitution patterns of the Dedicatory

Formula indicate that the style of Maya hieroglyphic writing changed over time, with particular glyphic forms being favored in various geographic regions and during certain ceramic horizons.

In sum, these epigraphic studies illustrate that, instead of the ritualized prayers posited by Michael Coe, the Primary Standard Sequence communicates

...the ritual empowerment, surface treatment [i.e., whether painted or carved], proprietary status, function, geographic and social origin, and artistic pedigree of a given vessel, and it identifies the socio-political standing of its owner and/or patron (MacLeod and Reents-Budet 1994:106).

However, investigations of Classic Period Maya pottery texts have not been restricted to deciphering the hieroglyphic band encircling the rim. In addition to documenting the Dedicatory Formula, Coe also examined the shorter glyph sequences that accompanied figures on the vessel body. Coe labeled these glyphs Secondary Nonrepeat Texts ("SNT") and noted that

...78-percent of them are nonrepetitive and most likely contain names, titles, and actions which vary according to the figures and events portrayed. Sometimes even Emblem Glyphs are present (Coe 1973:18).

The decipherment of glyphs on vessel rims and bodies has contributed to modern understanding and interpretation of Classic Period Maya elite beliefs and interactions. What remains unexplored, however, is an examination of ceramics bearing pseudo-text in the same locations on the vessels as the Dedicatory Formula and SNT. To do so, it will first be necessary to define the rules governing the morphology and placement of conventional hieroglyphic text on ceramics.

Chapter 4 — Canons of Maya Hieroglyphic Writing

The term "pseudo-glyph" indicates a violation, in some manner, of Maya hieroglyphic conventions (Longyear 1952:59-62). To define how legitimate hieroglyphs and pseudo-glyphs differ requires a review of the canons of Southern Classic Mayan writing. I will begin by presenting a brief examination of Classic Period Maya glyph morphology to assess the physical differences between conventional writing and pseudo-glyphs. Then, because the pseudo-glyphs painted on pottery often appear on the vessel rim, I will focus on the signs that comprise the Primary Standard Sequence.

Glyphic Form

Maya hieroglyphic texts exhibit a consistent form whether inscribed on a carved stone monument, portable object or ceramic vessel. Roughly square blocks, produced with a calligraphic outline that emphasizes the exterior shape, combine to form words (Morley 1915). As noted earlier, on monuments each glyph block usually represents a single word or unit of meaning. However, when inscribed on pottery or other artifacts, a word can extend through several glyph blocks. Pottery rim texts generally read from left-to-right in a single band (Figure 10). Texts written on the vessel body (Secondary Non-Repeat Texts or SNT) resemble the supplementary texts that surround characters on lintels or panels by moving from left-to-right and top-to-bottom but without a particular reading sequence. This tradition

likely relates to the fact that these supplementary texts identify individual characters but do not recount a narrative or form continuous discourse (Figure 11). As a rule, reading order proceeds by reading into the faces of humans or anthropomorphic figures (i.e., the heads are drawn in profile and typically face left). Numbers normally are placed along the left side or atop a glyph block.

The reading order of an individual glyph block roughly replicates the left-to-right, top-to-bottom orientation of phrases (Figure 12). Thompson (1960, 1962, 1965) divided the glyph block into two major components — the main sign and affixes. However, there is no functional difference between affixes and main signs. Glyph size does not reveal semantic information. Words, as well as grammatical and phonetic affixes, can be written as a single logograph, a logograph with appended syllables, or by combining two or more syllabic signs of different sizes. Signs combine to form Mayan words.

Today, in an effort to address possible linguistic function more directly, the words "main sign" and "affix," formerly used to describe compound signs, have been replaced by the more specific identification "logograph" and "syllable" in the epigraphic literature (Stuart 1995, Zender 1999). In this dissertation, however, I shall continue with Thompson's nomenclature to describe the relative position of compound signs, because of its ability to render accurately the relationship between signs. Syllables affixed to logographs establish pronunciation or refine meaning (Beyer 1934, Brinton 1894, Mathews and Justeson 1984, Thompson 1962). Prefixes and superfixes generally precede the main sign; postfixes and subfixes suggest the final syllable of a word; and infixes function as a phonetic complement. Several

collocations are formed of affixes that are, themselves, the size of an entire glyph block. In these cases, another phonetic or logographic sign is placed in front to partially obscure the first sign.

Several signs are polyvalent or multivalent, meaning that the same sign can have more than one semantic or phonetic reading (Boltz 1986:426). In such cases, affixes (known as "determinatives" in the epigraphic literature, see Boltz 1986:428) can clarify which of several words or meanings is intended. Words that function as homophones (words that sound the same but have more than one referential meaning) can be represented by several iconographically different signs (Houston 1984, Lounsbury 1984). In these circumstances, context provides the only clue to meaning. Additionally, Mayan signs can be animated into a head or full-figure variant without changing either its phonetic or semantic value (Zender 1999).

In addition to guiding pronunciation, affixes on nouns can (1) function as ergative pronouns to indicate possession or mark the subjects of transitive verbs; (2) quantify number; or (3) specify a particular class (particularly by the addition of color terms) (Houston, et al. 2001). On verbs, affixes can mark whether the action is transitive, intransitive, or positional. Prefixes, in particular ergative pronouns ("it is his/her/its"), antedate postfixes as the first true syllables developed by Maya scribes (Houston 2004b:300, 305). In terms of glyph morphology and to echo the early research of Herbert Beyer (1932, 1934:20), "hieroglyphs without affixes are rare exceptions in Maya inscriptions."

Analysis (Grube 1990a, 1994 #791, Lacadena 1995) shows the total sum of glyphs in the Maya corpus to be between 650 and 700. However, "the number of

signs used at one specific point of time never exceeds 400... The average number of signs employed at any time between 9.0.0.0.0 and 10.4.0.0.0 [A.D. 435-909] is between 250 and 300" (Grube 1994b:177-178). Once introduced, phonetic signs tended to remain in the corpus. By contrast, over 240 logographs seem to have lasted less than 20 years. Houston and Stuart believe that these modifications group into three categories: (1) changes in the iconic motivation of certain signs ("reinterpretation principle"); (2) circumstances in which glyphs develop from other glyphs ("extension principle"), (3) the use of rebus to engender consonant + vowel syllables ("syllabification principle") (cited in Houston 2004b:299).

Maya languages distinguish between glottalized and non-glottalized consonants. Both modern, spoken Mayan and Classic Maya hieroglyphic text possess a phoneme inventory that includes p, t, tz, ch and k (non-glottalized) as well as p', t' tz', ch' and k' (glottalized). As noted by Hopkins (1987) and Josserand (1987a, 1987b), "there is little if any alternation between glottalized and non-glottalized counterparts in morphological processes, and there is no attested pattern of word-play which associates one set with another" (Hopkins 1997:80). Epigraphers have documented almost all of the consonant-vowel syllabic combinations found in spoken Mayan (Figure 13).

Recent research shows that not all Southern Classic Maya words were written using Knorozov's principle of synharmony. The identification of words composed of disharmonic vowels (in which the vowel of the second syllable is not the same as the preceding) supports the assertion that the Classic Period Maya language consisted of a ten-vowel system with both long and short vowels (Houston, Stuart, et al. 1998:288,

D. S. Stuart, et al. 1999). Discovering the rules by which Classic Maya scribes recorded their spoken language, and how contemporary orthography should render these subtleties, remains a primary focus of epigraphic-linguistic scholarship (among others Houston 2004b, among others Houston, Robertson, et al. 2000, Houston, Stuart, et al. 1998, Hruby and Child 2004, Hruby and Robertson 2001, Lacadena 2000, 2004, Lacadena and Wichmann 2004, Wichmann 2004).

Regardless of the medium upon which it is inscribed, Maya writing is based on a calligraphic style (Coe 1973, 1975, 1976, 1978, 1993, 2001). The text is outlined with bold, weighted line that thickens and thins as the writing tool changes orientation. As noted by Houston (personal communications, 2004), this outline represents series of elliptical forms that tend to elongation on the lower-left and upper-right corners. Such forms suggest the majority of texts were executed by right-handed scribes. Within the bold, exterior outline are details, formed using either thinner lines or by highlighting with different colors. Although Classic Period Maya artists are shown with a variety of writing tools, replication experiments suggest that the trimmed feather of a turkey possesses the "fineness, suppleness, and elasticity" needed to create the "whiplash line" painted on ceramics (Coe 1977:336). Carved hieroglyphic text echoes the calligraphic hand by varying depth and formline width. Often affixes are carved on a deeper plane, perhaps to indicate that another glyph has moved in front, closer to the reader.

As noted in Chapter 2, individual Classic Period Mayan glyphs join to form phrases with a consistent word order. Inscriptions from monumental contexts, in particular, conform to the date-verb-object-subject grammar still employed in modern

Maya rituals. As recognized by Josserand (1987b, 1997), a change in this syntactical structure works as a literary device to highlight the most important event recorded.

The Dedicatory Formula or Primary Standard Sequence

Legitimate glyphs appear on ceramics in specific places — encircling the vessel below the lip or around the vessel body, in vertical columns separating figural panels, and next to individuals or animals. As noted earlier, Michael Coe (1973) recognized that a series of conventional glyphs encircle the rim in a consistent pattern. He named this series the "Primary Standard Sequence" (PSS). Since few of these glyphs appear in monumental contexts and many lack T-numbers, Coe assigned descriptive names (Figure 14). Since then a number of decipherments for the individual glyphs have been offered. A review of the signs that comprise the PSS or Dedicatory Formula will aid in understanding the parameters that define the difference between a pseudo-glyph and legitimate Southern Classic Maya glyph.

As stated by MacLeod (1990a:452), "The Primary Standard sequence in any of its complex manifestations is likely to be just one sentence, with one grammatical subject and perhaps as many as three verbs, but that is rare." The formulaic pattern of the Dedicatory Formula divides into sections relating to dedication or presentation, surface decoration, classification of vessel shape and function, contents, and the name of the owner or patron — it does not relate to the scene painted on the vessel body. Like inscriptions found on other personal items, the Dedicatory Formula functions as a "name tag" to identify the object (Justeson 1983, Mathews 1979). While a few texts identify the owner specifically by including parents' names, the Dedicatory

Formula reveals little in terms of sequential, historical information (Houston and Taube 1987, Stuart 1995).

Dedication or Presentation. Although rare, some Primary Standard
Sequences (particularly those with an *Ik*' Emblem Glyph suggesting the Motul de San
José region as their place of manufacture) begin with a Calendar Round date. Most
often, however, the Dedicatory Formula opens with the a-LAY-ya collocation (T228,
T229 or T239.T617:T125; see Figure 15). Erik Boot (2005) identifies a phonetic
substitution that confirms the reading of logographic MIRROR (T617) as LAY and
notes that several Maya languages define LAY as "this, this one" or "here." The
consistent affixation of a- and -ya on the other signs (including EARFLARE, a
GI head, or a T617 MOON sign) that occasionally substitute for MIRROR, suggests
there is little difference in pronunciation between these words. The MIRROR glyph
appears on both monumental and portable objects to initiate dedication phrases. On
ceramics, the sign clearly functions to introduce the rest of the pottery text (Grube

Following the Initial Sign are a number of verbal collocations that can appear together as a phrase or individually. Although a variety of readings (Grube 1986, 1990a, MacLeod 1990a, MacLeod and Reents-Budet 1994) have been proposed for logographic **STEP** (T32:843v), consensus for **T'AB-yi** (*t'abay*, "to ascend" or "to dedicate") has been established (Houston 1997:299, D. S. Stuart, et al. 1999:II-30). The deity **GOD N** (T1014), first recognized by Föstemann (1901) and Schellhas (1904:37-38), carries an appellative that phonetically reads *pawatuun*. In the Dresden Codex this character controls *Wayeb*' festivals and figures in scenes of rebirth or

emergence (Taube 1992). Wearing a net-headdress, the aged **GOD N** appears on pottery scenes engaged in scribal activities (Coe 1977, Coe and Kerr 1997). However, when appearing as part of the PSS, the position of the **GOD N** logograph in the sequence and the presence of the phonetic suffix –*yi* suggests that the glyph functions verbally (Figure 16). Occasionally a T736 **DEATH HEAD**, with curling lock of hair prefix and -*ya* postfix, substitutes for **GOD N** or *t'abay*. To date, no consensus regarding the pronunciation of this sign exists, although it must serve as a semantic equivalent.

Based on phonetic substitution, the **FLAT HAND** (T24:713a.181) collocation has been deciphered as **K'AL-ja** (*k'al*, "to receive" or "to wrap;" see Figure 17). In addition to ceramics, *k'al* appears in monumental contexts as part of accession ceremonies (i.e., the ruler "receives" or "ties on" a royal headband). The verb also describes the "wrapping" of a stelae during dedication rituals (Stuart 1996). A number of insufficiently understood or translated allographs substitute for this sign. Grube (1990b:324) posits that all the variants spell the same word.

Although MacLeod (1990a) suggested that *yich* (T17.671) glossed as "its writing surface," subsequent research suggests that the glyph is not a possessed noun (**yi-ich**). Marc Zender (, personal communication 2004) proposes that *yich* is an adverb, meaning "already" (Figure 18). As such, it would modify the **STEP** glyph to form the phrase *t'abay yich* ("already, it is presented"). However, the veracity of the reading is still being tested.

While translation of these individual signs suggests subtle differences, this first section of the Dedicatory Formula concerns the dedication and presentation of

the vessel (Grube 1991, MacLeod and Reents-Budet 1994, Reents-Budet 1994, 1998). It has been speculated (Freidel, et al. 1993, Schele and Mathews 1998) that dedication serves to animate the vessel in a manner similar to contemporary Lacandon Maya rituals in which certain "God Pots" are imbued with divine essence (McGee 1990). In Zinacantan, similar animation rituals are conducted to enliven the soul of a new house (Vogt 1969:461-465).

Vessel Shape and Function. As noted earlier, Stuart (1987:2-7) identified "Fire-Imix" and "Fire-Quincunx" (the possessive prefix **u** and either T563a:501 or T563a:585a) as **u-tz'i-bi** (*u tz'ib*, "the writing of"). Stuart (1989) was also the first to recognize that the **BAT** glyph (T756) found on stone monuments and incised vases relates to carving (Figure 19). Although a phonetic reading of **u-xu-lu** (*u xul*, "the carving of") has been proposed (Looper 1991), complete decipherment remains elusive. Examination of various vessel surfaces confirms, however, that painted vessels are described as *u tz'ib*, while carved or incised ceramics employ the **lu-BAT** collocation.

Although Classic Period monumental texts rarely contain words that extend beyond a single glyph block, ceramic texts often violate this canon. For example, phonetic decipherment reveals that Coe's **WORM BIRD** represents the morphosyllable –**il** that marks many possessed Maya nouns (Grube 1991:227-228, Houston, et al. 2001:18-26, D. S. Stuart, et al. 1999:II-27). While **WORM-BIRD** appears as a single glyph block in the Dedicatory Formula, it combines with the previous sign to form the collocation **u-tz'i[h]bil** (*u tz'ibil*, "his/her/its <u>possessed</u> writing").

Grube (1985) was the first to recognize that, based on its prevalence, **WING QUINCUNX** (T61.77:585a or T61.77:501) represents the core of the Dedicatory

Formula. Indeed, much of the process of identifying various allographs has been accomplished by diagramming the Formula from this pivotal point (Morin-Marin 2003). Analysis (Stuart 2003) establishes that **WING QUINCUNX** reads **yu-k'i-bi** (*yuk'ib*, "the drinking vessel of" or "his/her/its drinking vessel"). Further support of this linguistic decipherment comes from Classic Period murals and ceramics that illustrate individuals drinking liquids from similarly shaped cylinder vases and bowls (Houston, et al. 1989, Houston and Taube 1987, Stuart and Houston 1989).

Houston, et al.(1989), have identified the glyphs **u-la-ka** (possessive pronoun **u-** with T534.25, *u lak*, "his/her/its plate or dish") and **u-ja-wa(n)-te**, (possessive pronoun **u-** with T683.78.59, *u jawa(n)te*, "the wide-mouthed, shallow dish of") on ceramic vessels. The collocation **u-ja-yi** (**u-** with T681.71, *u jay*, "the thin-walled vessel of") appears on ceramic bowls or cups (Grube 1990b:322). Epigrapher Erik Boot (Boot 2005) has attested four plates as **y-ja ji-bi** (*y-aj-aj-ib*, "wake up" or "awake instrument"), perhaps in reference to an animated or ritually empowered state. In each of these case, the glyphs describe a particular pottery shape, indicating a Classic Period folk taxonomy based on shape or whether the vessel contained liquid or solid food.

The Dedicatory Formula on many cylinder vessels terminates with the *yuk'ib* collocation. In those examples that do continue, the text continues with a description of the various possible vessel contents, the name of the owner or patron and, occa-

sionally, the painter or carver. Very few vessels exhibit all of the signs that Coe (1973) included in his study of the PSS.

Vessel Content. Chemical composition analysis (Hall, et al. 1990:141-142) of the contents of a sealed vessel excavated from Rio Azul confirms Stuart's (1988) decipherment of the *kakaw* glyph as "*cacao* or chocolate." Phonetic decipherment of the glyphs that occasionally precede *kakaw* suggest that chocolate could be prepared in a variety of ways, including *om kakaw* ("frothy") (MacLeod and Grube 1990); *yutal* ("fresh, beans or seeds"); or *tzih* ("new, raw"). Reappraisal of the T1000 FEMALE HEAD + T87:513.188 collocation reveals the glyphs read IXIM TE'-le (*ixim te'el*, "maize-tree like") — an expression that may suggest the Classic Period Maya saw a metaphysical relationship between corn and chocolate (Miller and Martin 2004). The *kakaw* glyph appears with greatest frequency on tall cylinder vessels.

Round-sided bowls and some cylinders indicate they contained *ul* ("atole" or "corn gruel"). Although corn has not been confirmed through chemical analysis, modern Maya still consume this drink from similarly shaped round-sided gourds. In his study of the glyphs on Chocholá style vessels, Grube (1990b) identifies bowls holding *chah ul*, "bitter atole" and *k'an tsihil sakha*, "yellow, fresh water" — a likely metaphor for atole.

Tamales were served using flat- or slightly-rounded plates, *u we'ib*, "his tamale vessel." Zender's (2000) analysis reveals that some Uaxactun plates contained *sak chil we'l*, "white venison food" or *sak chil waaj*, "white venison tamales." In support of this reading, a few Classic Period figural scenes depict plates holding a solid food that closely resembles tamales covered with an unidentified red sauce.

Owner or Patron Phrase. Some Formulas close with the name, parentage and titles of the vessel owner and, occasionally, the name of the scribe who painted the pottery. The names of these owners can occasionally be associated with individuals known from carved monuments. For example, at Tikal the decipherment of the names and titles within the PSS led to the identification of royal burials (Coggins 1975) and the association of architecture with particular rulers (Harrison 1999, 2001).

As noted by several epigraphers, the complete Dedicatory Formula functions as a "name-tag" to describe the vessel's dedication, method of decoration, folk classification, intended contents, owner, and scribe (Grube 1991, Houston, et al. 1989, Houston and Taube 1987, MacLeod 1990a, Stuart and Houston 1989, Zender 2000). The glyphs, rendered in a calligraphic hand, follow the same canons in terms of morphology and phonetic composition as texts on monumental sculpture. Legitimate hieroglyphs that encircle the vessel rim most often form the PSS, although sometimes the phrase may be truncated. In contrast, as will be shown in the following sections, pseudo-glyphs found on Classic Period Maya ceramics violate the rules governing glyph construction, morphology and message.

Chapter 5 — **Context & Text of Pottery with Pseudo-glyphs**

Answering questions regarding the social meaning and function of ceramics decorated with pseudo-glyphs requires knowledge about the context from which the pottery is recovered (Reents-Budet 1994, Taschek and Ball 1992). Information about method of deposition, associated material culture and the location from which artifacts are excavated form a basis for scientific study of the past (Hodder 1991). To begin the process of assessing the role of pseudo-glyph decorated pottery, this chapter examines the archeological context of those pseudo-glyph bearing vessels recovered during the course of legitimate archaeological research in the Southern Maya Lowlands of Guatemala.

Sites having ceramics decorated with pseudo-glyphs are ordered alphabetically, followed by loci within the site. Pottery is presented in numerical order, according to the hierarchical numbering system described in Chapter 1, using only the highest order number. A list of the whole vessels with pseudo-glyphs examined in this study (including their reference and registration numbers, curating institution, measurements, type:variety designation, ceramic complex and date, and text type) appears in Appendix 2. This table presents the different nomenclature that has been used to identify these pseudo-glyph bearing vessels in excavation reports, registration documents and museum collections as well as indicating where the ceramic is curated, its measurement and pseudo-text category. Table 5 presents the ceramic chronology for each site, as defined by the project ceramicist.

Analysis of each vessel begins with *description*: a broad view of the site or excavation zone and the archaeological research goals of each project. A review of the specific provenience and associated artifacts follows. The analysis of each vessel concludes with *text*: an element-by-element examination of the pseudo-glyphs painted in the places usually occupied by hieroglyphic inscription. As discussed in Chapter 2, pseudo-glyphs are identified as to Pseudo-glyph Category based on their resemblance to the conventional corpus of phonetic or logographic glyphs.

My research focuses on whole vessels curated by Guatemalan museums and illustrated in excavation reports. This results in a bias towards vessels recovered from burials. Future research in pseudo-glyphs will need to document **all** the ceramics recovered from a site rather than relying on published reports that illustrate representative examples and that tend to emphasize form over decoration. As evident from the material cited, published information about Maya burials varies in detail and scope. Although I have tried to present a thorough a picture of vessel provenience and analysis, my research must rely on the interpretations and reports of the original excavators.

To explore the role of pseudo-glyph embellished pottery, I have tried to establish the status of people with whom these vessels were interred. The recovered artifacts present a view of the material available for inclusion in the burial and relate to the social status of the interred individual (Fitzsimmons 2002:190-191, Hall 1989:85, Tozzer 1941:129-131, Welsh 1988:216-217). Following the research conducted at Tikal by Haviland (1967, 1972) (establishing that the elites of Classic Period Maya society had access to better dietary resources, had fewer diseases and

lived longer lives than their non-elite contemporaries), I have endeavored to include a brief statement regarding physical anthropological analysis of the body (including cranial or dental modification, sex, age and health). I have presented a description of the other pottery found in the tomb (including decoration, inscription and posited site of manufacture) even if I was not able to document the vessel personally.

To address the topic of agency, I believe it important to establish whether vessels inscribed with legitimate hieroglyphic text were present at the site during this period. If legitimate pottery texts appear in the same archaeological contexts, the presence of pseudo-glyph decorated ceramics represents a social decision on the part of the artist or the patron. Additionally, because my analysis seeks to establish whether vessels decorated with conventional hieroglyphics (including PSS or SNT) were found in contexts different from pseudo-glyph bearing ceramics, my research emphasizes archaeological provenience. As a step toward unpacking the behavior displayed in the archaeological record and exploring the social role of pottery with pseudo-glyphs, this chapter will review the archaeological provenience and decoration of both the objects recovered in association with pseudo-glyph decorated ceramics as well as the vessels themselves.

Altar de Sacrificios

The Peabody Museum of Harvard University began their project at Altar de Sacrificios in 1958 and continued through 1963 under the direction of Gordon R. Willey (1969, 1973). Before 1958, little was known about the site apart from epigraphic surveys of Altar's monuments by Sylvanus Morley (1938) and Ian Graham

(later included in Graham 1972), and a three-day reconnaissance by A. L. Smith, H. E. D. Pollock and E. M. Shook (Kidder 1937). Following the descriptive culture-history model of the period, the broad goals of the Peabody project were to (1) create a map of the site and surrounding settlement, (2) establish a ceramic chronology, and (3) assess the role of trade at Altar de Sacrificios and other sites along the Rio Pasión (Willey 1973). A. L. Smith served as field director and Richard E.W. Adams as project ceramicist.

Excavation centered on the monumental architecture of Groups A and B with test probes of Group C. An additional 40 small mounds were examined to establish whether the many modest sized platforms outside the site core functioned as residences. Correlating those stratigraphic levels with *in-situ* monuments bearing Long Count dates with pottery frequencies facilitated definition of the Altar de Sacrificios ceramic chronology. Radiocarbon tests and comparisons of the Altar de Sacrificios material with other Maya Lowland sequences further refined the ceramic sequence (Willey 1969:36).

During my study at the Museo Nacional, I documented six of the pseudo-glyph decorated ceramics recovered from Altar de Sacrificios (Adams 1971).

Although Adams illustrated additional sherds, I was not able to locate them and, because the images in the monograph were so small, they are not included as part of this study. My review of the site reports revealed a lack of consensus regarding dating at Altar de Sacrificios, with Adams (1971:151) and Smith (1972) presenting different sequences. Since Adams was responsible for establishing the ceramic analysis and chronology, I have employed Adams' dates in my descriptions.

Burial 128, Structure A-III, Altar de Sacrificios

Although 21 burials and six caches were excavated from Structure A-III,

A. L. Smith (1972:214) described Burial 128 as "the most impressive grave at the
site." Operation 58(K)4 (Figure 20) encountered Burial 128, a 1.5-x-3.5-m stonelined, rectangular crypt with long-axis east-west, on Terrace 10e at the south end of
Construction B (Smith 1972:266). Construction of the burial chamber involved
cutting a vertical shaft through previous layers of construction fill and reusing the cut
limestone blocks from terrace walls to form the sides of the crypt. The wooden
beams that spanned the chamber rested on a 5-cm layer of almost 9,000 chert chips
laid along the top of the side walls (Smith 1972).

The crypt contained the remains of a 40-44 year old female, wrapped in fine fabric and placed upon a mat. The woman's skull had been flattened with a pronounced tabular oblique deformation and her eight upper teeth drilled to hold jade inlays. After placing a jade bead inside her mouth, the mouth was covered with a *Spondylus* shell. A mirror back of ground slate lay atop her left foot. Analysis of the body by physician Frank Saul (1972:97, Table 8) revealed that Burial 128 suffered from severe periodontal degeneration and dental abscesses. Nevertheless, the burial location and quantity of grave goods led Saul (1972:110, Table 15) to identify this woman as of the highest social status at Altar de Sacrificios. With an estimated height of 156.5 cm, she was also the tallest female excavated at the site.

K30123. Unspecified type:variety, Veremos (A.D. 554-573) or Early Pasión Complex (A.D. 613-691). *Description*. A flat-bottomed cylinder vase and semiconical lid with perforated handle, K30123 (Figure 21) lay to the north of the

body in Burial 128 (Figure 22). As noted by Adams (1971:76), "at least eight and perhaps all of the tomb vessels carried green stucco decoration. In addition, the 'death mask' in the same burial was coated with green stucco, as were other objects." The decorative format of cylinder K30123 consisted of plano-relief panels painted with specular hematite separated by zones of green-painted stucco. Based on style, Adams (1971:66 67) speculated that K30123 had been manufactured and imported from another Petén site.

Text: The glyph elements carved into the red body of K30123 formed two vertical columns (Figure 23). Because of the **wa:KAKAW** (*kakaw* from the Dedicatory Formula) at glyph C-3, the text has been defined as a Category 3; however, this interpretation seems speculative considering how little the rest of the text resembles a PSS.

A1 = PG227

A2 = CHAHOM [pa]

A3 = T520 (CHEWEN or cha)

B1 = PG227

B2 = TE'

C3 = wa: KAKAW

MNAE 6982. Unspecified type:variety (red-on-orange), Pasión Complex (A.D. 613-771). Description: MNAE 6982, a tripod plate (Figure 24), had been everted over the face of Burial 128 (Figure 25). Adams (1971:67) recorded that remnants of a green stucco band encircled the rim of the vessel; such band was not visible when I examined the plate. Between the tripod feet of plate MNAE 6982 lay two sets of pottery earplugs, beads of mother-of-pearl, and two strings of pottery

beads. The plate contained a kill hole, with the removed piece placed over the face of Burial 128.

Text: The text consisted of six elements, grouped into three sets, around the interior rim. All elements were formed with a black outline atop the orange slip of the vessel and lacked interior filling. Although not mentioned in the site reports, the plates from Altar de Sacrificios that I examined in the Museo Nacional showed evidence of post-fire burning. The interior surfaces of the plates were deeply reddened and blackened. The compound glyph blocks consisted of both recognized glyphs and pseudo-glyphic heads: Category 2.

- A = YAX (T16).PG11.ki (T102) B = YAX (T16).PG11.ki (T102) C = YAX (T16).PG11.ki (T102) D = YAX (T16).PG11.ki (T102)
- E = YAX (T16).PG11.ki (T102) F = YAX (T16).PG11.ki (T102)

MNAE 9187 and Altar No. 58-132. Unspecified type:variety, Late Pasión Complex (A.D. 691-771). Description: Adams (1971:67) stated that MNAE 9187 (Figure 26), a tripod plate found in the southwest corner of the Burial 128 crypt (Figure 27), and Altar No. 58-132, recovered from the southeast corner, were similar in shape and decoration. However, because I was not able to examine Altar No. 58-132 and since Adams did not provide an illustration for comparative purposes, I only included MNAE 9187 in the Maya Pseudo-glyph Catalogue.

Text: Six compound elements divided into three groups along the interior rim of plate MNAE 9187. All elements were composed of a black outline (now burned to

a reddish-orange) atop the orange slip without interior filling. The composite blocks contained known logographic and phonetic signs with pseudo-glyphs: Category 2.

A = PG196.PG14.yi (T17)

B = YAX (T16).PG11.na (T23)

C = PG182.PG14.vi (T17)

D = YAX (T16).PG11.na (T23)

E = PG196.PG14.**yi** (**T17**)

F = illegible.PG11.na (T23)

G = KALAJUN (12=2 dots + 2 bars).AJAW (T1000v)

Altar No. 58-131 and Altar No. 58-130. Unspecified type:variety (red-on-orange), Late Pasión Complex (A.D. 991-771). Description: Adams (1971:66-67) noted that tripod plates Altar Nos. 58-131 (Figure 28) and 58-130 were larger and had greater rim eversion than most Pasión Complex polychrome plates. Both plates came from the east wall of Burial 128 (Figure 29) and were reported to be identical in terms of size and decoration. Based on appearance, Adams (1971:76) believed these plates to have been imported from the Rio Usumacinta, Yaxchilan-Bonampak-Piedras Negras ceramic zone.

I did not encounter Altar No. 58-130 in my research and, because fire-damage obscured the surface of tripod plate Altar No. 58-131, I could not confirm Adams' drawing (1971:Figure 90). Thus, I did not include these elements in the Maya Pseudo-glyph Catalogue.

Vessels With Hieroglyphic Text. Of the 15 vessels interred in Burial 128, only two bore legitimate, recognizable glyphs (Figure 30a). The text of Altar No. 58-135 displayed glyphs from the Dedicatory Formula related to the carving of a drinking vessel of or by a CH'OK ("youth"). However, the glyphic phrase ended in

an uncharacteristic fashion with a calendar round date. Based on style, Adams (1971:76) suggested that Altar No. 58-135, a Model Carved bowl with straight sides, had been imported from the Chama-Chajcar region. The other vase decorated with conventional text in Burial 128, Altar No. 58-123, displayed a pair of **5.AJAW.wa** glyphs on the cylinder wall. Adams (1971:66) interpreted Altar No. 58-123 as an import from either the Alta Verapaz region or another site in the Petén.

Five Vessels Without Text. Five additional polychrome bowls and cylinders lay around the body (Figure 31). These ceramics bore repetitive, non-textual decoration (Figure 32). Of the entire ceramic assemblage found in Burial 128, Adams (1971:76) identified only two cylinders, Altar Nos. 58-125 and 58-134, as made in Altar de Sacrificios. Neither vessel was illustrated in the site reports, however.

Provenience Unknown

MNAE 6997. Saxche Orange Polychrome: Acul Variety, Choxoy Complex(A.D. 573-613). Description: Adams (1971:Figure 44) did not provide specificprovenience for MNAE 6997, sherds that refitted to form almost half a round-sidedbowl, and little can be said about the archaeological context of this vessel (Figure 33).

Text: The pseudo-glyphs were formed with a black outline over the orange vessel slip. The broken bowl lacks a significant portion of the rim and the remaining blocks combine known hieroglyphics with pseudo-glyphs: Category 2.

A = PG75 D = u (T511).PG67 B = yi (T17).KAB (T526) E = ti (T59).PG76C = li (T24) F = AJAW (T1008) *K30091*. Petexbatún Orange Polychrome: Petexbatún Variety, Early Pasión Complex (A.D. 613-691). *Description:* Although Adams (1971:52) stated that K30091, a straight-sided bowl with three nubbin feet, derived "from a burial," he provided no further information regarding provenience (Figure 34). Lacking the Altar registration numbers, I was not able to establish the original context of this vessel. Smith (1972) did not list any Petexbatún Orange Polychrome vessels in his description of the Altar burials.

Text: The ten glyph blocks on K30091 were painted with a black outline atop the orange slip; no fill was used on the glyphs. Most Maya scribes formed the exterior of a sign by a single outline; in contrast, this artist drew each half separately — a technique that may suggest lack of experience in forming characters. The band consists of phonetic or logographic signs combined with pseudo-glyphs: Category 2.

PG52.PG53	$\mathbf{F} =$	PG229. yi (T17)
PG12.PG12	G =	pa? (T586).yi? (T17)
pa? (T586).PG54	H =	PG57.PG230
PG55.PG56.na (T23)	I =	PG231.PG232
PG228.yi? (T17)	J =	PG233.PG234
	pa? (T586).PG54 PG55.PG56.na (T23)	PG12.PG12

Summary: Pseudo-glyphs at Altar de Sacrificios

Vessels with pseudo-glyphs from provenienced locations in Altar de
Sacrificios derived from Burial 128, the most elaborate grave encountered by the
Peabody Museum Project. Pseudo-glyphs appeared on plates, bowls and cylinder
vases in both carved and painted techniques. Plates, all but one with pseudo-glyphs,
lay in the corners of the tomb, along the east wall and over the face of Burial 128.

Based on analysis by ceramicist Adams (1971), three were imported from Bonampak,

Piedras Negras or Yaxchilan, and three may have been manufactured either at Altar or imported from another Petén site.

Motul de San José

Under the co-direction of Antonia E. Foias of Williams College and Jose Sanchez, the Proyecto Arqueológico Motul de San José conducted survey, excavation and artifact analysis at the site of Motul de San José from 1998 to 2002 (Foias 2003). Located about 3 km north of Lake Petén Itza and 32 km southeast of Tikal, the site was identified as the production center for ceramics bearing the *Ik*' emblem glyph (Reents-Budet, et al. 1994:172). Through the interdisciplinary investigations of archaeologists, ecologists, chemists, and soil specialists, the Proyecto Arqueológico sought to define the social economy of the Classic Period Maya at Motul. Research focused on (1) defining the degree of economic control exercised by Motul elites over agricultural and craft production and distribution, and (2) examining the socioeconomic relationships between Motul and larger, dominant sites like Tikal and Calakmul (Foias 1998:3).

Since the site had not been investigated previously, the Proyecto surveyed and mapped the 2 km² epicenter and along three transects to the northeast, east and south to document the settlement design (Glaab, et al. 2001:10). Mapping revealed five major plaza groups composed of temples and range structures, as well as over 200 structures in the site core (Figure 35). Test pits and shovel tests probed 90 percent of the structures in the site center and 50 percent of those in the periphery. Additionally, full-scale excavations of large residential groups in the site core, the north periphery

and at the satellite center of Buenavista² were undertaken to document elite architecture and to close trenches damaged by looters (Foias 2003).

Operation MSJ 2A-3, North Structure, Plaza C

Operation MSJ 2A-3 consisted of a 1-x-1 m excavation unit located six meters north of the northwest corner of North Structure in Plaza C (Figure 36). Level 12, beginning at 1.42 m below ground surface and continuing downward to 1.7 m, contained quantities of ash and fragments of carbon. Excavators identified Level 12 as part of a midden redeposited to form Plaza Floor D (Emery and Higginbotham 1998:16-17).

MSJ 2A-3-12-1, *Vessel* 3. Zacatel Cream Polychrome, Late Classic Period (A.D. 650/700-830). *Description*: Plate MSJ 2A-3-12-1, Vessel 3 (Figure 37), with broken tripod legs, was recovered during 1998 from the midden excavated as part of Operation 2A-3. Archaeologists recovered a number of artifacts from this unit, including the fragments of three polychrome cylinders, two tripod plates, a ceramic drum and two utilitarian jars, as well as broken figurines, a flute, obsidian and lithic fragments, shell and pieces of bone. The presence of ash and darkening of some of the ceramic pieces indicated a burning episode before the plastering of Floor D.

Text: Arranged in a single vertical column in the center of plate MSJ 2A-3-12-1 Vessel 3, the pseudo-glyph elements were formed with a red outline over the cream slip. The area around the blocks was filled with black to form a background

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This is not the site of Buenavista del Cayo, Belize, discussed in Chapter 6, where K4464 was recovered (Taschek and Ball 1992; Houston, et al. 1992).

band. The column contained five components, including known phonetic signs and four non-recognized heads (Figure 38): Category 2.

A = **pa** (**T586**) B = PG15 C = PG15 D = PG22

E = PG23:yi? (T17)

MSJ 2A-3-12-1, *Vessel* 5. Zacatel Cream Polychrome, Late Classic Period (A.D. 650/700-830). *Description*: Also excavated during Operation MSJ 2A-3 at Level 12, only portions of cylinder vase MSJ 2A-3-12-1, Vessel 5 could be reassembled (Figure 39).

Text: The rim of MSJ 2A-3-12-1, Vessel 5 contained two remaining elements. Both glyph blocks were executed with a gray-black outline over the cream slip; later, an orange wash that extended beyond the outline was added (Figure 40). Based on morphology, the rim appears to have been embellished with multiple pseudo-glyph head variants with postfixes: Category 2.

A = missing.ja (T683) B = PG302.ja (T683)

MSJ 2A-3-12-1, Vessel 6. Zacatel Cream Polychrome, Late Classic Period (A.D. 650/700-830). *Description*: Excavators at Operation MSJ 2A-3, Level 12 recovered almost half of cylinder vase MSJ 2A-3-12-1, Vessel 6 (Figure 41). As with other objects recovered from this 1-x-1 m excavation unit, the site report lacked specific provenience for this vessel.

Text: Fragments of at least six blocks remained visible on MSJ 2A-3-12-1, Vessel 6 (Figure 42). Elements were painted with a black outline over the cream slip. An orange-red fill, that occasionally spread outside the line, covered each block. The text consisted of conventional and pseudo-glyphic elements: Category 2.

A = KA (2 dots)

B = PG150.KAN (T281)

C = JO? (5=1 bar)

D = KA (2 dots)

E = PG150.KAN (T281)

F = JO? (5=1 bar)

G = PG150-broken

Informe #1 reported an additional, unnumbered cylinder (Figure 43) recovered from Operation MSJ 2A-3-12-1 (Emery and Higginbotham 1998:25, Figure 3.3). I neither encountered this vase during my research in Guatemala nor included the vessel in the Maya Pseudo-glyph Catalogue. However, if the rim and secondary texts drawn are drawn accurately, all three cylinders and at least one plate recovered from Operation MSJ 2A-3-12-1 bore pseudo-glyphs rather than conventional hieroglyphic texts.

Operation 2A-5, North Structure, Plaza C

Operation 2A-5, a 2-x-2 m unit (Figure 44), lay directly to the east of Operation 2A-3 (Castellanos 2000). Level 6, 1.02 to 2.10 m below the surface, represented an extension of the midden formed behind the North Structure of Plaza C. In terms of depth and artifact distribution, Level 6 continued the same activity zone identified as Level 12 of Operation 2A-3. Like Level 12, this strata contained inclusions of ash, carbon, cut bones and soil blackened from burning mixed with

broken pottery (Guffey, et al. 2000:69). A plaster-covered platform filled the north third of the excavation unit and, in the east corner, excavators encountered a large stone that covered Burial #3. Although the body of the 8- to 12-year old had been placed in a flexed, prone position with the head oriented toward the north after cutting through Floor C, none of the lithic, obsidian or shell fragments found near the body were interpreted as grave goods (Guffey, et al. 2000:69-70).

MSJ 2A-5-6-18. Unknown eroded polychrome, Late Classic Period (A.D. 650/700-830). *Description*: Excavation of Level 6 encountered portions of a flaring-side plate with pseudo-glyphs, MSJ 2A-5-6-18 (Figure 45). Although the vessel was reported as forming a part of Lot 18, this lot was not documented in the site reports.

Text: The interior rim of MSJ 2A-5-6-18 displayed portions of eight blocks outlined with a black outline and filled with orange on a cream slip. Because each element was isolated from the next and bars and dots followed the final head, I did not combine the elements as a number. None of the heads bore features diagnostic of known head variants: Category 1.

A = WUK (7=2 dots + 1 bar)

B = PG25

C = PG26

D = PG29

E = JO (5=1 bar)

F = KA (2 reconstructed dots)

G = JO (5=1 reconstructed bar)

K30176. Unknown type:variety, Late Classic Period (A.D. 650/700-830). *Description*: Operation MSJ 2A-5-6-18 also recovered K30176, a globular bowl (Figure 46). Although the vessel lacked any glyphic notation, similar bracket elements are known from other Petén ceramics. The site reports did not refer to K30176.

Summary: Pseudo-glyphs at Motul de San José

All of the vessels identified with pseudo-glyphs from Motul de San José derived from the same stratum of fill used to create Floor C. Foias proposed that this area was used as a trash midden:

...found in association with the largest complex of multi-room rangestructures, called the Acropolis in Group C, which may have functioned as the royal residence during the Late Classic. This midden consists almost entirely of pottery (some burnt), and includes quantities of ashy soil, several manufacturing wasters, an unfinished vase, and clay lumps (Foias 2003).

Additionally, Foias identified many of the numerous pottery fragments as wasters or vessels broken during the firing process that had been thrown in the midden from a nearby but unexcavated ceramics workshop (Antonio Foias, personal communication 2005). This interpretation, however, did not preclude the possibility that the midden included detritus from feasting (including the ceramic drum, flute and cut bones), with organics burned as part of a termination ritual before the plastering of Floor D (Guffey, et al. 2000:70). Ultimately, the use history and relationship of these vessels remains unknown.

Petexbatún Region

The Proyecto Arqueológico Regional Petexbatún began in 1989 and finished fieldwork in 1994 under the co-direction of Arthur Demarest, Vanderbilt University,

and Juan Antonio Valdés, Universidad de San Carlos de Guatemala. The Project defined the "Petexbatún" as those Classic Period Maya sites along the Río Pasión, including the major centers of Aguateca, Arroyo de Piedra, Dos Pilas, and Punta de Chimino and Tamarindito (Figure 47). Additionally, sub-projects included survey and surface collection of artifacts between these sites, as well as ecological analysis of the agricultural potential of the Laguna Petexbatún region. Before looters further compromised the integrity of these sites, salvage archaeology was conducted at La Paciencia, Murciélagos and El Duende. The Subproyecto de Sistemas Definsivos excavated the various fortifications and defensive structures erected during the Terminal Classic and Postclassic Periods. As its primary goal, the Petexbatún Project sought to define environmental and socio-political nature of the "Classic Period Maya Collapse" (Demarest 1997:211). Therefore, the research strategy emphasized investigation of the last phase of Classic Period occupation.

Antonia Foias (1990, 1993a, 1996, 2000, 2002) served as the Petexbatún Project ceramicist. Ronald Bishop at the Smithsonian Institution conducted Instrumental Neutron Activation Analysis (INAA) of (1) non-fine paste pottery with volcanic inclusions, and (2) fine paste pottery. The fact that 90% of all Petexbatún ceramics contained quantities of locally available calcite led to the assumption that carbonate paste pottery represented regional manufacture (Foias 1996:955). Unless otherwise noted, the pseudo-glyph bearing ceramics described below were believed to have been made in the Petexbatún area. My examination of the Petexbatún ceramics confirmed Foias' identification of significant quantities of calcite — the vessels that

Foias interpreted as locally manufactured were low fired, with black cores, large areas of surface spalling, and crumbled easily (Rice 1987b:229-230, Shepard 1954:30).

Burial 4, Structure 13, Operation AP13A-1, North Plaza, Arroyo de Piedra

From 1990 until 1994 Héctor Escobedo directed and supervised research at Arroyo de Piedra, a site located approximately midway between Dos Pilas and Tamarindito. Excavation at Arroyo de Piedra concentrated on the Plaza Mayor, the North Plaza and four residential structures. Employing the tradition of brecha survey established at Tikal (Puleston 1973, 1983), survey along the four cardinal directions sought to define the parameters of this site (Escobedo 1994:16-1). Escobedo's research focused on the social and possible economic relationships between the two most powerful sites in the region, Dos Pilas and Tamarindito, and a site interpreted by size and epigraphic references as of secondary political status, Arroyo de Piedra (Escobedo 1994:16-5, 1997:307).

Structure 13 was described as a small palace in the site core of Arroyo de Piedra with three rooms reached by a staircase from the North Plaza of the Arroyo de Piedra core (Figure 48). Operation AP13A-1, a 6-x-1-m trench dug behind Structure 13, cut through a midden from which approximately 30,000 sherds were recovered (Stuart 1990:353-355, Urquizu 1994). The large size of the building with an adjacent midden containing detritus from feasting suggested that Structure 13 and the North Plaza filled an elite function at Arroyo de Piedra (Escobedo 1997:317). Burial 4, a Late Classic Period intrusive burial placed in the midden at a depth of 80 cm below ground surface, lay inside a collapsed cist of cut stones (Figure 49).

Identified as an adult, the disturbed and disintegrated nature of Burial 4 precluded making assessment regarding the sex of the individual (Urquizu 1994:18.16).

IDAEH 17-07-05-10. Zacatal Cream Polychrome, Nacimiento Phase (AD 550-850). Description: Excavators recovered IDAEH 17-07-05-10, a broken cylinder vase bearing pseudo-glyphs (Figure 50), from the northern portion of the Burial 4 cist (Urquizu 1994). When refitted, the fragments formed only part of the entire vessel. Foias (1996:1148) reported that the base rather than the center of vase IDAEH 17-07-05-10 had been ritually killed, with the broken sherd fragment placed back into the "kill hole." Based on the abundance of calcite in the paste, Foias (1996:1147) assumed that this vase had been locally made.

Text: The badly abraded surface of IDAEH 17-07-05-10 retained only three of the blocks that formed a band around the cylinder vase rim (Figure 51). Based on proportion, Foias (1996:1147) estimated that the rim accommodated eight blocks. All the elements were executed with a black outline painted on the cream slip. Over the outline had been daubed a orange-red circle that roughly conformed to the individual elements. None three extant blocks derive from the corpus of known Maya hieroglyphs: Category 1.

A = PG214.PG64

B = PG215.PG64

C = PG148 (resembles signs of **CHAAK**' holding stone)

Additional Artifacts. Burial 4 contained a miniature red jar, two jaguar teeth drilled for stringing as a necklace, and bat and tepescuintle bones in addition to pseudo-glyph bearing IDAEH 17-07-05-10 (Urquizu 1994:18-7). A ritually killed

Zopilote Smudged tripod plate also had been placed in the cyst. Neither the tripod plate nor the miniature jar were illustrated or numbered in the site reports.

Burial 25, Suboperation DP26F-5-4, Structure M5-18, Dos Pilas

Burial 25 was placed on the northeast corner at the base of Structure M5-18 in Dos Pilas. The tallest edifice within a small plaza group located to the southeast of the site core, Structure M5-18 formed a rectangular platform topped by two, dual-chambered structures (Figure 52). Raised platforms at the back of each chamber suggested an administrative-residential function for these rooms.

Suboperation DP26F-5-4, a 1.5-x-1.5-m unit, encountered a simple crypt of roughly-formed limestone slabs containing an adult male with a slight cranial deformation and teeth inlaid with jade (Emery, et al. 1991, Wright 1991:812). Three beads of jade were recovered from the neck or jaw area of the skeleton.

That a person displaying body modification and possessing jade should be recovered from a small residential plaza group suggested that the individual was of elite, but probably not royal, status. Palka (1995:202) suggested that the "burial may be of a household or lineage head of the residential group, or another important, high ranking individual (who had kinship or sociopolitical connections to Maya nobles?)". Based on a statistical analysis of mound size, Palka (1997:297, Figure 4) described the M5-5 plaza group as a Level 5 in the structural hierarchy of Dos Pilas. The individuals living in plaza groups Level 5 and Level 6 (defined by slightly larger architecture requiring greater labor investment) formed the majority of the population at Dos Pilas. According to Palka (1997:299), "these people are farmers, laborers,

craft specialists, and merchants, and they typically outnumber the ruling elite and people of the lowest socioeconomic status."

IDAEH 17-07-02-14. Palmar Orange Polychrome, Petexbatún Period 1-Nacimiento Phase (A.D. 600-750). Description: This tripod plate with pseudoglyphs, IDAEH 17-07-02-14 (Figure 53), was recovered as part of Suboperation DP26F-5-4 from Burial 25 (Emery, et al. 1991:197). According to the site report IDAEH 17-07-02-14 lay over the face of Burial 25 (a plan of which did not appear in the reports). Foias (1996:1060) remarked that the tripod legs had been removed prior to interment and were not recovered during excavation. The vessel displayed a drill hole in the middle of the base.

Text: The outflared, flat wall of IDAEH 17-07-02-14 bore a single pseudo-glyph, although Foias (1996:1060) speculated that a second element may have disappeared through abrasion. A wash of red highlighted the thick black outline and interior details. None of the elements derived from the hieroglyphic corpus: Category 1.

A = PG193.PG194.PG195

Additional Pottery. At the feet of Burial 25 had been placed Dos Pilas No. 602143, a cylinder vase embellished with an abstract design perhaps representing a serpent (Emery, et al. 1991:197, Foias 1996:1058-1059). Cylinder vase Dos Pilas No. 602144, reported as bearing a Dedicatory Formula, lay next to the body (Emery, et al. 1991:197, Foias 1996:1059-1060). Neither of these cylinders were illustrated in the reports, nor did I encounter them in my research.

Burial 26, Operation DP30C-1-3, Structure P5-3, Group P5-1, Dos Pilas

Hector Escobedo (1991:274-275) excavated Burial 26 as part of Operation DP30C-1-3 at Structure P5-3. Group P5-1 stood approximately 150 meters to the east of the El Duende pyramid and at the edge of a limestone escarpment. Structure P5-3, a rectangular platform without superstructure, formed the southern extent of this residential plaza (Figure 54). Burial 26 had been placed along the center line of Structure P5-3 and was oriented east-west (Palka 1995:208). Several of the limestone slabs that formed the simple rectangular crypt still bore traces of red paint. The bones of this individual were too fragmented and badly preserved to permit identification of sex or age (Escobedo 1991:274, Wright 1991:812).

Palka (1995:206) described the P5-1 plaza as another Level 5 group in the structural hierarchy of the Petexbatún region. Like the members of Group M5-5 discussed above, these occupants comprised the "middle-class" majority at Dos Pilas. However, excavation failed to produce evidence of craft specialization or specific occupations for group members (Palka 1995:212).

IDAEH 17-07-02-20. Palmar Orange Polychrome, Period 1-Nacimiento Phase (A.D. 600-750). Description: Escobedo encountered IDAEH 17-07-02-20, a round-sided dish with nubbin tripod feet (Figure 55), lying across the legs of the skeleton in Burial 26 (Figure 56).

Text: Nine elements divided into three equal groups around the slightly flaring interior rim of dish IDAEH 17-07-02-20 to form a triadic pattern. The graphs were outlined in black with interior daubs of red: Category 1.

A =	PG216	$\mathbf{F} =$	PG220
B =	PG217	G =	PG221
C =	PG218	H =	PG222
D =	PG219	I =	PG223
E =	PG62		

Additional Pottery. Bowl Dos Pilas No. 603135 and cylinder vase Dos Pilas No. 603136 (Figure 57) were placed next to the skull of Burial 28 (Figure 58). Although the polychrome decoration of bowl Dos Pilas No. 603135 had completely eroded, neutron activation analysis of the paste indicated manufacture at Tikal, Motul de San José or Uaxactun (Foias 1996:964). An eroded text with PSS-like elements encircled the rim of cylinder vase Dos Pilas No. 603136. Unfortunately, I was not able to document this vessel and, since I could not reconstruct the glyphs sufficiently from the illustration, I did not include it in the Maya Pseudo-glyph Catalogue. Additional offerings in Burial 26 included an obsidian blade and a limestone spindle whorl.

Burial 30, Operation DP6A-32-4, Structure L5-1, Dos Pilas

Excavators encountered Burial 30 as part of Operation DP6A-32-4 (Figure 59), a 10 m vertical pit placed in the center of Structure L5-1 (Demarest, et al. 1991:45-47). The rectangular floor of the tomb chamber had been cut into bedrock over which was smoothed a layer of plaster; the stone-lined walls and corbel vault were consolidated with cement (Demarest, et al. 1991:47). The body of a 45-60 year old male had been placed on the tomb floor with his head oriented toward the east. Evidence of oblique tabular cranial deformation indicated Burial 30 possessed elevated social standing. The teeth, modified by chipping, exhibited little abrasion

and reflected a diet rich in meat and well-ground grains. The skeleton presented no evidence of infection or anemia (Demarest, et al. 1991:53).

With Burial 30 were recovered modified mollusk shells (including *Spondylus* and *Strombus* shells), a bat and various avian skulls (Demarest, et al. 1991:56-57). The location of jaguar phalanges around the corpse suggested that the body either had been placed atop or rested beneath a jaguar skin. Additionally, Burial 30 wore a jade collar and ear spools; a stingray spine lay near the pelvis. In the southeast corner of the tomb rested the remains of a mosaic headdress composed of *Spondylus* shells and pearls.

Based on the association of Stela 8 with Structure L5-1, Burial 30 was identified as that of Ruler 2, *Itsamnaaj K'awiil*, who died on 26 October A.D. 726 (Houston and Mathews 1985:8). However, as noted by Houston (1987b:281, 1993:110), no explicit glyphic evidence from the burial confirmed this identification and many stelae recording the exploits of Ruler 2 also stand near Structure P5-7.

K30185. Palmar Orange Polychrome, Petexbatún Period 1-Nacimiento Phase (A.D. 600-750). *Description*: Cylinder vase K30185 (Figure 60) was recovered from the northwest corner of Burial 30 in Structure L5-1 (Figure 61).

Text: Most of the spalled and abraded rim band had disappeared, with only four elements still visible (Figure 62). The uneven distribution of the existing elements precluded estimating how many originally blocks encircled the vessel. Elements were composed of only black outline without interior coloring: Category 2.

A = PG288

B = PG289

C = AJAW (T533)

D = PG290

E = abraded

F = abraded

Additional Pottery. Excavators also recovered another five vessels from Burial 30 (Figure 63). A small tripod plate/dish with hollow conical feet, IDAEH 17-07-02-179 (Figure 64), lay in the northeast corner of Burial 30. The remnants of an abraded Dedicatory Formula encircled the interior rim. Based on her identification of locally available calcite paste, Foias (1996:955) suggested that this vessel had been made in the Petexbatún area.

Further to the east were found the broken and fragmented remains of two cylindrical vases. The wall of Dos Pilas No. 610005 (not illustrated in the field reports) had been covered with stucco in which traces of Maya blue still could be seen. No inscription adorned this vase. Foias (1996:1050) noted that the surface treatment and paste of Dos Pilas No. 610005 visually resembled Pizarra Slate ceramics produced in the northern Yucatan.

Straight-sided bowl Dos Pilas No. 610006 (Figure 65) displayed a band of chevrons around the rim and a pattern of crossed bones alternating with large circles painted on the exterior rim (Demarest, et al. 1991:65, Foias 1996). Although neither Dos Pilas No. 610005 nor Dos Pilas No. 610006 bore inscriptions, the presence of imported polychrome and stucco-decorated ceramics further affirmed the elevated status of the individual placed in Burial 30.

The tripod feet of plate IDAEH 17-07-02-181 (Figure 66) had been removed prior to deposition but were placed with the rest of the vessel in the tomb (Foias 1996:1046). Interpretation of the INAA data for this plate suggested that it had been manufactured in and imported from the Petén (Foias 1996:964). Since I was not able to compare the plate with the illustration (Foias 1996:1087, Figure C.2a), I could not establish whether the abraded text inscribed around the interior rim consisted of conventional hieroglyphs or another example of pseudo-glyphs. These possible elements were not included in the Maya Pseudo-glyph Catalogue.

In the northeast corner of the Burial 30 tomb rested MNAE 15357 (Figure 67), a large, quadrangular tetrapod plate (Foias 1996:1049). Instrumental neutron activation analysis confirmed the presence of fine volcanic temper that chemically matched this finely painted plate with ceramics from Tikal, Motul de San José or Uaxactun (Foias 1996:964). In support of the INAA data, Glyph N described the owner or patron as an *ajaw* from the *Ik*' polity, Motul de San José (Reents-Budet 1994:150-153, Reents-Budet and Bishop 1989).

Burial 51, Operation DP37D-1-7, Structure O5-4, Group O5-4, Dos Pilas

Burial 51 was encountered as part of Operation DP37D-1-7 (Figure 68), a 2-x-2-m unit set in Structure O5-4, Group O5-2 (Palka and Moscoso 1991:156). The smallest Late Classic construction in this residential compound, Structure O5-4 rested on a low substructure and had an earthen interior floor (Palka 1995:275). Burial 51, a simple limestone slab crypt, had been placed in a bench located along the eastern wall of Structure O5-4, Group O5-2.

The body of an adult male had been oriented with his head toward the north and offerings placed around the body. The presence of teeth inset with hematite decoration attested to the elevated social status of Burial 51 (Wright 1992:297). Palka asserted that the mounded loose rubble on the surface of the bench containing Burial 51 precluded sleeping or sitting; instead, he posited this feature functioned as an altar "where offerings were given and the buried ancestor worshiped" (Palka 1995:277).

In his examination of the social status of residential compound Group O5-2, Palka asserted:

The initial occupants of Gr. O5-2 appear to have been important people that may have been associated with the El Duende pyramid and, possibly, the royal family at Dos Pilas. People of this residential group owned prestige items such as jade beads and fine polychrome pottery... (Palka 1995:279)

Archaeological evidence suggested that the individual recovered from Burial 51 represented an important lineage elder of this compound. Elevated social status was indicated by both dental modification and grave goods that included ceramics imported from the Central Petén. Yet, based on size and architectural elaboration, Palka (1995:280) identified Group O5-2 as another "middle-ranked residential group" — the individual in Burial 51 was not identified as a member of the royal elite but did have access to exotic imports.

IDAEH 17-07-02-239. Zacatal Cream Polychrome, Nacimiento Phase(A.D. 550-850). Description: Although Foias (1996:1079) stated that cylinder vaseIDAEH 17-07-02-239 had been interred whole in Burial 51, only portions were

reassembled (Figure 69). The cylinder was recovered lying to the east of the legs (Figure 70).

Text: The poor condition of IDAEH 17-07-02-239 precluded estimating how many elements originally encircled the rim; only three can be reconstructed with any clarity. All were outlined in black with the interiors highlighted in a light brown:

Category 2.

A = PG224.PG225

B = PG226.tzi (T507)

C = PG226.PG314

Additional Pottery. Dos Pilas No. 620597, a bowl with a small kill hole at the edge of the base, exhibited no use wear. Foias (1996:1077) commented that this bowl bore a complex pattern of red or black vertical columns with filled dots but did not provide an illustration. Archaeologists discovered the bowl resting atop the knees of Burial 51 (Figure 71).

Tripod plate Dos Pilas No. 620596 covered the face of Burial 51 (Figure 72). The vessel, without a kill hole, had been buried whole with feet unbroken and lacked evidence of use wear. A well-executed Dedicatory Formula encircled the interior rim. All three of the vessels recovered from Burial 51 contained volcanic ash temper that matched the profiles of pottery manufactured in Tikal, Motul de San José or Uaxactun (Foias 1996:964).

Tamarindito

Located approximately 6 kms to the west of the Rio Petexbatún, Tamarindito stretches atop a series of steep escarpments. Mapping by the Proyecto Arqueológico Regional Petexbatún established that the site core of Tamarindito consisted of two major groups. Research in this area sought to determine dates of occupation, to identify agricultural resources, and to define the socio-political relationship between Tamarindito, Arroyo de Piedra and Dos Pilas (Valdés 1990:89).

Burial 13, Operation TA8A-5-6, Structure 13-3, Group A, Tamarindito

In 1993 Antonia Foias directed excavation of Group A, located on one of the hills of Tamarindito. Operation 8 focused on Structure 13, a platform surmounted with a single-room structure (Foias 1993b:100). Below this room excavators encountered Burial 13, a crypt associated with the first phase Structure 13-3 construction (Figure 73). Only a few teeth and fingers remained of the interred individual and neither sex nor age could be established.

206245. Unnamed stuccoed and incised, possible Tepeu 1 Complex (ca. A.D. 550-600). Description: Excavators recovered cylinder vase 206245 from the northeast corner of Burial 13 (Figure 74). The vessel displayed a smudged black interior, with a green stucco covering most of the exterior surface. With this cylinder and found in the center of the crypt was a Palmar Orange Polychrome plate with ritually removed tripod feet and drilled hole that suggested an interment date of Tepeu 1 for Burial 13 (Foias 1996:1136).

Text: Although Foias (1996:1136) reported that the fragmented cylinder had been reconstructed and displayed a rim band of seven blocks, my investigations documented only a portion of the vase, with three pseudo-glyphs (Figure 75). Stucco covered all but the incised rim band of vase 206245. Foias (1996:1136) noted that the incisions "were made when the clay was relatively dry since the cut is very sharp."

None of the elements conform to the known corpus of hieroglyphics: Category 1.

A = PG165 B = PG160 C = PG161

Summary: Pseudo-glyphs in the Petexbatún Region

Although archaeologists focused on the Terminal Classic occupation of the region, excavation encountered six example of Late Classic Period pseudo-glyph bearing pottery in the Petexbatún: one from Arroyo de Piedra, four from Dos Pilas and one from Tamarindito. The epigraphically documented burial of Ruler 2 (*Itsamnaaj K'awiil*) in A.D. 726 led to a more specific dating of the vessels found in Burial 30.

Based on the elaboration and site of the grave, all of the Petexbatún pseudo-glyph bearing vessels were recovered from elite-status burials. With the individuals were recovered exotic grave offerings including jade, animal remains and polychrome pottery from both within and outside the Petexbatún region. Vessels with pseudo-glyphs displayed figural imagery including palace scenes and images of deities consistent with Classic Period Maya iconic canons — pseudo-glyphs did not appear only on poorly painted vessels. Four of the pseudo-glyph bearing ceramics were

identified by ceramicist Foias as of local manufacture. Of these, neutron activation analysis suggested that IDAEH 17-07-02-239 (Burial 51), decorated with pseudoglyphs, had been imported from Tikal, Motul de San José or Uaxactun in the central Petén (Foias 1996:964).

Piedras Negras

Investigations by the Proyecto Arqueologico Piedras Negras, under the codirectorship of Héctor Escobedo of the Universidad del Valle and Stephen Houston of Brigham Young University, began in 1997 and continued until 2000. Their research built upon discovery of the site by Maler at the turn of the last century (1901). During the 1930s the University Museum, University of Pennsylvania conducted excavations at Piedras Negras (Satterthwaite 1943, 1952, 1954), with artifact analysis following somewhat later (Coe 1959, Holley 1983). Epigraphic studies at Piedras Negras by Sylvanus Morley (1938) and, most significantly, Tatiana Proskouriakoff (1960) stimulated the integration of historical text and field archaeology.

The recent Proyecto investigations posed a series of theoretical questions related to the social structure, settlement and demographic patterns at Piedras Negras (Escobedo and Houston 1999, Houston, et al. 1999). Additionally, the Proyecto sought to document the site and its environmental setting before its possible destruction by a proposed hydroelectric dam across the Usumacinta River or before looting further eroded archaeological integrity (Houston 2001). To refine their understanding of Piedras Negras, the Proyecto conducted excavation, mapping and soils analysis within the site core and at a series of subsidiary polities (Escobedo and

Houston 1997, 1998, 1999, 2002). Survey of the site resulted in the identification of more than 90 new mounds (see Figure 76; Nelson 2005:44). Survey and excavation outside the site core, and reaching the subsidiary site of El Porvenir, was directed by David Webster (Webster and Kirker 1997, Webster and Kovak 1999, 2002).

Ceramics analysis was directed by René Muñoz, with assistance from Mary Jane Acuña and Griselda Perez (Muñoz 1999, 2000, 2001a, 2001b, 2003; Muñoz, et al. 2002; Muñoz and Fitzsimmons 1998). Their research built on the temporal scheme defined by Holley (1983) and reassessed the type:varieties present at Piedras Negras. Ceramic samples sent to the Smithsonian Institution for INAA indicated that all the pseudo-glyph decorated pottery had been locally manufactured (René Muñoz, personal communication 2006).

As part of this study, I documented seven whole vessels decorated with pseudo-glyphs before IDAEH assigned their registration numbers. I also examined 64 sherds, 23 of which bore more than a single pseudo-glyphic element. Although this sherd count represents the sum total of pseudo-glyph decorated ceramics excavated by the Proyecto, the sample should not be considered as representative of the site due to research biases in the selection of units for excavation (Houston, et al. 1999). Because the sherds derived from excavated fill, their original provenience and social function remained unknown. However, elements from sherds bearing two or more pseudo-glyphs were included in the Maya Pseudo-glyph Catalogue to explore whether they formed an alternative writing system. Rather than describe each sherd individually, Appendix 3 presents a summary of each sherd and Figure 77 illustrates their archaeological provenience.

Burial 45, Operation PN 23B-3-7, Structure R-20, South Group

Excavations directed by Nancy Monterroso (1998) around Structure R-20 in the South Group revealed eight burials, all placed with their heads towards the north (Figure 78). Based on orientation and proximity, Houston et al. (1998) speculated that the burials contained members of the same family. Structure R-20 possessed a stairway with a perishable building or altar standing at its summit — no trace of a permanent structure was identified during excavation.

Placed on the axis of Structure R-20, unit PN 23B-3 began as a 2-x-2-m test pit but was enlarged to 3.5-x-2.8-m when excavators encountered Burial 45 at a depth of 274 cm below the surface (Nelson 2005:379-380). Formed of worked stone and covered by meter-long slabs, the crypt stood approximately 74 cm high by 2.26 m long. The adult male interred within Burial 45 lay with the head at the north end of the crypt. No mention was made of cranial deformation; however, the right incisor displayed an inset jade flower (Nelson 2005:379-380). Based on the expense of cist construction and its placement on the central axis of Structure R-20, Proyecto members posited that Burial 45 held a non-royal lineage founder (Houston, Escobedo, Hardin, et al. 1998, Monterroso 1998:112). With Burial 45 were interred six clay beads, a jade bead, chert flakes and two jade plaques. Additionally, excavation recovered five bowls, all decorated with pseudo-glyphs, stacked with a niche located to the east of the body (Figure 79).

K30064. Saxche Orange Polychrome: Variety Unspecified, Balche Complex (A.D. 560-620). *Text:* A round-sided bowl, K30064 bore an inscription composed of six blocks encircling the vessel body (Figure 80). Two vertical dots functioned as

decoration to separate each block. The darker orange-red fill had been painted before the black script-line. Positions E and F combined to form the *yu-k'ib* collocation known from the Dedicatory Formula; the other elements, however, did not form pronounceable words: Category 3.

```
A = mo? (T582)
B = li (Tnn)
C = yu (T61):AJAW? (T1008)
D = u?
E = yu (T61):k'i (T243)
F = bi (T585)
```

K30065. Balche Plano Relief, Balche Complex (A.D. 560-620). *Text*: A round-sided bowl, K30065 displayed a carved text composed of six blocks that encircled the rim (Figure 81). A fugitive white pigment served to emphasize the deep carving. Although some of the blocks conformed to recognized Mayan words, the phrase lacked coherence: Category 3.

```
A = yu (T61):li (T24)
B = XIB or AJAW (T101)
C = CHAM or YAL ("child of mother" or "its harvest")
D = ja (T181).li (T24)
E = li (T24)
F = YAX (T16).XIB or AJAW (T1008)
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K30066. Saxche Orange Polychrome, Balche Complex (A.D. 560-620).

Text: K30066, a round-sided bowl, possessed a rim text composed of eight blocks grouped into sets of two (Figure 82). The collocations were formed with a black outline atop the orange slip; no interior fill was employed. Both a thick black and thinner red line encircled the vessel rim. Although several of the individual components derived from the corpus of deciphered signs, the repeatedly used and

non-conforming postfixes did not combine with the previous signs to create pronounceable words: Category 2.

A = K'IN (T544).ni (T116)

B = cha or CHUWEN (T520).PG280

C = K'IN (T544).ni (T116)

D = **ba or IMIX or JA (T501)**.PG280

E = **ba or IMIX or JA (T501)**.PG280

F = PG279.ni (T116)

G = **ba or IMIX or JA (T501)**.PG280

H = **WINIK or CHUWEN (T521)**.mi

K30067. Saxche Orange Polychrome: Saxche Variety, Balche Complex (A.D. 560-620). *Text:* A low flaring-sided bowl with out-turning rim, K30067 exhibited a band of eight pseudo-glyphs, divided into sets of two, around the vessel rim (Figure 83). Created with a red-orange outline on the orange vessel slip, a lighter red filled the interior to emphasize each block. The interior wall of K30067 displayed an abraded, but clearly discernable, sky-band. While some of the repeated signs conformed to known Mayan words, pronounceable text was not produced:

Category 2.

A = WINIK or CHUWEN (T521).PG280

B = WINIK or CHUWEN (T521).mi (T173)

C = PG58

D = K'UL (T1016).ni (T116)

E = cha or CHUWEN (T520).PG280

F = **cha or CHUWEN (T520)**.PG280

G = ba or IMIX or JA (T501).PG281

H = PG42.ni (T116)

K30068. Saxche Orange Polychrome, Balche Complex (A.D. 560-620).

Text: Painted around the rim of round-sided bowl K30068 were seven blocks

(Figure 84). Painted with a black script-line, no interior fill was applied. Composed primarily of pseudo-glyphs, two conventional signs also appeared: Category 2.

A = PG41.PG2

B = PG41.PG3

C = PG04.PG39

D = PG41

E = PG41

F = AJAW or XIB (T1008)

G = PG41.ku (T528)

Burial 77, Operation PN41B-1-5, Structure C-13, South Plaza of Group C

Excavations conducted by Hruby and Muñoz (Gillot, et al. 1999:151) in the South Plaza of Group C, to the north of the site core, revealed that this plaza, like that described above, had served as Classic Period cemetery (Figure 85). Three burials were excavated from the Plaza in 1999, with at least two additional burials covered by slabs left for future research (Houston, et al. 1999). The discovery of an eroded hieroglyphic panel found in the plaza suggested that elite lineage, perhaps of *sajal* rank, may have inhabited Group C (Gillot, et al. 1999:162).

Structure C-13 consisted of a three terrace edifice. Excavation suggested that the building was too narrow to have supported a superstructure and represented a single phase of Late Classic Period construction (Gillot, et al. 1999:157-158). Later, a central staircase was added to Structure C-13 (Houston, et al. 1999). On the central axis of the staircase stood a cylindrical altar. Houston et al. (1999) posited that the hieroglyphic panel had originally been set in an outside balk of Structure C-13 directly over Burial 77.

Burial 77, recovered as Operation PN 41B-1-5, consisted of a narrow, 1.1 m, crypt covered by large stone slabs (Houston, et al. 1999). The quantity of stucco recovered from the crypt suggested that the walls had originally been stucco-coated and perhaps painted (Gillot, et al. 1999:158). The badly decomposed body lay extended with the head at the northeast of the crypt. No sacrificial tools were found near the pelvis of Burial 77; however, within the mouth was found an obsidian prismatic blade and next to the head lay a stingray spine. Small shell earrings flanked the skull. Jade disks and cylindrical beads encircled the collar and a floral, quadripartite-form jade bead lay near the left leg. In total, six pieces of jade and six vessels accompanied Burial 77 as grave goods.

K30070. Coabano Red-on-Orange: Coabano Variety, Yaxche Complex (A.D. 630-740). Description: Cylinder vase K30070 (Figure 86) lay at the south end of the Burial 77 crypt (Figure 87). The site report described the vessel as decorated with a net-like pattern reminiscent of God N's netted headdress (Gillot, et al. 1999:158).

Text: Although badly abraded, the remains of 11 repeated heads still appeared around the rim of K30070. The outline was formed with a red pigment over the orange slip; no interior fill was applied. None of the heads resembled examples from the hieroglyphic corpus: Category 1.

A =	PG46	(3 =	PG46
$\mathbf{B} =$	PG46	I	H =	PG46
$\mathbf{C} =$	PG46	I	=	PG46
D =	PG46	J	=	PG46
$\mathbf{E} =$	PG46	F	ζ =	PG46
$\mathbf{F} =$	PG46			

Additional Vessels. Across the pelvis rested a large, undecorated orange plate. With K30070, at the south end of the crypt lay K30069 (Figure 88), a bowl decorated with a repeated motif of stylized flowers and AJAW head profiles (Figure 89). A small fluted bowl and two polychrome plates without text completed the Burial 77 grave goods.

Sweatbath Structure J-17, Operation PN 49A-05, Acropolis

Building on Satterthwaite's (1952:3) study of sweatbaths at Piedras Negras, Child and Child (1999:269) initiated excavation of Structure J-17 located in the Acropolis (Figure 90). In 1999, a total of 15 units probed the structure seeking to define the dates of construction and use. Operation PN 49A-5 recovered the largest quantity of artifacts from a single room — including fragments of obsidian, parts of a figurine, pieces of bone and a large number of sherds (Child and Child 1999:271).

K30072. Palmar Orange Polychrome, Yaxha-Chacalhaaz Complex (A.D. 620-850). *Description*: Operation PN 49A-5-2, a .5 x .5 m text pit placed in the floor of Operation PN 49A-5, encountered K30072 (Figure 91). The vase had been placed as an offering in the floor, just to the north of the door leading into the room. The body of cylinder vase K30072 bore a series of panels painted to resemble a jaguar pelt, separated by bands containing vertical diamond-shapes. A rim band, composed of 10 glyphs encircled the rim. Formed using a red outline on the cream slip, the interiors were filled with a red-orange wash. Each block consisted of the

same repeated collocation composed of known hieroglyphs that lacked coherent sense as a phrase: Category3³.

A =u? (T191).ja (T683):ya (T126) ja (T683):ya (T126) B =C =u? (T191).ja (T683):ya (T126) D =u? (T191).ja (T683):ya (T126) E =u? (T191).ja (T683):ya (T126) F =u? (T191).ja (T683):ya (T126) u? (T191).ja (T683):ya (T126) G =u? (T191).ja (T683):ya (T126) H =u? (T191).ja (T683):ya (T126) I =J =u? (T191).ja (T683):ya (T126)

Summary: Pseudo-glyphs at Piedras Negras

The Proyecto Arqueologico Piedras Negras investigated portions of the entire site, not just the central acropolis or large residential compounds (Houston and Escobedo 1997, Houston, Escobedo, et al. 2000, Houston, Escobedo, Hardin, et al. 1998, Houston, et al. 1999). Excavations encountered a range of burials, from the royal interments of Ruler 3 in Burial 5 (Barrientos Q., et al. 1997:6-11, Figure 9, Houston, Escobedo, Forsyth, et al. 1998:18-19) and a young lord in Burial 82 (Fitzsimmons, et al. 2003:457-462) to individuals laid beneath their residences in small patio groups on the site periphery (Kovak and Webster 2002:491). None of the whole vessels from Piedras Negras displayed a complete Dedicatory Formula or expressed a coherent phrase. All of the pseudo-glyph decorated vessels from primary

This collocation may relate either to *u-jaay* (with a homophonic **-ya** postfix rather than the conventional **-yi**) leading to the translation "the cup of" — or to the PSS Initial Sign *alay*, describing the dedication of the vessel. As noted by Steve Houston (personal communication, 2005), this inscription could not be deciphered but only has a pseudo-glyphic rim band.

context deposits at Piedras Negras derived from architecture associated with elite, sub-royal individuals.

As noted above, additional examples of sherds decorated with pseudo-glyphs were recovered from architectural fill. Of the 23 sherds possessing more than a single pseudo-glyph, 13 sherds displayed only Category 1 elements. Rim analysis of the sherds indicated that bowls, plates, jars and vases bore pseudo-glyphs.

Poptún

IDAEH Director Adolfo Molina Orantes, Robert E. Smith and Edwin Shook conducted investigations around the agricultural village of Poptún between November 24-28, 1948. Their reconnaissance identified a series of five centers located near the Rios Machiquila and San Pedro: Los Cimientos, Hortaliza, Sabana, Poctún and Petensuc (Shook and Smith 1951:4).

Shook (1951:7-8) reported that the majority of complete vessels had been removed from tombs located under platforms at Hortaliza by the local residents.

Each of the nine tombs was described as a cyst containing an extended skeleton surrounded by offerings of finely painted plates, jars and bowls (Laporte 2002:501). Unfortunately, Shook's brief report documenting the recovered artifacts provides little in terms of specific provenience or description.

My research encountered six hemispherical bowls decorated with pseudoglyphs that were reported as deriving from Poptún. Based on Shook's descriptions, the vessels more likely had been recovered from the Hortaliza tombs. Subsequent investigations by the *Proyecto Atlas Arqueológico de Guatemala*, directed by Juan Pedro Laporte, has defined Hortaliza as part of the residential zone of Poptún (Laporte 2002:501-502). Although provenience cannot be reconstructed the elements painted on these vessels were included in the Pseudo-glyph Catalogue for comparative purposes.

K30084. Unknown type:variety, unspecified date. *Text:* A band containing nine pseudo-glyphs encircled the body of round bowl K30084 (Figure 92). Painted with a black outline atop the cream slip, portions of the interior pseudo-glyph elements were filled with a red pigment. Although the repetitive element might represent a decorative motif rather than a pseudo-glyph, the resemblance to T527 (**ETZNAB**) led to my including this element in the Pseudo-glyph Catalogue. None of the elements are known from the corpus of hieroglyphic signs: Category 1.

A =	PG44	$\mathbf{F} =$	PG44
$\mathbf{B} =$	PG44	G =	PG44
$\mathbf{C} =$	PG44	H =	PG44
D =	PG44	I =	PG44
E =	PG44		

K30086. Unknown type:variety, unspecified date. *Text:* A series of five signs separated by a series of vertical columns encircled the body of hemispherical bowl K30086 (Figure 93). A broad red band forms the base upon which the sign was executed with a black outline. Some fugitive color, perhaps blue but now faded to grey, filled the interior of each glyph. The repeated T24:T125 (*alay*) collocation may evoke the entire PSS: Category 3.

```
A = T24:T125 (alay)
B = T24:T125 (alay)
C = T24:T125 (alay)
D = HUX (3 dots).T24:T125 (alay)
E = abraded, but not alay collocation
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K30096. Unknown type:variety, unspecified date. *Text:* A band composed of 31 blocks encircled the body of round-sided bowl K30096 (Figure 94). The exterior of K30096 had been covered with a white slip before applying a design of black and orange striations with an resist motif around the vessel body. The pseudoglyphs consisted of a red-orange outlining the yellow interior that had been created with the resist technique. Although none of the pseudo-glyphs conform to the corpus of conventional hieroglyphs, the manufacture of this vessel involved considerable labor costs: Category 1.

A =	PG73	Q =	PG72
$\mathbf{B} =$	PG72	R =	PG73
$\mathbf{C} =$	PG73	S =	PG73
D =	PG72	T =	PG72
$\mathbf{E} =$	PG73	U =	PG73
F =	PG73	V =	PG73
G =	PG72	$\mathbf{W} =$	PG72
H =	PG73	X =	PG73
I =	PG73	$\mathbf{Y} =$	PG73
J =	PG72	$\mathbf{Z} =$	PG72
$\mathbf{K} =$	PG73	A' =	PG73
L =	PG72	B' =	PG73
$\mathbf{M} =$	PG73	C' =	PG72
N =	PG73	D' =	PG73
O =	PG72	E' =	PG73
P =	PG73		

K30097. Unknown type:variety, unspecified date. *Text:* Although the rim band originally consisted of 6 blocks encircling round-sided bowl K30097, only five

of which remain (Figure 95). Each element was painted with a black outline over the orange slip and then filled with a dark red-orange. None of the elements conform to the corpus of recognized hieroglyphics; however, if the elements represented an abstracted version of the T24:T125 (alay) collocation, they may evoke the Dedicatory Formula: Category 1.

A =PG31 B =PG31 $\mathbf{C} =$ PG31 D =PG31 E =PG31 F =

missing

Rio Azul

Between 1983 to 1987 the Proyecto Rio Azul, under the direction of R.E.W. Adams from the University of Texas at San Antonio, conducted archaeological investigations at Rio Azul (Adams 1984, 1986, 1987, 1989b). The research goals of the project were to "salvage information left from the depredations of the looting activities" and "to establish a functionally integrated picture of the site as well as deal with specific theoretical and cultural-historical problems" (Adams 1999:6-7). Architectural excavation and ceramics analysis within the Rio Azul center aimed to define the temporal and spatial parameters of the site (Adams 1989a:8-11). Survey and excavation extended into the bajos encircling Rio Azul to document the raised fields and other hydraulic features (Culbert, et al. 1989:189-211). As project ceramicist, R. E. W. Adams (1999:208) examined over 350,000 sherds from the site and established the ceramic chronology.

My research documented nine examples of vessels decorated with pseudo-glyphs — seven sherds, a partial cylinder vase and a reconstructed plate. Adams (1999:Plate 8) reported that cylinder K5621 (Figure 96) was recovered from a "looters' discard pile," but provided no further provenience. None of the registration numbers on the ceramics corresponded to information from the site reports. Because I could not establish the specific archaeological context of these artifacts, a summary of the Rio Azul sherds decorated with pseudo-glyphs appears in Appendix 4.

To define the nature of pseudo-glyphs, elements from sherds bearing two or more blocks were included in the Pseudo-glyph Catalogue. I could not include the pseudo-glyphs from Plate 421 because reassembly of the broken vessel obscured significant portions of the original painting (Figure 97). However, it should be noted that unprovenienced plate IDAEH 17-01-01-1399 at the Museo Morley in Tikal displays a similar pseudo-glyphic style (Figure 98).

Seibal

Gordon R. Willey (Tourtellot 1988b; Willey 1975, 1978, 1982, 1990) of the Peabody Museum, Harvard University, directed excavations at Seibal between 1964 and 1968. Jeremy A. Sabloff (1969, 1975; Sabloff, et al. 1982) served as project ceramicist and Gair Tourtellot analyzed burials from the site (Tourtellot 1990). Earlier explorations that had identified stelae and pottery with a ceramic chronology beginning in the Middle Preclassic and lasting through the Late Classic Period, stimulated the Peabody investigations at Seibal. In retrospect, Willey (1990:192) acknowledged that research at Seibal emphasized culture-historical description "to

learn more about the ancient Maya who once occupied this part of the lowlands" rather than testing processual propositions. In addition to the site core, Tourtellot (1983, 1988a) supervised survey and excavation of the peripheral zones of Greater Seibal where smaller structures predominated (Figure 99).

I documented two vessels with pseudo-glyphs from the collections of the Museo Nacional that derived from excavations at Seibal. Based on the accuracy of Sabloff's drawings when compared to photographs, I included pseudo-glyphs from provenienced vessel Seibal-1316a in the Maya Pseudo-glyph Catalogue. I did not, however, include the unprovenienced Saxche and Palmar Polychromes sherds bearing pseudo-glyphs illustrated in the Seibal monograph.

Burial 37, Operation 109, Structure 4E-10

Excavation encountered Burial 37 as part of Operation 109 in the Pendiente Quadrangle, grid square 4E, located about 500-m northwest from the site core (Figure 100). Burial 37 represented an intrusive grave placed into a capped crypt within Structure 4E-10 (also identified as Temple 5113). Tourtellot (1988a:148) noted that the Structure 4E-10 platform had been abandoned at the end of the Cantutse complex (300 B.C.–A.D. 275) but was reused during the Tepejilote complex (A.D. 650-830) as a ritualized cemetery. In total, excavators recovered five separate burials from this feature.

The articulated male interred in Burial 37 represented the eldest-aged (determined by his well worn teeth) and tallest skeleton excavated by the Seibal Project. The teeth of Burial 37 had been drilled for now-missing inlays, and a jade

bead placed in the mouth. The tomb lay at the greatest pit depth on the central axis of the temple and possessed large capstones, one of which "was carefully pecked into the shape of an enormous 'turtleback' or Basin-Shaped metate blank" (Tourtellot 1990:114).

K30117. Saxche and Palmar Polychrome, Tepejilote Tepeu to Tepejilote-Bayal Transition complex (A.D. 650-830). *Description*: Excavators recovered K30017, a round-side bowl (Figure 101), as part of Burial 37 (Figure 102). The vessel had been placed whole at the knees of Burial 37 but was broken when the capstones collapsed.

Text: Framed by red horizontal stripes, the rim band consisted of six pseudo-glyphic elements. The black outline was laid directly over the cream slip without the addition of interior color; none of the bocks contained known signs: Category 1.

A = PG70.PG05 E = PG70.PG05 B = PG70.PG05 F = PG70.PG05 C = PG70.PG05 G = PG70.PG05

D = PG70.PG05

Additional Pottery. With K30117 in Burial 37 were placed S-3063, an undecorated plate, and S-2923 (Figure 103), a bowl with geometric, step-fret rim band (Sabloff 1975:18, Table 2). The combination of tomb placement and quantity of grave goods led Tourtellot (1990:115) to describe Burial 37 as "the most lavish burial" in this structure.

Midden, Operation 49(B), Structure D-26

Seibal Operation 49(B) focused on a midden located off the south side of Structure D-26, Court A, Group D (Figure 104). Willey (1982:185-186) described Group D as an impressive architectural complex composed of five plazas and a ballcourt. The erection of a plain stela at the foot of pyramid Structure D-32 further signaled the prestige of Group D.

In addition to many ceramics, excavation at the Operation 49(B) midden encountered Burial 29 — the body of a disarticulated young, adult male (Smith 1982). Although likely of elite status, with chipped front tooth and skull deformation, one leg and both arms had been removed and the remaining left humerus was cut 60 percent through. It was suggested that "this fellow was mutilated and perhaps partially eaten...then tossed out (if the disarticulation was not the result of brief canid scavenging)" (Tourtellot 1990:109).

Excavation of Structure D-26 revealed a pole-and-thatch structure with an interior three-stone hearth, manos and metates. Analysis of the artifacts indicated that Peabody Project Operation 49(B) had encountered a refuse deposit located behind the kitchen of Court A, Group D. Pottery recovered from this midden dated only to the Tepejilote complex (A.D. 650-830, Sabloff 1975:13). Additional deposits included animal bones, shells, a tortoise carapace and chipped stone (Smith 1982:202). The ceramic vessels (including K30118), artifacts and human remains from Operation 49(B) likely represented detritus from feasting; although, as midden, the relationship among these artifacts remains unknown.

K30118. Saxche and Palmar Polychrome, Tepejilote Tepeu to Tepejilote-Bayal Transition Complex (A.D. 650-830). *Description*: K30118 (Figure 105), the top portion of a barrel-shaped vase, was recovered during Operation 49(B). Although frequently illustrated in the site reports, I the provenience of this vessel was not specified.

Text: The artist employed a palette of at least five colors to produce this finely painted figural scene, although only two pigments were used to create the pseudo-glyphs. Four of the five characters shown seated on a red ground line were identified with SNT (Figure 106). The pseudo-glyphs were painted on the cream slip with a whiplash black outline and then filled with a thick red paint that obscured most of the internal features. While combined with signs that resembled conventional glyphs, none of the elements combined to form recognizable Classic Period Maya words: Category 2.

SNT #1	\mathbf{A}	В
	1 = PG202.PG203	1 = PG204.PG205
 SNT #2	С	D
	1 = PG206	2 = PG205.PG209:PG208
 SNT #3	E	
	1 = PG210.K'AL(T713)	
	2 = ja? (T181).PG207:PG213	
	3 = PG211.PG212	
 SNT #4	F	
	1 = PG20b.K'AL?	
	2 = PG210.PG210?:PG213	

Burial 19, Operation 52(A), Structure D-3, Group D

Excavation conducted in a large residential court located south of

Structure D-3, off the Northwest Plaza in Group D encountered Burial 19

(Figure 107). Operation 52(A), a 2-x-2-m pit, exposed only the head and torso of

Burial 19, an adolescent whose sex could not be determined, at a depth of 116
130 cm below the ground surface of the plaza (Smith 1982:221, Tourtellot 1990:102).

The body lay in a north-south direction with the head toward the north.

Seibal-1316a. Saxche and Palmar Polychrome, Tepejilote Tepeu to Tepejilote-Bayal Transition complex (A.D. 650-830). Description: Although I was not able to document this vessel, Sabloff (1975:138, Figure 248) presented a drawing of this tripod dish with pseudo-glyphs (Figure 108). No plan of the burial was presented in the reports; however, Smith (1982:221) reported that S-1316a had been placed just to the northeast of the skull.

Text: Although broken, three pseudo-glyphs that form a triangle around the central supernatural head remained on the plate lip of S-1316a (Figure 109). Painted in black over the cream slip, none of the elements exhibited interior fill and none conformed to the known corpus of Maya hieroglyphic writing: Category 1.

A = PG197

B = PG198

C = PG199

Additional Pottery. Smith (1982:221) stated that excavators also recovered S-1316b (Figure 110) from Burial 37. A large dish decorated with a geometric pattern, S-1316b had been everted over the skull.

Summary: Pseudo-glyphs at Seibal

None of the pseudo-glyph bearing vessels from provenienced contexts at Seibal derived from Group A, the site core. This bias likely reflected the research design of the project rather than the absence of pseudo-glyphs in Group A. The sherd collections from Seibal may contain additional examples of pseudo-glyphs. No artifacts with legitimate hieroglyphic text were discovered in either of the burials described above.

Interestingly, a survey of the Seibal reports revealed examples of pseudo-glyphs painted on stucco heads recovered from Structure A-3 in the site center (Figure 111; Willey 1982:34-35). These heads originally attached to the north and west exterior frieze of Structure A-3, a three-terraced radial pyramid with axial stairs (Figure 112). Approximately life-sized, only the two masks decorated with pseudo-glyphs bore any decoration. The frieze contained a calendar round date of 10.0.0.0.0 (A.D. 830) that was interpreted as the dedicatory date for the building (Willey 1975:32). This date accorded with the Bayal complex pottery recovered during excavation; no Tepejilote ceramics (with or without pseudo-glyphs) were found.

Tikal

Investigations at Tikal by the University of Pennsylvania, first under the direction of Edwin Shook and then William R. Coe, began in 1956 during a period in which description and artifact classification formed the principal goal of research (Coe and Haviland 1982, Shook 1986). Adhering to the Classificatory-Historical theoretical model of the 1950s, the Project sought to reconstruct the history of Tikal

as revealed through pottery seriation and stratigraphy. Coe (1990:940) expressed the positivist view that "if diggers sliced, chopped, tunneled, probed and everything that appeared to each person's eye methodically went onto paper, otherwise into bags according to a pre-devised system," he could define the "rise and fall" of Maya civilization at Tikal. Following the model of publication established at Uaxactun by A. V. Kidder (1947, Moholy-Nagy 1994:3), each Tikal Report described a particular excavation zone with categories of artifacts separated into individual volumes. This has resulted in a series of publications, including: wooden lintels by Coe, et al. (1986); ceramics from burials by Culbert (1993); inscriptions on monuments by Jones and Satterthwaite (1982); graffiti by Trik and Kampen (1983); and utilitarian objects by Moholy-Nagy (2003).

In terms of excavation, directors Trik (Adams and Trik 1986, Trik 1963) and Coe (1990) focused on the epicenter of Tikal, in particular the Great Plaza and North Acropolis (Figure 113). Harrison's (1970) research centered on the archaeology and social functions of the Central Acropolis. Jones (1996), in Tikal Report 16, described excavations conducted in the East Plaza.

Becker (1971, 1983, 1999), Haviland (1985), Jones (1969) and Loten (1970) explored the residential plazas and Twin-Pyramid Complexes constructed along the Tikal causeways. Carr and Hazard (1961) coordinated the site mapping. William A. Haviland directed the Tikal Sustaining Area Project that conducted settlement survey and excavation of Tikal's periphery (Arnold and Ford 1980, Haviland, et al. 1968, Puleston 1973, 1983, Satterthwaite, et al. 1961). This research, in turn, stimulated

investigations of extra-acropolis sites at Tikal by Culbert (1973, 1977), Dahlin (1976), Ford (1981), and Green (1970).

T. Patrick Culbert (1987, 1993a) served as the Tikal Project ceramicist. Tikal Report 25A (Culbert 1993a) contained line drawings and in-situ photographs of vessels from burials, caches and deposits in the site core as well as a chronology and typology for the excavated pottery. Richard Fry (1969, 1979, 1980, 2003, 1974) examined ceramics recovered by the Tikal Sustaining Area Project. Fry's research sought to define the nature of inter-site ceramic production and distribution with a sample of pottery from housemounds encountered during the brecha survey (Fry 1969:49-50).

The Tikal vessels with pseudo-glyphs included in this study derived primarily from elite dominated contexts. This bias resulted from the fact that, "in terms of decoration, few sherds [from the Sustaining Area] had sufficiently preserved painted decoration or slip to accurately judge original color or designs" (Fry 1969:212). Additionally, although Haviland (1963:700, 704, Figures 101b,104a-c, h) reported "glyphs" on ceramic sherds from the northeast residential area of Tikal, they cannot be seen in the microfilm reproductions.

My analysis of the pseudo-glyph bearing ceramics from Tikal will first describe vessels excavated from the site core (including the North Acropolis and East and West Courts) followed by pottery from the residential compounds outside the Tikal epicenter. For ease of cross-reference, the glyph order presented in Tikal Report 25A (Culbert 1993a) will be used to individual various blocks, even where the text reading order does not conform to the published sequence.

Burial 23, Operation 12K/11, Structure 5D-33-2nd, Group 5D-2

Excavations identified as Operation 12K/11 encountered Burial 23 in Structure 5D-33-2nd — a temple in the center of the North Acropolis (Figure 114). Centered 0.80-0.90 m west of the front-rear axis, the placement of Burial 23 required significant destruction of the pre-existing edifice (Coe 1990:536-540). Tomb construction involved tunneling downward through approximately 4 m of fill from the North Terrace level through the stairs of Structure 5D-33-3rd and cutting into the bedrock to form a large tomb chamber with two .30 m high benches or steps at the north and south ends. Wooden ledge and wall beams served to stabilize the vaulting. After placing the middle capstone, painted with a .50 m red disk, the tunnel was refilled with copious quantities of lithic material. Before capping the tunnel, a burning ritual was conducted (Coe 1990:597). A C-14 sample taken from the burned material lying over the tomb supplied a late seventh century date for the tomb (Coe 1990:540). Construction of the final phase of Structure 5D-33-1st commenced after the interment.

Haviland (1967:Figure 3) reported that the body recovered from Burial 23 stood about 150 cm tall and exhibited dentition diagnostic of an individual less than 30 years old. Although Coggins (1975:372) identified this person as male, Coe (1990:539-540) held that the sex remained unknown due to skeletal deterioration and wall collapse. The upper teeth, back to and including the first premolars, were filed and drilled to hold jade disc inlays; the premolars held discs of specular hematite (Coe 1990:539).

The body lay atop two jaguar skins that covered an uncarved wooden bier. The head, oriented toward the north, rested in a cradle of shells. Coe (1990:539) posited that the body had been bundled in a shroud composed of fine-twilled mats and lowered into the chamber. Cinnabar covered the bier or functional litter and colored the throat area of the skeleton (Coe 1990:539, Wright 1996).

Grave goods from Burial 23 included numerous jade beads (one of which may have fallen from the mouth); both jade and shell, jade and pearl ear ornaments; jade, pearl and *Spondylus* bead pendants; a stingray spine and various marine resources, including seaweed, fish vertebrae and a shell filled with powdered cinnabar (Coe 1990:538-539). Nine large, perforated *Spondylus* (spiny oyster) valves surrounded the body. Flint tools, including a pick and possible limestone plum bob, were viewed as items accidentally lost by the Burial 23 tomb builders (Coe 1990:539).

Culbert 1993:Figure 39a, Culbert 1993:Figure 39b, and Culbert 1993:Figure 40a. Jama Red, Ik Complex (A.D. 550-700). Description: All three of these lateral-flange tripod plates, embellished with a cartouched ajaw glyphs surrounded by bars and dots (Figure 115), derived from the north end of the Burial 23 bench (Figure 116). Coggins (1975:374-379) identified all the vessels from Burial 23 as of non-local manufacture. Based on decorative style and potting technique, Coggins (1975:377) asserted that the three large ajaw plates conformed most closely to ceramics produced in the southeastern region around Caracol.

Text: Each of the three Jamba Red Polychrome tripod plates bore a single glyph in the center of the bowl surrounded by four radial glyphs painted on the interior rim. All glyphs were executed with a black outline on the red slip and filled

with white inside the glyph. Although Coggins (1975:376) attempted to correlate this inscription to the 8 *Ajaw* 8 *Wo* period ending on 9.13.0.0.0, the addition of extra bars and dots bracketing and surrounding the *ajaw* day sign does not conform to the canons of glyphic morphology: Category 3.

Culbert 1993:Figure 39a

- A = WAXAK (8=3 dots + 1 bar).AJAW.jo (5=1 bar). HUX (3 dots)
- B = WAXAK (8=3 dots + 1 bar).AJAW.jo (5=1 bar). HUX (3 dots)
- C = WUK (7=2 dots + 1 bar).AJAW.JO (5=1 bar).KA (2 dots)
- D = WAXAK (8=3 dots + 1 bar).AJAW.jo (5=1 bar). HUX (3 dots)
- E = **HUX** (3 dots):**WAK** (6=1 dot + 1 bar).**AJAW.JO** (5=1 bar).**JUN** (1 dot): **HUX** (3 dots)

Culbert 1993:Figure 39b

- A = WUK (7=2 dots + 1 bar).AJAW.JO (5=1 bar).HUX (3 dots)
- B = WAXAK (8=3 dots + 1 bar).AJAW.JO (5=1 bar). HUX (3 dots)
- C = WAXAK (8=3 dots + 1 bar).AJAW.JO (5=1 bar). HUX (3 dots)
- D = WAXAK (8=3 dots + 1 bar).AJAW.JO (5=1 bar). HUX (3 dots)
- E = **KALAJUN** (12 dots encircling **AJAW** & bars):**JO** (5= 1 bar).**AJAW**. **JO** (5=1 bar)

Culbert 1993:Figure 40a

- A = WUK (7=2 dots + 1 bar).AJAW.JO (5=1 bar).ka (2 dots)
- B = WUK (7=2 dots + 1 bar). AJAW.JO (5=1 bar).ka (2 dots)
- C = **WUK** (7=2 dots + 1 bar). **AJAW.JO** (5=1 bar).**ka** (2 dots)
- D = WUK (7=2 dots + 1 bar). AJAW.JO (5=1 bar).ka (2 dots)
- E = **KALAJUN** (12 dots encircling **AJAW** & bars):**JO** (5= 1 bar).**AJAW**. **JO** (5=1 bar)

Additional Pottery. All 12 of the ceramics from Burial 23 had been placed on the northern bedrock bench. No round-sided bowls were included as part of the mortuary furniture. Like the three *ajaw* plates discussed above, Coggins (1975:377) interpreted the non-glyph polychrome cylinder vase Culbert 1993:Figure 40b and the eight black Chilar Fluted cylinders (Figure 117) that clustered on the western portion of the bench (Figure 118) as additional examples of foreign-made vessels imported

into Tikal. Corroborating stylistic evidence of contact with Caracol during this period included Stela 30 and attendant *ajaw*-style Altar 14 erected in Structure 3D-99, Twin Pyramid Group-3D-1, on 9.13.0.0.0 8 *Ajaw* 8 *Wo* (16 March 692 A.D.) (Jones and Satterthwaite 1982:62-63, Figure 50a-b).

It has been posited that Burial 23 contained the body of Tikal's 25th ruler *Nuun Ujol Chaak* who died sometime around A.D. 682 (Harrison 1999:126, Martin and Grube 2000:43). If so, this interment occurred during a period of repeated military conflict between Caracol and Tikal (Houston 1987a). Unfortunately, since the majority of Tikal ceramics lack instrumental neutron activation analysis (Ronald Bishop, personal communication 2005), it remains a matter of speculation whether the ceramics included in Burial 23 derived from Caracol and what their presence might indicate in this individual's tomb.

Burial 24, Operation 12K/18, Structure 5D-33-1st, Group 5D-2

Based on stratigraphic evidence revealed during Operation 12K/18, Coe (1990:541) held that Burial 24 immediately followed the Burial 23 interment and formed part of the 5D-33-1st construction (Figure 119). Creation of the tomb involved digging a 4 m deep oval shaft before placing the side walls and corbelling just to the north of Burial 23. In plan, the tomb formed a rough T-shape. A thin layer of flint covered the vault masonry (Coe 1990:543).

Described as a "diminutive adult," the person in Burial 24 stood about 115 cm tall with an extreme hunchbacked posture (Coe 1990:541,543, Haviland 1967:322).

The individual's sex could not be determined, due to roof collapse that damaged the

skeleton. Burial 24 was estimated as over 30 years old with a forehead that displayed moderate flattening (Coe 1990:541). Six of the upper teeth had been drilled: each central incisor was filled with three jade disks, the lateral incisors with single jade pieces and the canines contained amazonite disks (Coe 1990:543).

Like Burial 23, Burial 24 appeared to have been placed in the tomb on a litter covered with a plain weave, red-impregnated cloth to which shells and palm leaves had been attached. Coggins (1975) stated that a protective layer of mud mortar sealed the bundled body. The head rested in a large shell and was cushioned by a sponge (Coe 1990:543). The placement of jade beads, raw jade, cinnabar and specular hematite around the skull and body suggested that the individual wore a headdress and loincloth at the time of interment; however, no other jewelry, like earflares or necklaces, was recovered (Coe 1990:542). The individual held a Spondylus bead in the right hand and jade bead in the left. Also like Burial 23, nine large, perforated Spondylus shells surrounded the corpse. Beneath one of these shells, at the right foot of Burial 24, excavators encountered a handful of corn kernels mixed with a purplered pigment. Another of the large shells lay atop the body's pelvis, while two stingray spines and a large pearl rested atop the chest. Coe (1990:534) suggested that this "grossly deformed individual" may have served as a court jester; however, individuals marked as gender female also display this configuration of grave goods.

K30077. Sibal Buff, Ik Complex (A.D. 550-700). *Description*: A round sided bowl, K30077 (Figure 120), was placed in the west arm of the Burial 24 tomb chamber (Figure 121). As noted by Coe (1990:542), none of the vessels recovered from this tomb were "so pristine as to imply special production for funerary ends."

However, lack of residue within these vessels precluded identification of any organic contents.

Text: Round-side bowl K30077 bore a rim text consisting of seven blocks around the exterior rim. After laying a wide white-slip rim band, a black outline without interior highlighting formed the glyph blocks. Although some of the signs conformed to the recognized corpus of hieroglyphic text, several elements have no known counterpart among legitimate glyphs: Category 2.

```
A = ja (T181).PG93. ja (T181):na (T23)
B = ja (T181).ba or IMIX or JA (T501). ja (T181):na (T23)
C = ja (T181). ba or IMIX or JA (T501). ja (T181):na (T23)
D = ja (T181).CHAN (T561). ja (T181):na (T23)
E = ja (T181).PG92. ja (T181):na (T23)
F = ja (T181). CHAN (T561). ja (T181):na (T23)
G = ja (T181). CHAN (T561). ja (T181):na (T23)
```

IDAEH 17-01-01-121. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). *Description*: Burial 24 also contained a dish with ring base, IDAEH 17-01-01-121 (Figure 122). According to Culbert (1993a:Figure 42a), no other vessels at Tikal during this period exhibited this vessel shape. Instead, the ring base conformed more closely to ceramics from the earlier Manik Complex (A.D. 250-550).

Text: Around the interior rim of IDEAH 17-01-01-121 ran a band of eight blocks. The outline was painted in black over the orange slip without supplemental highlighting. Morphologically the text resembled a title carried by Tikal rulers, **KALOOMTE** (T74:528:518c:87); however, neither of the compound signs exactly

matched the conventional glyphs and, to date, no other examples of a repeated **KALOOMTE** are known: Category 1.

A =	PG91:PG85	$\mathbf{E} =$	PG91:PG85
$\mathbf{B} =$	PG91:PG85	$\mathbf{F} =$	PG91:PG85
$\mathbf{C} =$	PG91:PG85	G =	PG91:PG85
D=	PG91:PG85	H =	PG91:PG85
D =	PG91:PG85	H =	PG91:I

Additional Pottery. In total, Burial 24 contained six vessels, all of which stood in the northern arms of the T-shaped tomb (Figure 123). None of the ceramics bore legitimate hieroglyphic text and four lacked any embellishment whatsoever (Figure 124). Culbert (1993a:Figure 41) noted that all of these vessels in some manner differed from the Tikal ceramics standards. For example, although Tinaja Red was most often used for large utilitarian vessels and rarely were placed in burials, both a small Tinaja Red round-sided bowl and cylinder were found in Burial 24.

Atypical also was Culbert 1993:Figure 41b5, a Desquite Red-on-orange tripod plate that bore a heavy layer of stucco and post-fired paint at the joint between each foot (Coggins 1975:384). Based on visual comparison, Coggins (1975:387) saw ties between the ceramics from Burial 24 and regions to the southeast of Tikal in Belize.

Cache 201, Operation 12L/37, Structure 5D-33-1st, Group 5D-2

Coe (1990:544) reported that Operation 12L/37 encountered Cache 201 during excavation of one of the temporary stairways used in the construction of Structure 5D-33-1st (Figure 125). Based on stratigraphy, Coe dated this offering to the Ik Complex (A.D. 550-700).

Culbert 1993:Figure 114g. Unspecified white incised, Ik Complex (A.D. 550-700). Description: Cylinder vase Culbert 1993:Figure 114g possessed a lid of plastered limestone (Figure 126). The entire vessel displayed a white slip, covered on the exterior with green stucco. The incised rim band and slanting vertical panels were washed with a fugitive red pigment containing specular hematite. Based on paste and decoration, Culbert (1993a:Figure 114e) identified this cylinder as imported.

Text: A repetitive band consisting of eight blocks encircled the rim of Culbert 1993:Figure 114g. If conventional reading order applied, the rim band would read from right-to-left into the repeated faces; however, since none of the signs match those known from the hieroglyphic corpus, I have followed the glyph order created by Culbert (1993a:Figure 114e). The addition of the fugitive red pigment suggested an effort by the potter to emphasize the carving, although none of the signs conform to known glyphs: Category 1.

A = PG275	E = PG275
B = PG244	F = PG244
C = PG275	G = PG275
D = PG244	H = PG244

Two vertical columns contained pseudo-glyph elements that resembled conventional signs rendered in a highly abstracted manner.

Panel 1	Panel 2
I1 = PG244.PG245	J1 = PG166
I2 = T552	J2 = T552
I3 = PG293.T552	J3 = T552

Fill, Lot 12L/31, Unit 47N & SW, Structure 5D-33-1st

Tikal Report 14 (Coe 1990:550) contained no specific data about Lot 12/31 that comprised artifacts recovered from the fill of Unit 47 (Figure 127). Unit 47 represented Construction Stage 8, a layer of fill that encircled the pyramid, during the creation of Structure 5D-33-1st.

Moholy-Nagy 2003:Figure 145e. Unspecified orange polychrome, Ik

Complex (A.D. 550-700). *Text*: Identified as a Variety C ceramic drum, MoholyNagy 2003:Figure 145e displayed three painted pseudo-glyphs at the middle-bulge
(Figure 128). The vessel derived as part of Lot 12/31 from the north and southwest segments of Unit 47. The illustration presented in Moholy-Nagy (2003:145e) does not suggest any supplemental filling was used after the black outline was placed on the orange slip. The direction of the heads suggested that reading order proceeded from right-to-left. None of the elements conform to the corpus of known glyphs:

Category 1.

A = PG66

B = PG60

C = PG67

Burial 200/Problematic Deposit 134, Operation 12T/3, Structure 5D-22-1st, Group 5D-2

Based on stratigraphic analysis, the three tandem rooms and frontal portals at the summit of Structure 5D-22-1st represented the final phase of construction (Coe 1990:332-416). Operations 12T/3, 7-9, 12, 14-18, 65, 85 and 90 encountered Burial 200 within a large vaulted chamber at the centerline of Rooms 1 and 2 (Figure 129). Excavation revealed that the vault of Burial 200 had been removed

sometime in the past and replaced with stones and earth (identified as Problematical Deposit 134). Later, Burial 201 intruded into Burial 200.

Little remained to suggest the original placement of the artifacts deposited in Burial 200. Analysis of the skeletal material by Haviland (in Coe 1990:402) indicated that at least two individuals, a male about 17 years old and a second 15-year old person, had been interred in Burial 200. Since none of the bones derived from the chamber floor, Coe (1990:404) suggested that these youth may have been subsidiary burials that accompanied a now-missing, likely royal, individual. Coe (1990:401-403) identified the following artifacts as part of the original Burial 200 grave furniture: 20 eccentric flints and 322 unmodified flint flakes; 10 obsidian eccentrics and over 2,273 obsidian flakes, blades and cores; one jade bead; and copious marine material, including stingray spines, shells and turtle bones. Possibly nine ceramic vessels — at least one of which was decorated with pseudo-glyphs — also derived from the original Burial 200. None of the pottery rested on the tomb floor and all showed evidence of weathering and root damage.

Culbert 1993:Figure 147a. Saxche Orange Polychrome, Ik Complex (A.D. 550-700). Description: Excavators recovered Culbert 1993:Figure 147a, a lateral-ridge tripod plate, from at least 12 different loci as part of Lots 8, 9, 16 and 16 within Burial 200. The disturbed nature of this tomb precluded reconstructing any original relationship between the artifacts. Both Culbert (1993a:Figure 147a) and Jones (in Coe 1990:403) noted that, in addition to weather damage, the interior base of this plate displayed evidence of serious burning that obscured the central element (Figure 130). Badly shattered, only one foot remained attached.

Text: Fifteen individual, non-touching blocks formed a band around the interior rim of the bowl. Highly repetitive in form, the elements consisted of a black outline without interior fill. Few of the elements conformed to the known corpus of hieroglyphic signs: Category 2.

A = PG273 I = abradedB = li (T24):PG274 J = abraded

C = PG79 K = li (T24):PG274

D = abraded L = PG273

E = PG273 M = li (T24):PG274

F = li (T24): PG274 N = PG79

G = PG79 O = li (T24):ki? (T102)

H = li (T24): PG274

bowls displayed only decorative motifs.

Four Bowls. Saxche Orange Polychrome, Ik Complex (A.D. 550-700).

Description: Coe (1990:402-403) speculated that the four Saxche Orange

Polychrome barrel-shaped bowls from Burial 200 formed part of the original "stock" (Figure 131). Coe (1990:402) described Culbert 1993:Figure 146b as the largest and best-preserved of the bowls from Burial 200. Refitting of the approximately 20 pieces, from Lots 9, 12, and 16, yielded almost a whole vessel. Unfortunately, weathering removed almost the entire rim band and it is impossible to reconstruct whether real glyphs had been painted on Culbert 1993:Figure 146b. The other three

Four Additional Vessels Without Text. Description: Four additional vessels were excavated as part of the Burial 200 grave goods (Figure 132). Culbert 1993:146e lacked any slip whatsoever — a rare occurrence for cylinder vases.

Culbert 1993:Figure 147d displayed an temporally anomalous ring base and

unfamiliar cut-shell impression. Based on morphology and decoration, cylinder vase

Culbert 1993:Figure 147b was identified as an imported ceramic. Culbert 1993:Figure 147e (a large, undecorated, narrow-mouth jar) lacked features diagnostic of any particular ceramic complex.

Burial 116, Operation 4P/2, Structure 5D-1, Great Plaza of Acropolis

Rising at the east side of the Great Plaza (Figure 133), the imposing, nine-tiered edifice identified as Structure 5D-1 or Temple I stimulated the earliest archaeological explorations at Tikal by the Pennsylvania Project (Adams and Trik 1986, Coe, et al. 1986, Shook 1986). Under the supervision of Trik (1963:3), almost 400 feet of tunnels probed the interior of the temple to establish construction chronology and to search for what was believed to be a "well-preserved rich burial." After repeated failure, in 1962 archeologists finally removed the capstone of Burial 116 and initiated Operation 4P/2 to identify the chamber's contents (Moholy-Nagy 2003:Appendix F).

Construction of the tomb began with the excavation of a 4.8 m N-S by 5.0 m E-W chamber through the floor of an existing, westerly oriented building identified as Structure 5D-1-2nd (Coe 1990:590). Encountering bedrock at a depth of 5.2 m below the Plaza, the grave diggers carved into the limestone to create a wide platform or bench along the east side of the chamber. A .75 m aisle along the west wall held the majority of ceramics, including vessels bearing pseudo-glyphs. The interior of the corbelled vault chamber was covered with gray plaster and, before sealing, a solid red, dried-pigment cinnabar disc was painted on the underside of the central capstone (Coe 1990:604-605, Trik 1963:8). After placing charcoal, obsidian flakes, flint chips

and broken pottery directly above the capstone, tomb builders filled the pit with alternating layers of earth, flint and obsidian. Coe (1990:607) estimated that a ton of flint and quarter-ton of obsidian were imported to Tikal and used to cover Burial 116. Finally, the tomb builders formed a cap composed of mud and logs over the shaft. Finally, Structure 5D-1-2nd was dismantled and used as fill to construct Structure 5D-1-1st. Radiocarbon analysis of the wooden beams revealed a series of dates clustered to the early eighth century (Coe 1990:609).

Based on the decipherment of the wooden lintels that spanned the doorways into Temple I (Jones 1977, Jones and Satterthwaite 1982:97-100), the individual within Burial 116 was identified as Tikal 26th ruler. The texts of Lintel 2 and Lintel 3 chronicled the accession date and military triumphs of *Ajaw Jasaw Chan K'awiil* (Schele and Freidel 1990:206-207). Analysis of Burial 116 identified the interred individual as male, at least 65 years old at death, who had stood approximately 169 cm tall during his prime (Coe 1990:605, Haviland 1967:322). Although the skull displayed "extreme pseudocircular deformation," dental attrition had destroyed any evidence of dental modification like notching or inlay (Coe 1990:607). The aged skeleton also displayed arthritic lipping of the vertebrae. Based on the accession date of his son, *Jasaw Chan K'awiil* died sometime before A.D 734.

As noted by Trik (1963:8), the body lay extended on his back atop a large mat centered on the elevated dais. Based on the identification of 14 groups of articulated jaguar claws and a layer of brown decay beneath the body, Trik (1963:8, 10) suggested that the corpse had rested on a bed of jaguar skins. A profusion of jewelry bedecked the body of *Jasaw Chan K'awiil*, including a jade fillet encircling the skull;

multiple pairs of jade ear plugs; jade necklaces, pendants, bracelets, cuffs and anklets; and a collar composed of 114 spherical jade beads that weighed eight and one-half pounds (Coe 1990:606, Trik 1963:8). Marine resources figured prominently in the grave goods, with many *Spondylus* valves surrounding the body and cradling the head; multiple clusters of stingray spines around the legs and pelvis; and large irregularly-shaped, natural pearls adorning the neck and chest area.

From the elevated bench Trik (1963:8) excavated a pyrite mosaic plaque; a green-stuccoed, red-painted gourd or wooden bowl; an alabaster bowl; and a lidded cylinder composed of jade mosaics attached with tiny jade pins and inscribed with the name *Jasaw Chan K'awiil*. Also atop the dais stood seven ceramic vessels. A fine thread textile saturated with red pigment covered the entire elevated platform (Coe 1990:607). The southern portion of the aisle contained an additional 12 ceramic vessels, two pyrite mosaic plaques and a collection of carved human bones (Satterthwaite 1963:18, Trik 1963:10-18). In terms of construction costs and quantity of sumptuous grave goods, both Burial 116 and Structure 5D-1 represented a tremendous expense. However, close scrutiny of the 19 ceramics interred with *Jasaw Chan K'awiil* revealed that only three bore legitimate, hieroglyphic signs; five exhibited decorative motifs and 11 displayed pseudo-glyphs. None of the vessels recorded the name of the tomb's occupant.

K6580. Chinos Black-on-Cream, Imix Complex (A.D. 700-850).

Description: K6580, a tripod bowl shaped to resemble a cut conch shell with the pointed end of the shell formed a pouring spout (Figure 134), had been placed to the north of the body in Burial 116 (Figure 135). Coggins (1975:492) reported the

presence of cinnabar inside the vessel. A kill hole, placed to avoid defacing the glyphic element, had been drilled in the center of the bowl.

Text: The text of K6580 consisted of a single compound sign, created with a black outline on white slip. Noting the physical similarity between this bowl and the cut shell paint palettes shown in Classic Period scribal scenes, Nikolai Grube (Coe and Kerr 1997:150-151) proposed the reading of sabak kuch ("inkpot") for the sign painted on K6580. However, confirmation of this reading based on other glyphic examples has remained elusive (Stephen Houston, personal communication 2005). In monumental contexts the T174:T709 collocation functioned as an Emblem Glyph for the sites of Machiquilla and Tres Islas (Erik Boot, personal communication 2005). A similar sign appeared carved into MT55A & MT55B, one of the broken bones from Burial 116 (Figure 136) where it served as a nose ornament for a supernatural. For purposes of this study, I have not included this recognized, albeit undeciphered, sign in the Maya Pseudo-glyph Catalogue.

Nine Cylinder Vessels. Description: Excavators recovered nine cylinders that formed a stylistic "set" from the aisle located to the west of the corpse (Figure 137). Although the vessels were identified with different type:variety designations, Coggins (1975:513) noted that this attribution reflected dissimilar surface treatment rather than differences in paste composition or loci of manufacture. However, based on slight variations in line and style, Coggins (1975:513) suggested that the vessels had been painted by eight different artists from within the Tikal polity. All nine cylinders bore a similar composition consisting of two panels separated by decorative columns, with each figural panel containing the image of an

elite male seated atop a bench. Only K8000 depicted a seat affixed to the panel walls; the other benches conformed to the detached slab/support category defined by Noble in her study of Maya seats of authority (1999:65, 226, Figure 23). Eight of the cylinders displayed a rim band composed of pseudo-glyphs.

No pattern regarding the placement of the cylinders within the aisle could be recognized. For example, vases decorated with more conventional glyphs were not segregated, nor were vessels with multiple characters in the figural panel grouped together. Zacatel Cream Polychromes were not separated from Palmar Orange Polychromes. Thus, since all of the "unusually tall" cylinder vases were deposited within the aisle in an apparently random manner (Culbert 1993a:Figure 69), I will not review the specific *context* for each in the following description. Coe (1990:605) reported that none of the vessels from Burial 116 showed convincing evidence of disintegrated content; but noted that K8004, K7997, K7996, Culbert 1993:Figure 64c3 and Culbert 1993:Figure 72b contained a "faint brownish splotch."

K7996. Palmar Orange Polychrome, Imix Complex (A.D. 700-850). *Text*: Separated by vertical columns containing halved quatrefoils, the body of cylinder vase K7996 (Figure 138) displayed two figural panels, each showing a single individual holding a feathered celt and seated on a bench. The rim text of K7996 consisted of 11 blocks. Pseudo-glyph H49 (at E and I) appeared twice around the rim. Signs from the Dedicatory Formula (for example, GOD N at A and KAL at D), as well as unrecognized elements were used in this text: Category 3.

A = GOD N G = JO (5=1 bar).PG126:PG127 B = PG169 H = PG86 C = ba? (T501) I = PG185 D = KAL (T713) J = PG127.ta?E = PG185 K = PG87

K7998. Palmar Orange Polychrome, Imix Complex (A.D. 700-850). *Text*: Two columns containing foliating shells separated the figural panels of K7998 (Figure 139). In each scene, an individual elevated on a bench gestured towards a second, less elaborately-attired person. Coggins (1975:533) noted that the attendant and seated figure in Panel 2 displayed remnants of a pink slip. A band composed of 16 blocks encircled the rim of cylinder vase K7998. The blocks were painted using a black outline over the cream-colored slip and then filled with red. The Initial Sign from the Dedicatory Formula suggested that the text began at H; however, many of the signs did not conform to the known corpus of hieroglyphics⁴: Category 3.

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Erik Boot (personal communication 2005) suggested the following reading for K7998.

H = a-LAY	a'lay	P =[PA']CHAN/-ja	pa'chan
$I = \mathbf{u}$		A = yi	
J = tz'i?-b'i	u tz'i[h]b'?	B = b'i-yu	jay yu[kib]
$K = \mathbf{u}$		C = 9-?	9 ?
L = tz'i-ba-li?	u tz'i[h']bal	D = ?	?
$\mathbf{M} = \mathbf{u}$		E = MAIZE.GOD?	?
N = na-ja	u naj[al]	F = CHAK?-ch'o[ko]	chak? ch'ok
O ?	?	G = che?-he-na	chehen

H = a.LAYP =abraded.ja (T683) I = TZ'IBA = PG128J = u?.PG186B = bi.PG63K = PG187C = BOLON (9=4 dots + 1 bar).PG129L = u?.bi (T585):yi? (T17)D = PG088.ja $E = \mathbf{u}$?.PG78 M = PG188 $N = IXIK \text{ or } NAH \text{ (T501).ja} \quad F = u?.CH'OK$ O = PG189G = u.he? (T587?):na?

K7999. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). *Text:*On K7999 (Figure 140) the artist separated the figural panels with two sky-bands.
Each figural panel contained a seated elite male gesturing towards a kneeling figure.
A Secondary Non-repeat Text, inscribed using fully legible and coherent signs, identified the kneeling individuals in Panels 2 and 4 as rulers from somewhere besides Tikal (Figure 141). Simon Martin (personal communication, 2005) suggested that the Emblem Glyph in Panel 4 may identify the kneeling Figure as an *ajaw* from Altun Ha.

The rim text of cylinder K7999 consisted of 13 blocks painted on a white slip (Figure 142). The outline was executed in black over the cream slip and filled with red on the interior. Around the rim pseudo-glyphs and conventional signs combined to form a repetitive pattern of semblant compounds that lacked coherence as a phrase: Category 2.

- A = **YAX** (**T16**).PG130 B = PG80.**TAN** (**T606**)
- C = YAX (T16).CHAN (T561)
- D = PG80.chi (T671)
- E = YAX (T16).K'IN (T544)
- F = **YAX** (**T16**).PG81 G = PG80.**K'UL** (**T1016**)
- H = YAX (T16).PG131.KAN (T281)
- I = YAX (T16). CHAN (T561).yi? (T17)

J = ta? or k'i? (T102).K'IN (T544)

K = PG80.K'UL (T1016) L = YAX (T16).chi (T671)

M = YAX? (T16) or CHAK? (T590).K'AN (T282)

K8000. Zacatel Cream Polychrome, Imix complex (A.D. 700-850). *Text*: Cylinder vessel K8000 displayed 19 pseudo-glyphs around the rim and 10 blocks in the two columns that separated the figural scenes (Figure 143). Within each figural panel, a seated individual gestured toward a vessel set before him. Pseudo-glyphic elements replicating the SNT surrounded the person. Culbert identified signs on the bench as possibly having linguistic meaning; however, while I recognize the apparent infixation of PG32 into each of the profile heads, I believe these elements functioned as decoration rather than text.

All pseudo-glyph blocks were composed of at least two conjoined elements. The rim text employed the same pseudo-glyph head (H54) in a repeated triplet pattern (Figure 144). The "Wing Quincunx" *yuk'ib* expression from the PSS repeated around the rim at least twice (at rD and rH): Category 3.

```
u? (T1).PG190
                                        rK =
                                                u? (T1).PG190
rA =
       u? (T1).PG190
rB =
                                        rL =
                                                missing
       u? (T1).PG190
                                                u? (T1).PG191
rC =
                                        rM =
       yu' (T61).k'i (T243):bi (T585)
                                                u? (T1).PG190
rD =
                                        rN =
       u? (T1).PG190
                                                u? (T1).PG278
rE =
                                        rO =
rF =
       u? (T1).PG190
                                        rP =
                                                u? (T1).PG192
rG =
       u? (T1).PG190
                                                PG253
                                        rQ =
rH =
       yu? (T61).PG255:PG256
                                        rR =
                                                PG190.ji? (T136)
rI =
       u? (T1).PG190
                                        rS =
                                                u? (T1).PG190
       u?.PG190
rJ =
```

The creation of Vertical Columns #1 and #2 required more labor by the artist.

Rather than painting the red background first, the glyphs were produced with a black

outline atop the cream slip and then the background band around the glyph was filled in. The columns contained pseudo-glyph collocations that joined pseudo-glyphs with conventional signs but lacked elements from the PSS: Category 2.

Vertical Column #1	Vertical Column #2
sA1 = PG249.PG32	wA1 = PG256.PG32
sA2 = PG256.PG32	wA2 = PG251.PG32
sA3 = PG252.PG32	wA3 = tzu? (T559) .PG32
sA4 = PG252.PG32	wA4 = PG251.PG32
sA5 = PG250.YAX?(T16).PG32	wA5 = AJAW? (T533).PG32

Pseudo-glyphs replicating SNT surrounded each of the seated figures in the two vertical panels of K8000. Like the rim band, the individual elements were created by painting a black outline atop the cream slip and filling the block with red. Again, the nomenclature employed to identify these elements derived from Culbert (1993a:71).

	SNT #1		SNT #	SNT #2	
_	1A =	PG10.PG254	xA =	te?.PG32	
	1B =	AJAW?.PG32	xB =	PG255.PG32	
	1C =	PG10.PG32	xC =	PG32.PG257	
			xD =	PG10.PG32	

K8001. Palmar Cream Polychrome, Imix Complex (A.D. 700-850). *Text:*Panel 1 and Panel 3 separated the two figural scenes painted on K8001 (Figure 145).

Panel 1 contained halved-quatrefoils filled with crossed bands and Panel 3 displayed a mat motif. Each figural panel displayed an individual seated atop a bench and facing a cylinder vase. A composite silhouette jar of the type used to hold alcoholic beverages stood under the bench in Panel 2, while a tripod plate with oval objects

resembling tamales rested under the Panel 4 bench. The rim text, composed of 13 blocks, appeared to begin at J with a PSS Initial Sign. But, after glyph C, the phrase lacked coherence and employed unknown signs and collocations: Category 3.

J =a.LAY K =K'AL.ja A =GOD N.vi B =CH'OK-te? C =PG132.**LAJUN** (10=2 bars)

D =PG276.ja

F =PG278.ja

G =**LAJUN?** (10=2 bars).PG133

H =ka.TUUN.ta

I =PG134

ti? or SAK?.PG77.PG128 J =

K8002. Palmar Cream Polychrome, Imix Complex (A.D. 700-850). Text: One column containing crossed bands surrounded by quatrefoil and half-quatrefoil symbols, along with a second column embellished with four glyph blocks, served to separate the two figural panels of cylinder vase K8002 (Figure 146). The elements surrounding the rim were created using a black outline over the cream slip and then filled with red. The rim text consisted of 11 compound elements including pseudoglyphic and legitimate Maya signs (Figure 147). The text seemed to begin at xA (Culbert 1993:Figure 73 nomenclature) with the PSS Initial Sign, but by glyph xC the inscription lost coherence: Category 3.

A =a.LAY G =**ja**. PG283 $\mathbf{B} =$ ja.K'AL.ki? H =ja.u?[te]:na a?.k'u C =**k'o**. PG282 (*ch'ok?*) I =va?.PG135.ch'o? D =J =ja.PG284.na E =ya?.ba:ya? **va.a**.PG137 K =F =ya?.PG137

Panel 3 contained a horizontal band of four compound signs. The individual blocks were painted with a black outline over the cream slip and filled with red. All but one of the finely-executed glyph blocks are recognized from the corpus of legitimate hieroglyphs. However, some of the affixes did not match existing models and the individual signs did not combine to form a phrase: Category 3.

zA1 = yo (T115).K'UH:na

zA2 = P258.IXIK?

zA3 = yo (T115).AT? (T522)

zA4 = na (T23).ETZNAB? (T527)

K8003. Palmar Cream Polychrome, Imix Complex (A.D. 700-850). *Text:* Like K8002, K8003 bore the motif of two vertical panels depicting an individual seated atop a jaguar-covered detached bench (Figure 148). Vertical decorative panels, containing whole and halved quatrefoils filled with crossed-bands, separated the figural panels. Nineteen blocks composed of a black outline filled with red formed a rim text around the cream-slipped cylinder vase. Repeated blocks included the day sign Ajaw at C-I, H-S and G-N. Although these conventional glyphs appeared in the phrase, the majority of the blocks represented pseudo-glyphs attached to conventional signs: Category 2.

B = PG286L = PG281C = PG138M = abraded.bi (T585):abraded D = PG139N = WUK (7=2 dots + 1)E = PG287bar).AJAW (T533) F = PG140O = PG141

K = PG276

P = PG142G = JO (5=1 bar).AJAW (T533)

H = ?.ETZNAB (T527)Q = HUX (3 dots).HIX (T762)

I = PG138R = ?.ETZNAB (T527)

J = ja (T181).T715:na (T23)

A = ja (T181).PG285

Culbert 1993:72b. Zacatel Cream Polychrome, Imix Complex

(A.D. 700-850). *Text:* Two columns containing a motif of crossed-bands surrounded by a stepped frame separated the figural panels painted on the body of cylinder vase Culbert 1993:72b (Figure 149). In each figural panel, the dominant male stood atop a bench decorated with *k'in* symbols. In Panel 2, a standing, subservient individual gestured toward a curving object laid atop the bench; while in Panel 4, a seated person waved in the direction of a box set in front of the standing male. The rim band consisted of nine elements painted with a black outline. Because I was not able to locate this vessel during my research, I cannot tell whether the cream-colored interior of the pseudo-glyphs represented another layer of pigment atop a red slip band or whether the vessel was slipped in cream and the red band applied after the glyphs had been drawn. A sign resembling the syllable –ja (T181) was appended to elements xC and xF; however, none of the internally-elaborate graphs resembled known hieroglyphs: Category 2.

xA =	PG235	xF =	ja? (T181).PG240
xB =			PG241
	PG237.ja? (T181)	_	PG242
xD =	•		PG243
xE = 1	1 0200	A1 —	1 02+3

K7997. Palmar Orange Polychrome, Imix Complex (A.D. 700-850). *Text*: Cylinders K7997 and K7999 so strongly resembled each other that Coggins believed they had been painted by the same artist (Figure 150). Both vessels bore two figural panels containing the image of a seated male wearing a Moan bird feather tucked into his fish-nibbling-waterlily headdress and attended by a kneeling individual. On

K7997 and K7999, SNT identified each kneeling male with the same royal titles and Emblem Glyphs (Figure 151). However, while K7999 displayed a repetitive pseudotext around the rim, K7997 bore a recognizable, fully-legible Dedicatory Formula composed of 13 glyphs (Figure 152). Unfortunately, on K7997 the glyphs at end of the Dedicatory Formula (at A and B), that named the owner of the vessel, were composed of head variants not known from other contexts. As noted by Simon Martin (personal communication, 2006), glyphs L and M identified this individual with the honorific of *ch'ok aj pitz* ("ballplaying youth").

Based on the iconic and physical similarities of these vases, Coggins (1975:545) speculated that the cylinders were painted by "emissaries from politically or dynastically related Maya Lords who are themselves depicted on the vessels as the donors" (Coggins 1975:515). Such argument neither can be proven nor refuted; however, the presence of these vessels in the tomb of *Jasaw Chan K'awiil* clearly illustrated variation in artistic skill.

K8004. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). *Text:*Although both Coggins (1975:542-544) and Coe (1990:605) identified K8004 as part of the Burial 116 set, this cylinder displayed a number of idiosyncratic features.

While K8004 bore a rim band composed of pseudo-glyphs, the artist broke the artistic conventions of the previous vessels by painting only one vertical decorative band and a single figural scene (Figure 153). I contend that the representation of a single scene composed of rounded, mobile figures represented the work of different workshop or artist than the previous set. The panel displayed three recognizable deities: *Itzamna* sitting atop the bench with God N (encircled by his conch shell) kneeling before him.

God N turns his head to see a younger man, perhaps the Maize God with hair hanging like corn silk before his face, who emergs from behind a panel decorated with half quatrefoils. In size, K8004 was significantly smaller than the previous vessels and (like K7998) displayed pink paint in addition to the typical cream, black and red palette. Sixteen pseudo-glyphs formed a band around the rim of K8004. The elements consisted of a black outline filled with red atop the cream slip. The rim band repeated a pattern of two identical, pseudo-glyphic heads alternating with two possible –**li** (T24) syllables: Category 2.

A =	PG294	I =	PG294
$\mathbf{B} =$	li (T24)	J =	li (T24)
$\mathbf{C} =$	li (T24)	$\mathbf{K} =$	li (T24)
D =	PG294	L =	PG294
$\mathbf{E} =$	PG294	$\mathbf{M} =$	PG294
$\mathbf{F} =$	li (T24)	N =	li (T24)
G =	li (T24)	O =	li (T24)
H =	PG294	P =	PG294

K30126. Kanalkan Gouged-incised, Imix Complex (A.D. 700-850).

Description: Cylinder vase K30126 (Figure 154) differed in size, decorative style and chemical composition from the previous set and, according to Culbert (1993a:Figure 68b), more closely resembled the carved vessels from Burial 196 (discussed below). Trik (Coe 1990:605) excavated the vessel from atop the mat, to the northwest of the skeleton (Figure 155). Next to cylinder K30126 lay Culbert 1993:64c2, also decorated with pseudo-text.

Text: The text of K30126 was arranged in two vertical panels, each separated by the carved image of the disembodied head of a long-lipped deity surrounded by foliation. Each vertical column contained four blocks arranged in a single row and

composed of repeated compound elements. The crude carving precludes determining whether the collocation **u-ja-ya** (*u jay*, "it is the clay bowl of") was intended. My examination of the blocks identified pseudo-glyph elements combined with conventional signs: Category 2.

Vertical Column A (Panel 1)	Vertical Column B (Panel 2)
1 = PG259.ba or IMIX or JA	1 = PG259.ba or IMIX or JA
(T501):PG260	(T501):PG260
2 = PG259.ba or IMIX or JA	2 = PG259.ba or IMIX or JA
(T501):PG260	(T501):PG260
3 = PG259.ba or IMIX or JA	3 = PG259.ba or IMIX or JA
(T501):PG260	(T501):PG260
4 = PG259.ba or IMIX or JA	4 = PG259.ba or IMIX or JA
(T501):PG260	(T501):PG260

Culbert 1993:Figure 64c2. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). Description: Archaeologists recovered Culbert 1993:Figure 64c2, a small, flaring-side bowl (Figure 156), from the elevated bedrock bench where it had been placed next to cylinder vase K30126 (Figure 157). The vessel exhibited extensive signs of wear on the interior. Culbert (1993a:Figure 64c2) believed the design motifs and the decoration of all surfaces unusual, but viewed the color and shape as similar to other ceramics produced within the Tikal region.

Text: Three, evenly-spaced Teotihuacan-style Tlaloc headdresses, associated with warfare, rain and fertility (Taube 2000a, 2000b), were painted on the exterior wall and bottom of the bowl. The thrice repeated 5 *Ajaw* painted on the interior rim led Coggins (1975:494-496) to posit that Culbert 1993:Figure 64c2 referenced the date 9.15.3.0.0 (4 Aug 734 A.D.) and commemorated the 20-year period in which *Jasaw Chan K'awiil* died. Coggins (1975:494-495, Figure 101a&b) commented that

a tripod plate (96D-4/3, MT108), found in the Central Acropolis also was embellished with a similar 5 *Ajaw* notation. The combination of militant icons with an *Ajaw* date may suggest that these vessels memorialized the economic, military and political successes of *Jasaw Chan K'awiil*. Although the meaning of the date eludes remains unknown, the inscription consisted of coherent, legible signs.

Culbert 1993:Figure 68a. Stuccoed over Zacec Black, Imix Complex (A.D. 700-850). Description: Described by Culbert (1993a:Figure 68a) as "one of the great works of art of the Imix Complex," this stucco-covered cylinder vase displayed multiple figures presenting offerings to seated lord (Figure 158).

Unfortunately, the vessel was smashed when the vault of Burial 116 collapsed.

Subsequent warping of the broken pieces precluded the complete restoration of the vase. Trik (1963:10) recovered the vessel from atop the elevated platform where it had been placed next to the body (Figure 159). Unfortunately, post-depositional processes destroyed almost all of the polychrome-painted text encircling the characters and inscribed on the stair risers. The stair text appeared to include the date 8 Ajaw which might relate to the 9.13.0.0.0 8 Ajaw 8 Wo period ending commemorated on Altar 14 by Jasaw Chan K'awiil's father, Nuun Ujol Chaak.

Although the cylinder lacked a Dedicatory Formula, the extant signs appeared to conform to the canons of conventional hieroglyphs.

Three Tripod Plates. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). Description: Three plates with tripod legs and beveled lip (Culbert 1993:Figure 65b, Culbert 1993:Figure 66 and Culbert 1993:Figure 67) were decorated with a motif of radiating Moan Bird feathers described by Culbert

(1993a:65b) as "dress shirt designs" (Figure 160). Two of the plates had been placed to the north and south of the body atop the bedrock platform, while the third lay in the aisle at approximately knee-level (Figure 161). The plates differed slightly in details: an eye with fringed-lid formed the center element of Culbert 1993:Figure 66, while Culbert 1993:Figure 65b and Culbert 1993:Figure 67 displayed a *k'an* cross in the center. The equivalence of the eye and *k'an* symbol and their association with warfare, death and sacrifice has been established at Copan in the sculptural motifs of Structure 10L-16-1 (Agurcia F. and Fash 2005:235, Figure 6.23). The three plates exhibited worn feet and none had been drilled or otherwise terminated.

Culbert 1993:Figure 64c3. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). Description: Like the tripod plates described above, the exterior wall of outflaring-side bowl Culbert 1993:Figure 64c3 was painted with the motif of radiating Moan Bird feathers (Figure 162). Found just to the north of tripod plate Culbert 1993:Figure 67 (Figure 163), the two may have been produced as a matching set. Coggins (1975:494) noted that this bowl possessed a red-bar pattern on the interior; however, this was not illustrated in Culbert (1993a:64c3).

Culbert 1993:Figure 64c1. Yuhactal Black-on-red, Imix Complex (A.D. 700-850). Description: A tall, thin cylinder vase, Culbert 1993:Figure 64c1 (Figure 164) displayed solid horizontal bands of color. Culbert (1993a:Figure 63c) reported additional ceramics decorated in this manner from Tikal Burial 104 and Burial 196. Culbert also noted the presence of this style of decoration in ceramics from Uaxactun. Trik (Coe 1990:605) encountered Culbert 1993:Figure 64c1 on the mat that covered the bedrock bench (Figure 165).

Burial 196, Operation 117A/36, Structure 5D-73, Platform 5D-1

Excavation of Structure 5D-73, a five-terraced pyramid located on the southwest corner of the Great Plaza on Platform 5D-1 (Figure 1), began in 1965 under the direction of Nicholas Hellmuth (Coe 1967:50-51, 1990:635-636; Hellmuth 1967:i). In form, Structure 5D-73 replicated at half-scale the frontal outline of Structure 5D-1. However, repeated probing of the summit revealed that Structure 5D-73 never supported a masonry structure. Coe (1990:641) noted the temple façade was covered with a 1 cm thick coating of lime plaster that would have required over 16,000 liters of stucco, representing a considerable investment of both resources and time.

Construction of Burial 196 intruded into Platform 5D-1:Unit 78 to form a chamber 4 m N-S by 8.2 m E-W beneath the plaza level. A 1 cm thick layer of plaster covered the interior of the tomb and vaulting. Rather than inserting a capstone, grave diggers used logwood poles to close the 1.2 m vaulted ceiling. After sealing this opening with mud and handfuls of flint and obsidian, construction began on the pyramid (Coe 1990:642).

The remains of a badly decomposed male lay extended with head to the west atop some decayed organic material that rested on the raised platform. Hellmuth (in Coe 1990:645) interpreted this "organic rot" as the remains of decayed jaguars. Due to collapse of the vault and disintegration of the skeleton, Haviland was restricted to identifying the individual as "old," with a height of 167±1 cm (Coe 1990:643). A textile, saturated with cinnabar, covered the body and nearby objects.

Operation 117A/36 concentrated on the contents of Burial 196 (Coe 1990:642, Hellmuth 1967:117-118, Moholy-Nagy 2003:Appendix F). In terms of grave goods and tomb architecture, Burial 196 closely resembled that of Burial 116. Both tombs contained a masonry platform and aisle, and exhibited nearly identical chamber floor dimensions. Many of the same type of artifacts appeared in each tomb, including: a stone vessel of alabaster; a lidded vase composed of jade mosaic pieces; copious amounts of jade jewelry (headbands, earflares, necklaces, bracelets, collar and loincloth) worn and distributed around the body; necklaces of *Spondylus* shells; strings of baroque pearls; multiple mosaic mirrors of pyrite; a cache of carved human bones; and multiple hinge-perforated *Spondylus* valves, quantities of unspecified marine materials, jaguar bones, perforators and shells arranged around the body (Coe 1990:643-645, Hellmuth 2005). A 3-1/2 pound, carved jade jaguar effigy represented one of the more spectacular discoveries.

Like Burial 116, the majority of ceramics from Burial 196 lay in the aisle next to the elevated platform. Also like Burial 116, the pottery of Burial 196 included matched sets painted with similar iconic motifs. Of the 48 vessels recovered from Burial 196, three possessed a fully-legible inscription composed of legitimate signs, while eight displayed pseudo-glyphs. The remaining 37 pieces of pottery lacked inscription.

Thirteen Cylinder Vases. Description: The aisle of Burial 196 contained a set of 13 cylinder vases. All were divided into two vertical columns containing the incised or gouged-incised image of a supernatural head (Figure 2). Cylinder vase K30127 displayed the most realistic version of K'awiil, with an flaming or foliated

axe embedded into the forehead and the symbol for stone set into the crania. Although this set of vessels resembled the motif of vase K30126, excavated from Burial 116 (Hellmuth 1967:141), the set of vases from Burial 196 appears to have been more hastily executed with a rapid, shallow line. On all 13 of the Burial 196 ceramics a poorly-applied, greenish-colored stucco covered the space between the panels, occasionally slopped over nearby areas and often extended over the cylinder lip. The interior and incised panels of the vessels were covered with a "streaky brownish black paint that was probably intended to imitate a wood finish" (Culbert 1993a:Figure 86). Below the rim of the vessels was incised a band (often decorated with post-fired red pigment) that displayed either decorative elements, legitimate hieroglyphic text or pseudo-glyphs. Coggins (1975:562) suggested that each of the vases may have been the work of a different artist. Culbert (2005:24) succinctly noted that the "same huge range of variation in execution and talent…may be posited to have been the work of non-artists."

In reviewing this ceramic set, I will discuss those vessels with pseudo-glyphs first, followed by K30095 that bears a Dedicatory Formula, and finish with those ceramics from the set that display only a decorative band around the rim.

K30127. Stuccoed over Kanalcan Gouged-incised, Imix Complex (A.D. 700-850). *Text*: As mentioned above, although K30127 possessed the least abstract representation of the *K'awiil* head, the rim band contained pseudo-glyphs (Figure 3). Culbert (1993a:Figure 86a) divided the elements encircling the rim into 10 blocks. I decided that although these blocks roughly resembled the word *ch'ul* ("sacred" or "holy"), each portion of the collocation would be identified as an

individual pseudo-glyph. The rim contained both pseudo-glyph and conventional Maya signs: Category 2.

A = li (T24).li (T24)

B = PG18.PG95:PG96.PG262

C = li (T24).li (T24)

D = PG18.**k'i** (**T243**):PG104.PG97

E = li (T24).li (T24)

F = PG18.k'i:PG104.PG97

G = li(T24)

H = PG98:PG102

I = li (T24).li (T24)

J = **yi** (**T17**).PG96:**yi** (**T17**).PG97

K30133. Stuccoed over Kanalcan Gouged-incised, Imix Complex (A.D. 700-850). *Text*: After first applying brown paint, the artist incised the two horizontal panels with the disembodied head of a long-lipped *K'awiil*-like deity (Figure 4). The rim was incised a series of repeated elements that Culbert (1993a:Figure 87c) identified as six blocks. Although the aged deity face within this rim band might relate to God N from the Dedication Formula and the fish-like fins at the back of the head may have invoked the **ka** syllable from *kakaw*, none of the elements from the rim band conformed to the recognized corpus of hieroglyphs: Category 1.

A = PG106

B = PG124.PG106

C = PG106

D = PG124.PG106

E = PG106

F = PG124.PG106

K30139. Stuccoed over Kanalcan Gouged-incised, Imix Complex (A.D. 700-850). *Text*: Culbert (1993b:Figure 87a) commented that the rim band of

K30139 had been deeply carved into the cylinder and bore no evidence of post-fired cinnabar (Figure 5). The panels bearing the image of a long-lipped *K'awiil* had been incised, painted brown, and then incised again to emphasize detail. Although Culbert (1993b:Figure 87a) identified 10 separate elements, I only identified seven, identified below with Culbert's nomenclature. The band consisted of only carved outlines of pseudo-glyphs: Category 1.

A = PG125 G = PG107:PG107

C = PG108 H = PG261 D = PG89 J = PG157

E = PG149

Culbert 1993:Figure 86b. Stuccoed over Kanalcan Gouged-incised, Imix Complex (A.D. 700-850). Text: A band containing four pseudo-glyphs encircled the rim of Culbert 1993:86b (Figure 6). Although I was not able to document this cylinder as part of my research, Culbert (1993a:Figure 86b) noted that salmon-pink stucco covered the outside base. None of the compound elements conformed to the known corpus of hieroglyphic signs: Category 1.

A = PG263 B = PG263 C = PG263 D = PG263

K30095. Stuccoed over Kanalcan Gouged-incised, Imix Complex (A.D. 700-850). *Text*: On cylinder vase K30095 glyphs from the Dedicatory Formula were deeply carved, painted with brown and fine detailing added (Figure 7). Culbert (1993a:87b) reported that a salmon-pink stucco covered the area above the glyph band, around the rim and 1.8 cm into the interior. Crude in calligraphic style,

the Dedicatory Formula began at Glyph K with an Initial sign and, at C-D, included the appropriate *lu*-**BAT** collocation for a carved vessel. Although logographs G-I have not been deciphered, their position at the end of the Dedicatory Formula suggests that they identified the owner of the cylinder.

incised, Imix Complex (A.D. 700-850). *Text*: A sub-group within the larger set of 13 vessels, these four cylinders displayed a series of half-circles with smaller circles inside around the rim band. Although abstract, the general silhouette of *K'awiil* could be recognized within each vertical panel (Coggins 1975:565). K30136 possessed dark brown-black panels painted over the incising and bright red cinnabar over the rim band (Figure 8). Cylinder K30140 exhibited a more muted palette of pigments, with the *K'awiil* face incised after application of the brown-black paint (Figure 9). Little of the original green-grey stucco still adhered to cylinder K30141 (Figure 10). In contrast to the previous two vases, the vertical panels of K30142 were incised and then covered with a dark brown-black pigment (Figure 11).

K30134, *K30135*, *K30137* and *K30138*. Stuccoed over Kanalcan Gouged-incised, Imix Complex (A.D. 700-850). *Text*: These four vessels formed the final sub-group within the larger set of 13 vessels. All bore a rim band filled with a series of stacked ovoids with center holes. The vertical panels contained such abstracted representations of the *K'awiil* head that, had these cylinders not been recovered with the previous vases, it was unlikely the icons would have been recognized at all (Coggins 1975:565). The vertical panels of cylinder K30134 had been incised and then covered with brown-black paint (Figure 12). After incising, the rim band of

K30135 was washed with a yellow-brown pigment rather than red cinnabar; stucco covered the rim and separated the figural panels (Figure 13). Vase K30137 bore traces of cinnabar on both the brown-black painted panels and the rim band. Cylinder K30137 had been covered with salmon-pink stucco around the rim and body of the vase (Figure 14). Culbert (1993a:Figure 88b) suggested that application of green stucco that covered the groove encircling the rim of K30138 represented an attempt to disguise a manufacturing error — however, I believe that the presence of colored stucco on the other vessels challenges this idea (Figure 15). K30138 employed a dark brown-black paint over the incised panels and a dark red over the rim band.

My examination of this set of 13 vessels revealed variation in the color of slip and stucco, stucco adherence and clay composition. However, Culbert (personal communication 2005) speculated that these differences in color and clay were from firing or perhaps from the use of different slips or paints rather than different centers of manufacture. Coggins (1975:564) described this set of vessels as

...noteworthy for the sloppiness of the workmanship. The stucco and brown paint are usually applied carelessly. The vessels comprise a study in the disintegration of form which one might conceive to be the work of but a few hands except that it would take one artist at least 50 copies before he could arrive at the degree and degeneration evident on some of these cylinders.

Unfortunately, it remains impossible to define where or under what circumstances this collection of ceramics were made — perhaps they were produced during some ritual and reflected increased association with the supernatural.

However, the inclusion of this set of 13 vases in Burial 196 indicated they represented something of significance to the individuals assembling these offerings.

Culbert 1993:Figure 91k and Culbert 1993:Figure 91l. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). Description: Placed in the aisle of Burial 196 (Figure 16), both bowls displayed the same outcurved-side form and a similar, although not identical, Muan bird feather motif on the exterior rim. Unlike the bowl and plate set excavated from Burial 116, the Muan decorated bowls from Burial 196 did not match any of the tripod plates in terms of palette or feather pattern. The exterior bottom of both bowls bore a red bar design radiating outward from the center (Figure 17).

Text: The exterior bottom of Culbert 1993:91k was decorated with a single pseudo-glyph that lacked interior highlighting: Category 1.

A = PG264.PG90

K8008. Unnamed cream polychrome, Imix Complex (A.D. 700-850).

Description: Described as "one of the most beautiful and extraordinary polychrome cylinders known from the Maya Lowlands" (Coggins 1975:568), K8008 bore the duplicated image of a seated lord interacting with a personified hummingbird (Figure 18). The artist employed a multi-hued palette that included pinks and blues to shade and model the characters and hieroglyphic texts. Excavators encountered K8008 in the middle of the Burial 196 aisle surrounded by black Chilar Fluted cylinders and next to one of the tripod plates (Figure 19). In spite of contemporary appreciation of its beauty, K8008 was not placed in a privileged position atop the bench or close to the body.

Text: Composed of 14 glyphs, the text around the rim consisted of a standard Dedicatory Formula (Figure 20). The phrase began at vH with the vessel description yu-k'i-bi. At vC Yi'kib Chan K'awiil, Ajaw of Tikal (formerly known as Ruler B), was named as the owner or person who dedicated the vase. The text described the ruler as in his third *katun*, indicating that he was at least 60 years old at the time this vessel was painted. This ownership phrase led to the suggestion that Yi'kib Chan K'awiil had been interred in Burial 196; however, the unexcavated and far larger Temple IV has been offered as a more appropriate cenotaph (Harrison 1999:162-164, Martin and Grube 2000:50). As Culbert (2005:24) stated "it seems quite clear that it was a very important individual but not Ruler B" interred in Burial 196. The SNT surrounding the personified hummingbird (yC-yD3) contained a rare example of a quotative statement that reiterated the words of the hummingbird to Itzamna (D. Stuart, et al. 1999:44). Culbert (1993:Figure 84) noted that the combination of fine painting and scribal expertise marked this vessel as having been imported into Tikal.

K2698. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). *Description*: K2698 illustrated three individuals engaged in animated interaction (Figure 21). Secondary non-repeat texts, composed of legitimate hieroglyphics, identified each person. None of the men bore titles or appellatives known from Tikal. Surrounded by tripod plates, K2698 lay at the northeastern edge of the ceramics placed in the aisle of Burial 196 (Figure 22).

Ceramic Sets Without Text. The Burial 196 ceramic assemblage contained two additional sets of vessels. Nine large polychrome plates decorated with radiating

Muan bird feathers, described by Culbert (1993a:Figure 92h) as the "dress shirt design," formed one ceramic set (Figure 23). The second group consisted of seven highly-polished, fluted cylinder vases (Culbert 1993a:Figure 91) that variegated in color from black to reddish-brown (Figure 24). Tikal Burial 196 contained the largest number of matched sets of ceramics at the site. That the three sets were composed respectively of seven, nine and 13 vessels may have had symbolic or metaphysical significance.

Six Nested Bowls at Locus 32. Description: Although sufficient space existed within the tomb for each ceramic object to have been separated, six bowls (Culbert 1993:Figure 92a-f) were found stacked atop each other in the aisle of Burial 196 (Figure 25). Identified with different type:variety designations by ceramicist Culbert (1993a), some emic sense of similarity stimulated the grouping of these bowls into a single locus (Figure 26). None of the vessels bore inscription.

K8006. Palmar Orange Polychrome, Imix Complex (A.D. 700-850).

Description: A large cylinder, K8006 realistically depicted a fat, kneeling individual interacting with a individual seated in front of a plate of tamales (Figure 27). The horizontal panel that formed the back of the bench displayed three large ovoids that may have been intended as space fillers for text; however, K8006 lacked inscription.

The vessel lay atop the bench, to the south of the body (Figure 28). K8006 retained textile impressions around the base (Culbert 1993a:Figure 85a). Coe (1990:645) reported that an unidentified organic residue remained within cylinder K8006.

Coggins (1975:568) speculated that, like cylinder K2698 discussed below, this vessel was made elsewhere and imported to Tikal.

Seven Vessels Without Text. Description: An additional seven ceramics without figural scenes or text were included in Burial 196 (Figure 29). Culbert (1993a) noted these vessels did not conform to the established conventions of Tikal pottery and had been imported.

Burial 196 Summary. Review of the ceramics from Burial 196 revealed that the majority of ceramics clustered into four major categories: (1) Kanalcan Composite cylinders (four with pseudo-glyphs and one with a legible hieroglyphic text), (2) Palmar Orange Polychrome plates without text, (3) Zacatel cream dishes (one with pseudo-glyphs and one without inscription), and (4) Chilar Fluted cylinders without text. Of the entire assemblage, only three cylinder vases (K8008, K30095 and K2698) bore coherent, decipherable text — all were recovered from the alley and not from the bench, in proximity to the body (Figure 30).

Problematic Deposit 54, Operation 12C, Room 3, Structure 5D-34-1st

Clearing the surface and interior debris of Structure 5D-34-1st, and in particular the contents of Room 3, revealed a number of "unusual items" or "specials" identified as Problematical Deposit 54 (Coe 1990:495-496). Unit 26, a raised platform or possible "altar" attached to the back wall of Room 3, formed the principal focus of Problematic Deposit 54. Probing of Unit 26 encountered the cached fragments of Stela 26 as well as a quantity of broken ceramics, 123 pieces of flint, 107 obsidian fragments, a pointed bone object, parts of a turtle carapace and approximately 100 g of charcoal (Figure 31). Coe (1990:496-497) speculated that some of these artifacts related to a cache deposited below Stela 26 that had been torn

from its original context. Soon thereafter the wooden beams collapsed and destroyed the upper chambers, sealing the damaged cache.

Moholy-Nagy 2003:Figure 144a. Saxche Orange Polychrome, Ik Complex (A.D. 550-700). *Description*: A polychrome decorated drum described as Variety A by Moholy-Nagy (2003:Figure 144a), the vessel was recovered from the debris on the west side of Unit 26 as part of Operation 12C (Figure 32). The vessel apparently had been broken in antiquity because refitting could only reconstruct a portion of the original drum.

Text: Since I was not able to locate Moholy-Nagy 203:Figure 144a during my research, I relied on her drawing for a reconstruction of the pseudo-glyphs encircling the drum. Although the elements appear more decorative than textual, they were arranged in columnar form and employ a restricted selection of repeated signs:

Category 1.

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A1 = LAJUN (10=2 bars).HUX (3 dots)
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 $B1 = \mathbf{OXAJUN} (13=3 \text{ dots}+2 \text{ bars})$

C1 = PG48

D1 = PG48

E1 = PG51

F1 = PG48

A2 = effaced

B2 = PG48

C2 = PG48.JO (5=1 bar)

D2 = PG51

E2 = PG48

F2 = PG48

Additional Vessels. Description: Coe (1990:497) reported that the collection of artifacts from Unit 26 lacked "altogether reliable integrity" due to the jumble of

structure damage mixing with the looted stela cache. However, he reported the recovery of two pieces of decorated ceramics from the western side of Unit 26 — a Juleki Cream drum and a sherd from a large Zacatel Cream bowl (Figure 33). An additional 43 undecorated censer fragments were excavated in a slightly lower stratum. The artifacts from this locus suggested ritual and feasting activities, perhaps related to the stela dedication.

Burial 77, Operation 41A, Structure 5D-11, West Court

Located on the west side of the West Plaza, to the northwest of Temple II (Figure 34), excavations by the Pennsylvania Project revealed that Structure 5D-11 lacked a stairway, chambers or finished masonry on its flanks (Coe 1967:74).

Although the building was abandoned before construction terminated, deep within Structure 5D-11 lay Burial 77, excavated as Operation 41A by Peter Harrison.

Coggins (1975:585) noted that the tomb containing Burial 77 had been covered with a mat and roofed with logs, over which had been deposited "thousands of pieces of flint and obsidian." Coggins (1975:586) further stated that "the tomb included the usual *Spondylus* shell, pearls and other worked shell. Cinnabar covered everything... [as well as] a feline skin and quantities of flint and obsidian." Unfortunately, Tikal Report 17, that describes the excavations in this Plaza Group, remains unpublished and little can be specified regarding the placement or description of artifacts within the tomb.

Coggins (1975:585) reported that the individual interred in Burial 77 may have been female. Reanalysis of the Tikal ossuary material by Wright (1996:Table 2) only confirmed the individual as an adult.

IDAEH 17-01-01-137. Zacatel Cream Polychrome, Imix Complex (A.D. 700-850). *Description:* The tripod legs of IDAEH 17-01-01-137 had been removed and a hole carefully drilled through the plate prior to interment (Figure 35). The everted vessel rested over the head of the skeleton (Coggins 1975:586). The vessel conformed to the "codex style" of decoration with a bright white paste, black decoration and red band around the rim (Coe 1973:90-103).

Text: Although the central element resembled the cartouched Ajaw, the internal details did not match those recognized for that day sign (Figure 36). Additionally, the sign was flanked fore and aft by bars and dots exceeding the conventions of rendering numerals: Category 2.

A = WUK (7 dots).JO (5=1 bar).PG122.JO (5=1 bar).WAK (6 dots)

K30125. Palmar Orange Polychrome, Imix Complex (A.D. 700-850).

Description: Coggins (1975:588-589) presented no information regarding the provenience of cylinder vase K30125 within Burial 77. Culbert (1993a:Figure 57c2) noted that the outsloping shape of K30125 and the incision of a text-like rim band on a Palmar Orange Polychrome were unusual for Tikal ceramics (Figure 37). Nine black floral-like quatrefoils arranged in three rows formed the body decoration of K30125.

Text: A band of six pseudo-glyphs encircled the vase rim of K30125. The blocks first were painted with red and some type of resist was applied to create the interior details. Later, the application of a dark black pigment obscured most of the interior elements. The sign T501 repeated at least three times along the rim. A polyvalent sign, T501 has been deciphered as ba / BAH ("head," "first," or reflexive "self"), HA / NAAB ("water," "sea," "plaza") and as part of the IMIX day sign. However, the repetition of T501 with illegible and non-textual affixes created blocks that lacked meaning. Both conventional text and pseudo-glyphs appeared in the inscription: Category 2.

- A = PG20b.ba or **IMIX** or **JA** (**T501**).PG20b
- B = PG266.T501.na? (T23)
- C = PG20b.PG265.PG20b
- D = yi? (T17).T501.na (T23)
- E = na (T23).K'IN? (T544).na (T23)
- F = PG267.PG94.na (T23)

Culbert 1993:Figure 58a. Palmar Orange Polychrome, Imix Complex (A.D. 700-850). Description: Tripod plate Culbert 1993: Figure 58a bore a cream base color on both the inner and outer rim (Figure 203). Culbert (1993a:Figure 58a) commented that the rounded feet of this vessel were unusual at Tikal. Reents-Budet (1994:330, Figure 36) interpreted the triadic motif of k'an crosses on a similarly decorated, unprovenienced plate as a possible reference to the "Three Stone Place" of Maya cosmology. In both these examples the k'an signs seemed to function as icons rather than as inscription.

Three Vessels Without Text. Imix Complex (A.D. 700-850). Description: Three vessels, Culbert 1993:Figure 57c1, Culbert 1993:Figure 57c3 and Culbert

1993:Figure 58c lacked inscription (Figure 39). Cylinder vases Culbert 1993: Figure 57c1 (Chantouri Black-on-orange) and Culbert 1993:Figure 57c3 (Mex Composite) represented ceramic types unusual at Tikal. Vessels decorated with diagonal stripes, like that of Culbert 1993:Figure 57c1, have been excavated from Tikal Burial 135 and Burial 156, as well as from Uaxactun. Cylinder Culbert 1993:Figure 57c3, K30125 (described above) as well as vases from Tikal Burial 75, Burial 91, Burial 139 and bowls from Burial 196 shared a similar motif of quatrefoil flowers. Unprovenienced vessels with similar icons have been identified epigraphically as deriving from the Uaxactun (K4388) and Naranjo areas (K4379). Flaring-sided bowl Culbert 1993:Figure 58c was decorated with a radiating Moan feather design similar to vessels from Burial 1, Burial 116 and Burial 196 at Tikal.

Burial 183, Operation 98A, Structure 5D-46, Group 5D-11

Peter Harrison (1970:6) excavated Structure 5D-46, Group 5D-11 as part of his investigations of the Central Acropolis (Figure 40). Digging of the eastern stairway of Structure 5D-46 encountered Burial 183 on the central axis of the building (Harrison 1970:19). The burial contained the body of a male, interred with flint flakes, an obsidian blade and shells from two land snails (Peter Harrison, personal communication 2005). A quantity of obsidian chips lay around and under the skull. With Burial 183 were buried a bowl decorated with pseudo-glyphs and two fragments of another bowl. According to Peter Harrison (personal communication, 2005) Burial 183 represented a non-royal, dedicatory interment. When published,

Tikal Report No. 15 will present information regarding the placement of artifacts of Burial 183; thus, this analysis has been restricted to description of individual vessels.

K30157. Uacho Black-on-orange, Ik Complex (A.D. 550-700). *Description:* Harrison encountered barrel-shaped bowl K30157 lying atop the pelvis of the individual interred within Burial 183 (Figure 41). *Text:* A long rim band, composed of 21 blocks, encircled barrel-shaped bowl K30157 (Figure 42). An orange slip covered both the interior and exterior of the vessel. The elements were created by painting a black outline on the base color; no interior color was applied. The band contained signs from the PSS but repeated and arranged in a manner that rendered the phrase incomprehensible: Category 3.

A =	PG112	L =	u.TZ'IB'
$\mathbf{B} =$	PG168	$\mathbf{M} =$	ti?/AJAW?
C =	ba .PG110	N =	PG112. tz'i
D =	u.PG20b	O =	PG114.PG115
$\mathbf{E} =$	TZ'IB?	P =	JANAB.PG116
$\mathbf{F} =$	ba	Q =	u .PG159
G =	a.LAY:ya	R =	LAY:ya
H =	PG158	S =	KAAN:na
I =	PG109.PG105	T =	PG113. mi
J =	PG111.yi?	U =	ba?
K =	chi?		

Culbert 1993:Figure 49a1. Saxche Orange Polychrome, Ik Complex (A.D. 550-700). Description: The two fragments of Culbert 1993:Figure 49a1 showed the image of an insect repeated at least twice around the exterior body of the bowl (Figure 43). Culbert (1993a:Figure 49a1) commented that this motif was similar to the Imix Complex ceramics excavated at Uaxactun.

Burial 80, Operation 28B-24, Structure 5G-11, Group 5G-2

Marshall Becker (1971) conducted survey and excavations that centered on the non-royal residential compounds located on the eastern margins of the Bajo Santa Fé (Figure 44). His research led him to identify a repeated architectural arrangement that included a small, square pyramid on the east side of each group's central plaza. Built on high platforms, Becker (1999:138) found that "incorporated within each stage of these [eastern] platforms were burials conforming to a distinct mortuary pattern involving high-status individuals." As noted by Coggins (1975:334), during the Ik Complex (A.D. 550-700) only the burials located in the eastern structures of Plaza Plan 2 compounds contained decorated ceramics.

Excavations identified as Operation 28B/24 encountered Burial 80 under Structure 5G-11 at the east side of residential plaza platform Group 5G-2 (Figure 45). As reported by Becker (1999:85, 99), this grave consisted of a rectangular trench cut through existing fill and into bedrock. Although Burial 80 was covered by large capstones supported by upright stone walls, the grave lacked a corbelled arch or vault. Construction of Structure 5G-11-3rd and Platform 5G-2 sealed the burial.

The body had disintegrated to only bone fragments. The remaining six teeth, one of which was notched, indicated that the person had reached adulthood. Based on the deposition of the teeth, Becker (1999:100) suggested that the body had been oriented with the head at the north end of the grave. The head rested upon tripod plate Culbert 1993:59b2.

K30132. Palmar Orange Polychrome, Imix Complex (A.D. 700-850).

Description: Found as part of Operation 28B/24, cylinder vase K30132 (Figure 46)

was recovered from Burial 80. Like the other three vessels recovered from this burial, K30132 lay at the north edge of the grave (Figure 47).

Text: Black paint covered both the interior and exterior of Culbert 1993:59b1. The glyphs were executed with a black outline on a red-slipped rim band and the interior glyph elements were filled with orange. Three of the repeated, compound glyphs formrf a variant of the dedicatory alay collocation from the Dedicatory Formula; however, the inclusion of T527 (ETZ'NAB) without numerical classifier did not conform to the canons of the PSS: Category 3.

A = a (T228).LAY.ja (T181) B = a (T228).LAY.ja (T181) C = a (T228).LAY.ja (T181) D = ETZ'NAB (T527)

Additional Pottery. As noted above, all vessels clustered at the north end of the Burial 80 chamber (Figure 48). Becker (1999:100) reported that the plate "lay inverted under the cylinder and probably under the head as well." Tripod plate Culbert 1993:80b2 had been drilled and the feet removed prior to interment, while cylinder Culbert 1993:80b3 had been deposited whole (Figure 49). Culbert (1993a:Figure 59) noted that although the colors and shapes of pottery recovered from Burial 80 conformed to the Imix complex, the glyph band and color palette resembled earlier Ix complex ceramics. This led to an estimated date of about A.D. 700 for both the burial and interred vessels.

Burial 81, Operation 30A-2, Structure 4G-9, Group 4G-1

During Operation 30A/2, focused on the east-west axis of Structure 4G-9, Group 4G-1 (Figure 50), excavators encountered Burial 81. Structure 4G-9 contained a total of three burials, the last of which was Burial 81, constructed during the Ik Complex (A.D. 550-700). The grave of Burial 81 consisted of a "boxlike rectangle of masonry blocks" placed atop the paved summit of the eastern-most structure of this residential group, located to the east of the Tikal epicenter (Becker 1999:6-7).

Only one long bone remained of the individual interred within Burial 81, precluding identification of sex or age (Becker 1999:12). The scattered pottery and upward tipping of the capstones suggested that the burial had been disturbed prior to the Pennsylvania excavation. The four ceramics, arranged in the form of a rough parallelogram, displayed evidence of weathering. This, combined with the fact that the grave contained quantities of intrusive earth, led to the conclusion that Burial 81 had stood open for some time (Becker 1999:12).

Culbert 1993:Figure 43d. Kau Incised, Ik Complex (A.D. 550-700).

Description: Cylinder vase Culbert 1993:Figure 43d (Figure 51) lay atop the plaster floor of Structure 4G-9 at the southern end of Burial 81 (Figure 52). None of the interred vessels exhibited perforation. Although rim sherds from Culbert 1993:Figure 43d were recovered from both the north side of Burial 81 and from outside the chamber (Becker 1999:12), the cylinder could not be fully reassembled. Culbert (1993a:Figure 43d) noted that this vessel type, with orange clay and incised decoration, was rare at Tikal and likely had been imported.

Text: Only six of the possibly eight glyphs incised into the rim of Culbert 1993:Figure 43d were recovered. No paint was applied to this vessel. The text somewhat resembled the *alay* conjugation of the Dedicatory Formula. However, few of the compound signs conformed to the recognized corpus of hieroglyphics:

Category 2.

A = fragment

B = ja[la] (T181[T178]).PG200:PG201

C = TUUN (T528).PG246:ja (T181)

D = ja[la] (T181[T178]).la (T178):PG247

E = **ja** (**T181**).PG20a:PG248

F = ja (T181).missing:missing

G = missing

H = missing

Additional Pottery. Excavation recovered three additional vessels from Burial 81 (Figure 53). A thin layer of earth separated these ceramics from the plastered floor of Structure 4G-9 and suggested that time had passed since the body and cylinder Culbert 1993:42d were placed in the grave (Figure 54). The legs of tripod plate Culbert 1993:43b had been removed prior to deposition and the vessel used to elevate the head of Burial 81 (Becker 1999:12). The combination of Ik and Imix vessel shapes in a single burial led Coggins (1975:334-335) to suggest a date of 9.13.0.0.0 (A.D. 692) for this interment.

Burial 132, Operation 3B-3-4, Structure 7F-30-2nd, Group 7F-1

Group 7F-1 lay south of the Mendez Causeway and the Temple of the Inscriptions (Figure 55). Although classified as an Intermediate Structure Group with buildings raised on earthen substructures, the grave goods associated with burials in

Group 7F-1 identified the inhabitants as of elite status (Haviland 1981:116, Moholy-Nagy 1994:10 & 150, Figure 1.6). The excavated artifact assemblage led Haviland (1974:495-496) to suggest that the occupants of this plaza group worked as monument carvers. Structure 7F-30, on the east side of the raised plaza, formed the largest edifice of this group and seemed to serve as the lineage necropolis or shrine (Haviland 1985:39). Because Tikal Report 22 (that describes the specific placement of grave goods within the Group 7F-1 burials) remains unpublished, my analysis was restricted to vessel decoration.

Construction of this temple began during late Manik III (ca. A.D. 450) but, after an approximate 100-year hiatus, a series of Ik Complex (A.D. 550-700) axial burials were interred in Structure 7F-30 (Coggins 1975:237). Excavations identified as Operation 3B-3-4 in the center of the Structure 7F-30-2nd stairway, encountered Burial 132, a 12-21 year old male. Haviland (personal communication 2005) recalled that Burial 132 lay in the fill above bedrock in a stone-covered chamber. Based on stratigraphic evidence, the interment of Burial 132 coincided with architectural modifications to Structure 7F-30-2nd (Haviland 1981:98, Figure 5.4). With Burial 132 was "an unusual assortment of tomb furnishings," including: a jade and shell mosaic mask, corals, sponges, sting ray spines, shells, a number of flint and obsidian eccentrics and a quantity of bird skulls (Coggins 1975:317). Additionally, excavators recovered three ceramics — one decorated with pseudo-glyphs.

K30128. Saxche Orange Polychrome, Ik Complex (A.D. 550-700). *Text*: A broad dark orange band encircling the vessel contained nine pseudo-glyphs, divided into three repeating clusters of blocks (Figure 56). The blocks were painted with a

black outline without interior filling. Because none of the individual elements touched one another, each was identified separately. None of the graphs appeared in the corpus of recognized hieroglyphic text: Category 1.

A =PG99 F =PG101 B =PG100 G =PG99 $\mathbf{C} =$ PG101 PG100 H =D =PG99 PG101 I =E =PG100

Culbert 1993:Figure 45. Top/lid = Kokob Carved, bottom/base = Ucum Unslipped, Ik Complex (A.D. 550-700). Description: Carved into the top bowl of cache vessel Culbert 1993:Figure 45 was the iconographic image of the supernatural WUK-K'AN-EK', surrounded by five deity names (Figure 57). After noting that Culbert 1993:Figure 45 was the only flaring-walled cache bowl recovered from an Ik Complex burial, Coggins (1975:236-237) speculated that this vessel was manufactured during the Manik III Complex (A.D. 450-550), encountered during the construction of Burial 132 and placed in Burial 132 as an opportunistic, auspicious offering. By contrast, Culbert (1993a:Figure 45) held that Kokob Carved rarely appeared at Tikal and, when found, were recovered from only Ik Complex deposits.

Culbert 1993:Figure 46a2. Vercal Orange, Ik Complex (A.D. 550-700).

Description: A rare ceramic type for the Tikal ceramic complex, Culbert

1993:Figure 46a2 bore fire clouding over the entire interior and portions of the exterior. No other decoration adorned this barrel-shaped vase.

Burial 140, Operation 3B, Structure 7F-30-2nd, Group 7F-1

Also located in Structure 7F-30, Burial 140 represented the first burial in the pyramid after a hundred year hiatus (Coggins 1975:315). Stratigraphically identified as part of Structure 7F-30-2nd, Burial 140 lay above and followed the axis of the earlier Manik Complex Burial 160 (Figure 58). Like Burial 132, Burial 140 had been placed in fill above bedrock in a stone-covered chamber (William Haviland, personal communication 2005). Analysis of the bones indicated the male in Burial 140 was over 50 years of age (Coggins 1975:315, Haviland 1985:38). With the body were interred coral, stingray spines, shells, a jade bead, a crystalline hematite mirror, and four ceramic vessels (Coggins 1975:315).

K8005. Saxche Orange Polychrome, Ik Complex (A.D. 550-700). *Text*: Culbert (1993a:Figure 46c3) noted that an orange slip covered both the interior and exterior surfaces of barrel shaped bowl K8005 (Figure 59). A parallel set of horizontal bands provided a guide for the rim band containing 21 elements. Formed with a black script-line over the orange slip of the vessel, the interior of each element was filled with a darker orange. Although repetitive, few of the glyph blocks derived from the corpus of recognized hieroglyphic signs: Category 2.

A =	ki (T102).li (T24):ka (T25)	L =	PG176
$\mathbf{B} =$	PG295	$\mathbf{M} =$	PG145.PG144
C =	PG143.PG144	N =	PG297
D =	PG296	O =	PG143.PG144
E =	PG145.PG144	P =	PG297
F =	PG297	Q =	PG143.PG144
G =	PG145.PG144	R =	PG297
H =	PG297	S =	PG145.PG144
I =	PG146.PG144	T =	PG147.PG144
J =	PG298	U =	PG297
$\mathbf{K} =$	PG145.PG144		

Vessels Without Inscription. Description: Coggins (1975) noted that Culbert 1993:Figure 46c1, a thin-walled cylinder vase with a rounded base, was as wide as it was tall (Figure 60). Culbert (1993a) commented that this ceramic type rarely appeared during this time period. Also excavated from Burial 140 were barrel-shaped bowl Culbert 1993:Figure 46c2 and lateral-ridge tripod plate Culbert 1993:Figure 46c4.

Burial 190, Operation 3B-19, Structure 7F-30-1st, Group 7F-1

Directed by Marshall Becker, Operation 3B-19 encountered Burial 190 to the south of the Structure 7F-30-1st stairway in Group 7F-1 (Figure 61). Burial 191 (that lacked vessels with any sort of inscription whatsoever) lay to the north of this stairway (Haviland 1981:99, Figure 5.5). Coggins (1975:421) interpreted both burials as dedicatory to the structure remodeling of temple 7F-30-1st rather than as elite interments. Both rested directly atop the bedrock without stone chambers (William Haviland, personal communication 2005).

Burial 190 contained the body of a teenage male accompanied by both worked and unworked shell, flint, lumps of hematite and a bone inscribed with a hieroglyphic text (Figure 62). Martin and Grube (2000:51) noted that the ruler named on the carved bone, ?-K'awiil sak te' ajaw, is otherwise unknown at Tikal. Also placed in Burial 190 were four polychrome vessels — one of which bore pseudo-glyphs. Culbert (1993a:Figure 81) commented that all four ceramics were in some way

atypical of Tikal pottery. Since Tikal Report 22 remains unpublished, the specific location of these artifacts cannot be discussed.

IDAEH 17-01-01-119. Palmar Orange Polychrome, Imix Complex (A.D. 700-850). Text: Culbert (1993a:Figure 81a) reported that tripod plate IDAEH 17-01-01-119 was one of the plates interred with feet still intact (Figure 63). Culbert further noted that the placement of an dominant icon at the center of the plate was more common for ceramics produced during the Ik Complex (A.D. 550-700). The large, central image represented either a supernatural, anthropomorphized jaguar or a human dancing in the guise of a jaguar, wearing mittens, mask and clawed boots. A horizontal SNT, composed of four blocks, presumably identified the dancing individual. Although Culbert (1993a:Figure 81a) specified three text blocks, the last numerical sign does not touch the elements above it. Executed with a black outline over the orange slip, the blocks were covered with a darker orange fill that extended beyond the block (Figure 64). While some elements of this SNT conformed to conventional glyph morphology, others did not: Category 2.

A1 = **ta?** (**T103**).PG272:PG117.PG118 A2 = **JO?** (5 dots).**JO** (5=1 bar).PG119 A3 = PG120.PG121:PG117.PG118 A4 = **JO** (5=1 bar): **KAN** (4 dots)

Three Vessels Without Inscription. A bowl, Culbert 1993:Figure 81b, and two cylinder vases, Culbert 1993:Figure 81c and Culbert 1993:Figure 81d, also derived from the Burial 190 offering (Figure 65). None of these three vessels bore any sort of text. Of the artifacts recovered from Burial 190, only the carved bone bore legitimate hieroglyphic text.

Burial 159, Operation 3B, Structure 7F-31-2nd, Group 7F-1

At approximately the same time the previously described burials were placed in Structure 7F-30 (ca. A.D. 682 according to Coggins 1975:325-326), Burial 159 was placed on bedrock in the fill that formed the Structure 7F-31-2nd stairs in Group 7F-1 (Figure 66). Excavated as part of Operation 3B by Becker, Burial 159 contained the body of an adult male, aged 35-55 years (Coggins 1975:326, Haviland 1985:38). The grave goods consisted of only one obsidian blade flake and four ceramic vessels — one of which was decorated with pseudo-glyphs and one with an abraded, apparently whole Dedicatory Formula. Further data regarding the location of artifacts in Burial 159 will be presented in Tikal Report 22.

Culbert 1993:Figure 48c. Saxche Orange Polychrome, Ik Complex (A.D. 550-700). Description: Although the base of lateral-ridge tripod plate Culbert 1993:Figure 48c was not drilled, the central motif of a dancing figure showed considerable wear (Figure 67).

Text: Atop a white band around the interior rim of Culbert 1993:Figure 48c were painted 12 blocks. The elements were formed with a black outline and filled with a dark orange-red. Several of the blocks (B, F, K) appeared to be conflations of real glyphs but without coherence. The band contained elements that conformed to the known corpus as well as pseudo-glyphs: Category 2.

A =	yi (T17)	G =	YAX (T16)
$\mathbf{B} =$	PG68	H =	PG269
$\mathbf{C} =$	PG106.PG268	I =	PG270
D =	PG106	J =	PG123
$\mathbf{E} =$	PG69	$\mathbf{K} =$	PG271
$\mathbf{F} =$	K'AL? (T713)	L =	yi? (T17)

K5620. Sibal Buff Polychrome?, Ik Complex (A.D. 550-700). Description:
Cylinder vase K5620 displayed a Dedicatory Formula around the rim (Figure 68).
Using glyph identification from Culbert 1993: Figure 48a, the text began at H with the alay collocation, followed by a God N dedication and yu-ki-ba appeared at B-C.
Unfortunately, the section naming the owner or patron of this vessel (D-G) has been effaced.

Additional Vessels. Sibal Buff Polychrome? and unnamed black-on-brown, Ik Complex (A.D. 550-700). Description: Neither barrel-shaped bowl Culbert 1993:Figure 48b nor lateral-ridge tripod plate Culbert 1993:Figure 48d bore any inscription (Figure 69). In his analysis of these vessels, Culbert (1993a:Figure 48b) commented that the step-scroll motif painted on the barrel-shaped bowl rarely occurred on Late Classic ceramics at Tikal and was more typical of Manik Complex (A.D. 250-550) pottery.

Burial 147, Operation 70F/4, Structure 6B-9, Group 6B-1

Excavated by Becker (1999:116-121), Group 6B-1 consisted of five structures located atop a steep hill in the southwest portion of Tikal (Figure 70). Structure 6B-9, a high, square mound stood at the eastern side of the group. Excavation failed to confirm whether the building possessed a structure at the top of the stairs (Becker 1999:117). Burial 147, a flat-bottomed grave with small stones lining the sides, was created during the construction of Structure 6B-9 construction at about a meter below the summit.

Within Burial 147 lay a middle-aged to old adult male with his head placed at the south end of the grave. Analysis suggested that the skull evinced cranial modification and that the upper, left canine was inlaid with hematite (Becker 1999:119). Grave goods deposited with the body included charcoal, a broken gray obsidian blade and two pieces of pottery. The pottery exhibited no signs of weathering or use (Becker 1999:119).

Culbert 1993:Figure 78a1. Palmar Orange Polychrome, Imix Complex (A.D. 700-850). Description: Tripod plate Culbert 1993:Figure 78a1 lay next to the head in Burial 147 (Figure 71). All three legs of the plate were intact and no hole had been drilled to terminate the vessel. Coggins (1975:441) commented that the dancing figure motif was anachronistic for pottery produced during the Imix Complex.

Text: Painted on the interior rim of Culbert 1993:Figure 78a1 were three horizontal panels, each containing six pseudo-glyphs arranged in two rows (Figure 72). Executed with a black outline over the orange slip, the interior of each element was filled with white. The text consisted of the same element, without affixation, repeated 18 times. None could be identified from the known corpus of hieroglyphic text: Category 1.

A =	PG103	J =	PG103
B =	PG103	K =	PG103
C =	PG103	L =	PG103
D =	PG103	M =	PG103
$\mathbf{E} =$	PG103	N =	PG103
F =	PG103	O =	PG103
G =	PG103	P =	PG103
H =	PG103	Q =	PG103
I =	PG103	R =	PG103

Culbert 1993:Figure 78a2. Palmar Orange Polychrome, Imix Complex (A.D. 700-850). Description: Based on placement, Becker (1999:119) speculated that Culbert 1993:Figure 78a2 may have originally cradled the head of Burial 147 (Figure 73). Culbert (1993a:Figure 78a2) noted that the outside design and overpainting in white on this slightly-outcurving bowl did not resemble the majority of vessels from Tikal (Figure 74). In terms of design and execution, Culbert (1993a:Figure 78a) described both of the vessels from Burial 147 as "unusual" for Tikal.

Summary: Pseudo-glyphs at Tikal

Ceramics decorated with pseudo-glyphs derived almost exclusively from elite-dominated contexts at Tikal, with the exception of the drum recovered from the fill of Structure 5D-33-1st. Assuming the North Acropolis, East and West Court and associated Temples 1 and 2 served as the cemetery for Tikal's kings, six of the royal tombs excavated by the Pennsylvania Project contained ceramics decorated with pseudo-glyphs.

The excavation of 11 pseudo-glyph decorated vessels from Burial 116, the tomb of *Jasaw Chan K'awiil*, represented the single largest deposit of pseudo-glyphs from any single location. This collection included eight cylinder vases decorated with the double-panel throne scene, one with a single-panel throne scene, one carved cylinder and the enigmatic ceramic shell with possible pseudo-glyph. Of the ceramics placed with Burial 116, only three vessels bore conventional hieroglyphic text.

Burial 196 contained the second largest number of pseudo-glyph decorated ceramics. Five cylinders, from a matched set of 13, were decorated with pseudo-glyphs. In this case, the increased artistic abstraction suggested a single production ritual. Only three of the 48 ceramics excavated from Burial 196 bore legitimate hieroglyphic inscriptions.

In total, 38 pseudo-glyph decorated vessels from Tikal were included in this study. Of those, 14 dated to the Ik Complex (A.D. 550-700) and 24 to the Imix Complex (A.D. 700-850). Ceramic forms included bowls, dishes, drums, plates and cylinder vases. Of this corpus, Culbert (1993a) identified 13 vessels that did not conform in some manner to the ceramic standards of Tikal pottery. Unfortunately, INAA samples were not taken of this collection and the veracity of this assessment remains unknown.

Additional examples of pseudo-glyphs appear in the graffiti incised on interior stucco walls of architecture in the site core of Tikal (Table 1). As noted by Coe (1983:2-3), the published graffiti reflect errors arising from the variety of techniques employed in the field documentation as well as artistic disparities between the numerous copyists. Unfortunately little can be said about the social meaning of this graffiti or the relationship between the pseudo-glyphs and incised imagery; however, my review of Tikal Report 31 suggests that pseudo-glyphic graffiti appeared more frequently than conventional hieroglyphs in structures inferred to be elite.

Uaxactun

Located 24 km north of Tikal, Uaxactun was discovered by S. G. Morley in 1916 (1916:339-341). Investigations at Uaxactun by the Carnegie Institution of Washington, D.C., began in 1926 under the direction of O. G. Ricketson (1937) and finished in 1937 by A. L. Smith (1950). The excavation of Group E at Uaxactun by A. L. Smith and E. M. Shook provided the stratigraphic basis upon which was established the first pottery sequence in the Southern Maya Lowlands (Smith 1955:2). The Uaxactun ceramic chronology, based on a system of correlating architectural sequences and dated stelae with pottery frequencies, formed the foundation upon which subsequent Maya ceramics analysis has relied (Smith 1955:108). Robert E. Smith served as project ceramicist for the project.

I documented seven whole or significantly reconstructed vessels and 16 sherds with more than two pseudo-glyphs from Uaxactun. Additional examples of pseudo-glyph decorated ceramics were illustrated in Smith's monograph (1955:Figures 80); but since I was not able to confirm the drawings, these examples were not included in this study. No information regarding the archaeological provenience of the 16 sherds could be discovered. It is likely they derived from either from architectural fill or middens. It should be noted that the Uaxactun type collection has been used repeatedly for comparative purposes and many of the original identification numbers are missing or abraded. Where numbers were duplicated, I appended a parenthetical letter from the alphabet to identify the sherds described in Appendix 1.

Burials A2, A3 & A4, Structure A-I, Group A

As described by Smith (1937:193), the Structure A-I Complex occupies a central position in Group A on the Acropolis. Structure A-I, that forms the northernmost temple atop the South Court platform, contained Burials A2, A3 and A4 (Figure 75). Structure A-I contained six levels of major rebuilding, with Burials A2, A3 and A4 resting on plastered Platform VIII of Pyramid E, the penultimate construction level. Crypt II, containing Burial A3, was irregular in shape (approximately 1.24-x-47 cm x 60 cm high) and covered with small, rough capstones. Burial A4, Crypt III, formed the southern extent of Crypt II, with its long axis oriented east-west. No architectural feature separated the two burials. The capstones of Burials 3 and 4 had collapsed, crushing the skeletons and prohibiting the identification of their sex or age. Museum records indicated that bowl MNAE 3521 had been recovered from Burial A2 and K30079 derived from Burial A2. Although Smith (1937:207, Figure 8) provided a plan map of the burial, he did not specify the location of each vessel (Figure 76). Burial A2, the extended body of an adult male, lay to the west of Burials A3 and A4. Based on the better quality of tomb construction and grave goods, Smith (1937:208) believed Burial A2 represented the primary interment; however, no pseudo-glyph decorated ceramics were reported in this burial.

MNAE 3521. Unknown type:variety, Tepeu 1 (A.D. 550-650). Text: An interior rim band covered the basal-ridge of tripod plate MNAE 3521 and encircled the image of a dancer placed in the interior surface (Figure 77). All blocks were formed of a single color. Executed with broad strokes, the band consisted of four

groups of 19 blocks separated by pairs of vertical dots and a single vertical band that may represent numbers. If so, both real glyphs and pseudo-glyphs were represented: Category 2.

A =PG309 K =KA (2 dots) $\mathbf{B} =$ PG310 L =PG312 C =PG311 $\mathbf{M} =$ **JO** (5=1 bar) D =KA (2 dots) N =PG310 E =**JO** (5=1 bar) O =PG312 $\mathbf{F} =$ P =KA (2 dots) KA (2 dots) G =PG312 O =vi H =PG312 R =PG313.**u** (**T511**) S =I =PG313 KA (2 dots) J =PG312

K30079. Unknown type:variety, Tepeu 1 (A.D. 550-650). *Text:* An band composed of five pseudo-glyphs encircled the rim of round-sided bowl K30079 (Figure 78). The elements were created with a black outline and filled with both a red and white interior fill. All pseudo-glyphs consisted of the Initial Sign from the Dedicatory Formula: Category 3.

A = LAY:ya D = LAY:ya E = LAY:ya C = LAY:ya

K30082. Unknown type:variety, Tepeu 1 (A.D. 550-650). *Description*: This round-sided bowl (Figure 79) was recovered from Burial A23, a crypt located below the floor under the center of Construction V, Structure A-V. A. L. Smith (1950:96) noted that this construction level was associated with Stela 6, possibly dated to 9.9.6.2.3 (A.D. 619). The crypt consisted of large, rough stone laid in mud and topped by five capstones that rested at a slant. A string ray spine and charcoal rested

on the pelvis of the extended body. The individual was identified as adult, of indeterminate sex. My research failed to encounter the brown-on-orange resist design lid shown with the vessel in the site report (Smith 1955:Figure 7h).

Text: A band of alternating pseudo-glyphic elements and star signs (**EK'**, T510) encircled the rim of K30082. It is possible this is not a pseudo-glyph text and that the elements that alternate with the star sign are intended to represent flames or smoke; however, they were included in the Maya Pseudo-glyph Catalogue for comparative purposes: Category 2.

H = EK' (T510)
I = PG43
J = EK' (T510)
K = PG43
L = EK' (T510)
M = PG43
N = EK' (T510)

K30090. Unknown type:variety, unknown date. *Text:* This reconstructed round-sided bowl lacks specific provenience (Figure 80). Encircling the rim were three Initial Signs from the Dedicatory Formula that had been carved into the vessel body and then filled with a post-fire red pigment: Category 3.

A = LAY:ya B = LAY:yaC = LAY:ya

K30015. Unknown type:variety, unknown date. *Text*: Although badly abraded, the pseudo-glyphs encircling the rim of round-sided bowl K30115 could be made out with enhanced photographic techniques (Figure 81). I could find no information in the site reports regarding the provenience given for this vessel:

Operation XLII, Lot 1, Sub-op 1. The pseudo-glyphs were composed of a black outline of a unknown profile face that repeats eight times: Category 1.

A = PG61	E = PG61
B = PG61	F = PG61
C = PG61	G = PG61
D = PG61	H = PG61

K30016. Unknown type:variety, unknown date. *Text*: Also from an unknown provenience within the site of Uaxactun, cylinder vase was garishly executed with an orange, red and pink striped body (Figure 82). The pseudo-glyphs bore an outline of red and were filled with pink. Although the signs may have intended to replicate the Initial Sign from the Dedicatory Formula, none of the elements were recognized from the corpus of known hieroglyphs: Category 1.

A = PG313.PG59 C = PG313.PG59 D = PG313.PG59

Chapter 6 — Analysis

To recapitulate, the two primary goals of my research are (1) to define the physical characteristics of Maya pseudo-glyphs and establish whether epigraphic rules apply, and (2) to explore the roles of pseudo-glyphs in Classic Maya society through analysis of the contexts in which pseudo-glyphs appear. I documented a total of 121 pieces of pottery decorated with pseudo-glyphs held by Guatemalan museums that derived from documented excavations sanctioned by the government. As discussed in the previous chapter and shown in Table 7, the pseudo-glyphs comprising this study appear on a variety of Classic Period Maya pottery shapes⁵. In total, I examined pseudo-glyphs from 55 whole vessels and 66 broken vessels or sherds with missing pseudo-glyphic blocks. To avoid including decorative motifs, only sherds with two or more blocks of pseudo-glyphs are included in this study.

Analytic Approach

The first portion of my analysis focuses on the pseudo-glyph as artifact, (Basso 1989:428) without regard to the archaeological provenience of the vessel. This portion of the research seeks to establish whether pseudo-glyphs might represent an alternative Maya script tradition, analogous to ancient Egyptian hieratic (Houston, et al. 2003:439, Ritner 1996:81) or the various Arabic calligraphic traditions (Khatibi and Sijelmassi 1996:77-83).

See Chapter 1 for the vessel shape typology used in this study.

For comparative purposes, I selected 100 vessels decorated with legitimate Maya glyphs (87 bowls and vases, along with 13 plates and dishes). The ability to identify or attribute archaeological provenience represents the sole criterion by which these ceramics where chosen. As such, this sample derives from a variety of sources, including: 32 vessels from documented archaeological projects and through museum records; 66 looted ceramics with a posited site of manufacture based on instrumental neutron activation analysis, stylistic attribution (Coe 1978, Reents-Budet 1994, Robiscek and Hales 1981), or bearing an Emblem Glyph or site-specific appellative; as well as two vessels without provenience. Based on stylistic attribution or archaeological provenience, all were made during the Late Classic Period. This corpus of ceramics with real glyphs provided information about vessel size, glyph placement, artistic motifs and the pigments employed in their manufacture, against which to compare vessels with pseudo-glyphs. As was noted earlier, the desire on the part of contemporary buyers and dealers of illicit antiquities for vessels, primarily vases, decorated with multi-character polychrome images has resulted in the looting of many such objects from their archeological context (Paredes Maury 1996). In an attempt to counter this bias, my sample of 100 ceramics with real glyphs draws as much as possible from materials illustrated in site reports. Information regarding the provenience and publication citation for these vessels appears in Appendix 6.

Analysis began by recording the real and pseudo-glyphic components on each vessel. From this, I compiled a database using Microsoft Access that identified and illustrated each pseudo-glyphic element. I examined elements that repeated on multiple vessels to establish whether they signaled a graphic function. This portion of

my analysis emphasized pattern recognition and the identification of substitutions that might indicate glyphic equivalence.

After defining the morphology of pseudo-glyphs on pottery, I explored the social roles of pseudo-glyphs in Maya society. The corpus of ceramics with pseudo-glyphs was compared with the sample of pottery bearing real hieroglyphic text to assess whether the same vessel shapes, icons and pigments were employed. The pseudo-glyphs on each vessel were identified as belonging to one of three Categories (described in Chapter 1 and discussed further below). I conducted statistical analysis to test whether any relationship existed between pseudo-glyph category, surface decoration and number of pigments. These investigations compared the technical aspects of pseudo-glyph production with that of real glyphs, before making comparisons between the three Categories.

The final portion of my analysis concentrated on the temporal and physical provenience of vessels with pseudo-glyphs. My research confirms that ceramics painted with pseudo-glyphs were not restricted to a few sites or single region but appeared throughout the Southern Maya Lowlands of Guatemala. The excavation of pseudo-glyph decorated pottery from tombs dating between A.D. 672 to 781 aids in refining the chronology defined by type:variety analysis. To assess whether vessels decorated with pseudo-glyphs represented local manufacture, I relied on data from reports and communication with site ceramicists. In attempting to assess whether vessels with pseudo-glyphs were associated with lower-status members of Maya society, I examined the depositional context of the pottery within each site. To establish whether the presence of pseudo-glyphs might mark a vessel as less valuable

than one with hieroglyphic text, I focused on the placement of these ceramics in tomb contexts.

Location of Pseudo-glyphs on Vessels

As noted earlier, both real hieroglyphs and pseudo-glyphs appear on bowls, dishes, drums, jars, plates and vases. The two pottery forms made by the Classic Period Maya, but not represented in this study, are incense burners and miniature flasks⁶. Survey of the literature revealed only a single, unprovenienced example of an Early Classic incense burner lid embellished with hieroglyphic text (Boston Museum of Fine Arts, Registration Number 1988.1230). Such a paucity of inscribed ceramic incense burners suggests that this tradition was not widespread. Regarding miniature flasks, my search of museums in Guatemala failed to encounter examples with either legitimate hieroglyphs or pseudo-glyphs, although a number of unprovenienced flasks decorated with either painted or mold-made blocks have been documented (e.g., http://research.famsi.org/portfolio_thumbs.php?_allSearch=flask). Roberto Gallardo, Curator of the Museo Nacional David J. Guzman, El Salvador (personal communication 2005), reports that two mold-made flasks decorated with pseudo-glyphs were excavated at Chalchuapa. It is possible that production of miniature flasks was temporally and geographically restricted; however, without further information regarding provenience, analysis remains problematic. Although neither of these

Sometimes described as "poison pots" these miniature vessels, with flat sides and restricted neck for a stopper, are epigraphically identified as containing powdered tobacco (David Stuart, personal communication 2006).

ceramic forms are included in this study, pseudo-glyphs and real glyphs appear to have been placed on all Classic Period Maya pottery shapes. It should be noted that both real glyphs and pseudo-glyphs are restricted to slipped ceramics — no examples of pseudo-glyphs on the unslipped surfaces of domestic cooking ware were encountered during this research.

To test whether the pseudo-glyphs painted on pottery represented an alternative form of Maya writing, I posited that the elements would be placed on the vessel in the same locations as legitimate hieroglyphic text. To test this hypothesis, vessels with blocks on the exterior surfaces (bowls, drums, jars and vases) were examined separately from plates and dishes, whose inscriptions appear on the interior rim and bottom of the vessel. To create comparable data sets, with all possible locations represented, only whole vessels with pseudo-glyphs were employed in this analysis (bowls, drums, jars and vases N=42; plates and dishes N=13). The terminology used to describe the various locations at which pseudo-glyphs could appear are listed in Table 8.

As discussed in Chapter 3, conventional hieroglyphs convey different messages depending on where the signs are placed on the vessel. On vessels with real glyphs, blocks on the Exterior Rim, Encircle Body and Interior Rim often form the Dedicatory Formula or Primary Standard Sequence that describes the vessel dedication, shape and contents. Blocks arranged in Vertical Columns also can include signs from the Dedicatory Formula, sometimes even duplicating the information presented in the rim text. Texts on the Exterior Body contain verbal clauses that describe the depicted scene, while Labels serve as Secondary Non-Repeat Text (SNT)

to identify actors. Conventional glyphs on the Interior Surface of plates or dishes or Underside of the vessel most often consist of dates or refer to supernatural locations.

To test whether pseudo-glyphs and real hieroglyphic text overlapped in function, I conducted statistical analysis to assess whether they were found in the same places and with the same frequency on the vessel. To identify significant patterns in these small samples, I calculated the standardized residual (r) for each cell frequency. Known also as the Studentized or internally Studentized residual, the standardized residual for each cell is established by subtracting the expected frequency from the observed frequency, divided by the square root of the expected frequency. Like chi-square (Siegel 1956:105-106), the expected value (E) is determined by multiplying the two marginal totals common to a particular cell (row x column = $R \times K$) and then dividing this product by the total population (T):

$$E = \frac{(R)(K)}{T}$$

For example, to calculate the expected value for the lower right-hand cell of pseudo-glyphs in Table 9 (1 pseudo-glyph in the exterior body location), one employs the following formula:

$$E_I = \frac{(48)(26)}{190} = 6.54$$

To calculate the standardized residual (r), one uses the formula:

$$r = \frac{O - E}{\sqrt{E}}$$

In this case, resulting in the following calculation:

$$r = \frac{(1 - 6.57)}{\sqrt{6.57}} = -2.17$$

This formula provides a simple means of identifying cell frequencies that depart from random expectation (Bamforth 1993:65). A exact correspondence between observed and expected values produces a residual of 0.0. From the standardized residual, one can than calculate the probability (p) of encountering such a distribution randomly. Although a probability level of less than 0.05 customarily identifies samples as significantly non-random, it should be remembered that it is difficult to recognize potentially significant differences for small sized samples (Cowgill 1977: 366). Because the standardized residual test is two-tailed, residuals of greater than 2 or less than -2 are considered large (standardized residuals of greater than 1.96 or less than -1.96 will produce probabilities of less than 0.05). In the example presented above, the standardized residual (r=-2.17) reveals a strong negative pattern when compared with the rest of the sample; the probability of generating such a distribution randomly is 0.03, a significant variation.

Table 9 examines the locations where glyphs and pseudo-glyphs are found on bowls, drums, jars and vases in terms of number of vessels. For heuristic purposes, the expected values, square root of the expected value and standardized residuals are included in this table. As noted earlier, a single vessel can display signs or pseudo-glyphs at any or all locations. Thus, the total number for each sample is larger than the number of vessels.

Standardized residual analysis indicates that none of the locations containing real glyphs display a major departure from that expected. The only location for which no real glyphs were documented is on the Underside. Such an absence is not surprising, as the majority of real glyphs in this location derive from codex-style vessels presumably looted from the Nakbé-Calakmul region (Calvin 1999). Since some of the Underside texts from looted vessels refer to places in the supernatural world; it is possible that the PG264.PG090 collocation found on Culbert 1993: Figure 91k represents a hitherto unknown metaphysical location. However, until additional examples are identified, this block of elements must be identified as pseudo-glyphic.

Further review of the standardized residuals reveals that pseudo-glyphs in the Encircle Body location are overrepresented (N=39; r=+2.18; p=0.029). By contrast, vessels with pseudo-glyphs in the Label (N=2; r=-2.45; p=0.014) and Exterior Body (N=1; r=-2.17; p=0.03) locations are underrepresented. This distribution may be the result of two, perhaps related, factors:

1. Real glyphs in the Label and Exterior Body locations identify individuals and in some manner relate to the scene depicted. As will be shown below, pottery with real glyphs is decorated with complex icons more frequently than is pottery with pseudo-glyphs. These multi-character scenes display SNT composed of real glyphs that provide the names and titles of each figure (Calvin 1994, Reents-Budet 2001:213-218). Texts on the Exterior Body refer in some manner to

the action taking place. Occasionally, glyphs in the Exterior Body include linguistically complex examples of first and second person dialogue (D. Stuart, et al. 1999:44-49). Because pottery with pseudoglyphs lacks the requisite complex imagery that needs to be explained, pseudo-glyphs in these locations are underrepresented when compared to the rest of the sample.

2. The sample of pseudo-glyphs in the Encircle Body location derives from five round-side bowls and one drum. In all of these cases, the pseudo-glyphs represent the only surface decoration. Vessel shape may have influenced the placement of these signs. The drum rim would have been obscured by stretched hide. The sharp curved surface of the round-side bowls may have led the artist to favor a less acute angle.

Although pseudo-glyphs occur in the same locations as conventional glyphs on bowls, drums, jars and vases, their distribution does not replicate that of real glyphs. Particularly noticeable is the lack of pseudo-glyphs in contexts that identify characters or describe scenes with verbal clauses. Such disparity may relate to the lack of complex imagery on pottery with pseudo-glyphs, a topic that will be addressed further below.

Similar statistical tests were conducted with regard to the location of glyphs and pseudo-glyphs on plates and dishes (Table 10). In this case, each sample contained the same number of vessels (N=13). The standardized residual test revealed no significant differences between the observed and expected frequencies

even though the sample of real glyphs included no SNT whatsoever. Within this small sample of plates and dishes, the distribution of real and pseudo-glyphs is quite similar.

Based on statistical analysis and visual inspection, pseudo-glyphs conform to the conventions of writing in terms of block placement on all ceramic forms. Pseudo-glyphs neither are found in anomalous places nor in aberrant scale. For example, pseudo-glyphs do not cover the decorative scene, meander across the vessel surface or display blocks of various sizes. Phrases containing heads do not face in different directions or look upward. In terms of location and orientation, pseudo-glyphs mimic real glyphs and could be inferred to signal a communicative message.

The Maya Pseudo-glyph Catalogue

The next portion of my research consisted of inspecting each block to identify the pseudo-glyphic elements. A close reading of the 121 sherds and vessels bearing pseudo-glyphs identified a total of 812 individual glyph blocks and over 1321 components (consisting of pseudo-glyphic elements, real glyphs and illegible signs). The 314 pseudo-glyphic elements that are not part of the legitimate Maya hieroglyphic corpus⁷ are illustrated in the *Maya Pseudo-glyph Catalogue* (Appendix 1). As noted earlier, the Maya Pseudo-glyph Catalogue does not group elements into morphologically similar categories nor does a numerical position in the Catalogue suggest the number of times an individual element was identified.

⁷ See Coe and Van Stone (2001); Bricker (1986); Montgomery (2002a, 2002b, 2002c); Mathews (2006); Stuart (2005); and Thompson (1962), among others.

To establish whether pseudo-glyphs convey language requires identifying the same element on multiple vessels. The repetition of a particular pseudo-glyphic element on any single vessel provides no basis for decipherment. Epigraphic structural analysis requires that an element or sign be attested in multiple contexts (Houston 2004a:239).

Only 24 of the 314 pseudo-glyphs were found on more than one vessel (Appendix 7). Of these 24 duplicates, six of the pseudo-glyphs had been painted on vessels excavated from the same location, seven were recovered from different archaeological contexts at the same site, and 12 appeared at more than a single site. As illustrated in Appendix 8, the most complex of the duplicated pseudo-glyphs were found on pottery from the same archaeological unit or within a single site. The excavation of two vessels decorated with similar images and motifs, bearing identical pseudo-glyphic elements, and excavated from the same locus, suggests that a single artist may have created a particular element without a linguistic referent. Examination of the pseudo-glyphs present at multiple sites reveals forms so generic in shape as to suggest a real possibility of independent invention. The rudimentary nature of the forms makes it unlikely that these elements represent logographs. With the exception of PG20b, a plain ovoid, none of the elements repeated on more than three vessels.

Although pseudo-glyphs occupy the same places on Maya ceramics as conventional hieroglyphs, the identification of 290 unique, unrepeated elements indicates that the pseudo-glyphs documented in this study do not represent a communicative device that conveys language. If pseudo-glyphs had formed an

alternate calligraphic style, the elements would have been organized into patterns analogous to those of conventional texts, with the same signs inscribed on multiple vessels. The identification of 314 elements that were not used in such a manner refutes the hypothesis that pseudo-glyphs represented a writing system.

Through placement and scale, pseudo-glyphs signal that they are intended to replicate the form of writing. Pseudo-glyphs appear on all the same vessel shapes and in the same locations as legitimate Maya hieroglyphic text. However, the elements are not signs; elements do not indicate a relationship between signifier, signified and a given context.

Analysis of Pseudo-glyph Decorated Vessels

Having in the first portion of this chapter established that pseudo-glyphs did not communicate spoken language, I turned to the question of what social roles pseudo-glyphs may have served in Maya society. Here, I began by comparing the shapes, icons and pigments employed on vessels with pseudo-glyphs against a sample of ceramics decorated with legitimate hieroglyphic text. I then examined the three Categories of pseudo-glyphs to assess whether differences in vessel form, surface imagery or pigments might distinguish the Categories from one another. In particular, I sought to discover whether pseudo-glyph Category 1 (composed only of elements from the Maya Pseudo-glyph Catalogue) correlated with plain, unadorned ceramics while Category 3 (consisting of real glyphs arranged in unconventional reading order) appeared on vases embellished with multi-character scenes. To address the social aspects of pseudo-glyphs, I focused on the ceramic morphology to

(1) assess whether the vessels with pseudo-glyphs were the same as pottery decorated with hieroglyphic text, and (2) establish whether those differences marked pottery with pseudo-glyphs as potentially less valuable or less inclined to be valued in Maya society.

Comparison of Ceramics with Real Glyphs and Pseudo-glyphs

As noted earlier, the Dedicatory Formula encircling a vessel rim often includes information concerning the Classic Period Maya taxonomic category and function of the pottery. Glyphs on vases frequently identify the contents as cacao (D. S. Stuart 1988). Colonial Spanish documents report that consumption of this beverage represented an elite prerogative throughout Mesoamerica, and that ownership of the beans represented wealth in the form of currency (Blom 1932, Roys 1933:95-96, Thompson 1956). By contrast, many Classic Period ceramic texts record that bowls, plates and dishes held corn beverages or tamales (Grube 1990b, Zender 2000). Unlike *cacao*, corn was viewed as a staple of Maya existence and its consumption was not restricted to an elite minority. Since my analysis failed to find any repeated elements that might substitute for the conventional hieroglyphs that identify a vessel as either *u lak* ("the plate of") or *yuk'ib* ("the drinking vessel of") or any signs related to vessel contents, I reframed the study to explore whether there existed a correlation between pottery shape or vessel size and the presence of either real text or pseudo-glyphs. I will begin by presenting the results of the statistical analysis and then conclude with an interpretation of these tests.

Examination of the standardized residuals of the two samples (Table 11) indicates that real glyphs are underrepresented in number of bowls (N=20; r=-2.69; p=0.007) and overrepresented in number of vases (N=67; r=+2.91; p=0.004). Pseudo-glyphs exhibit just the opposite pattern, with a larger distribution of bowls (N=60; r=+2.45; p=0.014) and a smaller number of vases (N=37; r=-2.64; p=0.008). To test the significance of this pattern, I conducted chi-square analyses after removing those vessel shapes not shared by both samples (i.e., drums, jars and dishes). As seen in Table 12, a chi-square test of this sample establishes that the distribution between vessel shape and the presence of glyphs or pseudo-glyphs is not random ($\chi 2=28.751$; df=2; p-value < 0.001). Legitimate hieroglyphs more frequently decorate vases, while bowls are more likely to bear pseudo-glyphs.

Comparison of the surface area of the various ceramic shapes was undertaken to establish if differences in size might, in some way, control whether real glyphs or pseudo-glyphs were being produced. For example, were the pseudo-glyph bearing vessels so small as to preclude producing legible hieroglyphic text? Conversely, it has been posited that large serving vessels decorated with hieroglyphic text were used for communal feasting events that reinforced the prestige of literate elites (LeCount 1996:13-14, Reents-Budet 1998:85). If this is true, one would expect to encounter larger vessels with real glyphs, while smaller ceramics would display pseudo-glyphs. To assess whether the surface areas available for inscription on bowls, plates and dishes, and vases were equivalent, I conducted a series of Mann-Whitney *U* statistical tests for each vessel shape. This test was chosen because real glyphs and pseudo-

glyphs constitute independent groups, and the measurement of surface area constitutes an ordinal measure at best. Only whole vessels, for which complete measurements exist, were included in this portion of my analysis.

As seen in Table 13, the surface area of vases was calculated by multiplying the vessel height by the circumference. Comparison between the median surface areas of vases with real glyphs (N=63; $median=744.0\ cm^2$) and pseudo-glyphs (N=23; $median=741.5\ cm^2$), using the Mann-Whitney U test, revealed the space available for decoration to be almost the same for both samples (U=0.4237, adjusted for ties). While the median area of vases with real glyphs is slightly larger than that of pseudo-glyphs, an artisan's decision whether to produce conventional glyphs or pseudo-glyphs on the vase was not constrained by size restrictions.

The available surface area of plates and dishes was calculated by multiplying the value of π by radius². Comparing the mean size of plates and dishes with real glyphs (N=13) against those with pseudo-glyphs (N=13) using the Mann-Whitney U test (Table 14) indicates that the surface area for both samples are similar (U=0.4414, adjusted for ties). Although not statistically different based on sample size, plates and dishes with legitimate text ($median=989.8~cm^2$) display a somewhat larger surface area than those with pseudo-glyphs ($median=897.3~cm^2$). Analysis of the maximum and minimum size of plates and dishes with real glyphs reveals a larger standard deviation than those of plates with pseudo-glyphs. Although real glyphs decorated the largest plate in this sample ($1486.2~cm^2$ surface area), real glyphs also adorned the smallest example ($430.1~cm^2$ surface area).

Table 15 displays the results of the Mann-Whitney U test on bowls with real glyphs (N=17) and pseudo-glyphs (N=18). Again, surface area was computed by multiplying the vessel height by circumference to establish the area potentially available for decoration and inscription (although it must be acknowledged that curvature might limit the area perceived as desirable for painting). Based on these two samples, the surface areas of bowls with pseudo-glyphs ($mean=645.1 \ cm^2$) are significantly smaller than those of bowls with hieroglyphic text ($mean=812.5 \ cm^2$; U=0.0391).

In each of these statistical tests, the median size of pottery bearing legitimate hieroglyphic text is larger than that of pottery decorated with pseudo-glyphs. The difference in median size between vases, however, is barely distinguishable. The presence of real glyphs on the three largest plates (MNAE 15357, K1261 and Culbert 1993:Figure 51a) may support the argument that ceramics with hieroglyphic texts functioned as serving ware to enhance prestige during communal feasts; however, real glyphs also adorn the smallest plates in this sample.

By contrast, bowls decorated with pseudo-glyphs are considerably smaller than bowls with legitimate text. The marked disparity in size, combined with the epigraphic identification of vessel contents on bowls with real hieroglyphs, suggest that the smaller bowls decorated with pseudo-glyphs were used for personal consumption of corn-based comestibles.

To explore whether real glyphs appeared more frequently on ritually laden, iconographically complex ceramics while pseudo-glyphs associated with plain or

simple decorative motifs, I conducted both standardized residual and chi-square analyses to identify cells with larger than expected values and to establish whether this distribution was significant. Visual inspection of pottery with real glyphs (*N*=100) and the corpus of whole vessels with pseudo-glyphs (*N*=70) led me to identify four surface motifs: (1) either a single seated individual engaged in ritual or scenes showing the interaction of multiple characters, either deities or humans; (2) either the disembodied head of humans or deities or the representation of a single animal; (3) designs composed of multiple *fleur-de-lis* or other stylized flowers, crosshatching, or bands of various colored pigments; or (4) a plain, slipped surface. This typology forms a descending scale, with multi-character scenes representing the maximum labor costs, levels of artistic expertise and knowledge of esoteric subject matter. The manufacture of plain, slipped surfaces involves less labor and requires no knowledge of iconography.

Table 16 presents the observed frequency and standardized residuals of the various motifs found on vessels displaying glyphs and pseudo-glyphs. The largest differences between expected and observed values are seen in the under-representation of plain surfaces by real glyphs (N=6; r=-2.27; p=0.023) and over-representation of plain surfaces by pseudo-glyphs (N=19; r=+2.72; p=0.007). Although the difference between observed and expected frequencies of legitimate glyphs (N=55; r=+1.54; p=0.124) and pseudo-glyphs (N=21; r=-1.84; p=0.066) on vessels with scenes of multiple-character interaction cannot be considered large, this patterning is interesting in light of the proposed association

between real glyphs and iconic complexity. The absence of multiple characters and attendant SNT on pseudo-glyph decorated vessel correlates with the lower than expected frequency in the label position (see above). Applying the chi-square test to this data (Table 17) confirms the statistical significance of this distribution ($\chi 2=20.278$; df=3; p-value>0.001).

As a further measure of effort and labor costs, I counted the number of pigments used to form the blocks of hieroglyphic text or pseudo-glyphs. Rather than examining the number of pigments employed to decorate the vessel as a whole, this research focused on the effort and resources expended in the creation of the individual blocks of real or pseudo-glyphs. The application of more than a single pigment in a block required increased effort and attention to detail. The addition of multiple pigments reflected greater resource use and labor costs in term of the acquisition and transport of raw materials. I posited that if greater value were attributed to real glyphs, their decoration would warrant the greater expense of labor and material. Legitimate glyph blocks should be embellished with multiple pigments, while pseudo-glyph elements should employ fewer colors.

Table 18 compares the number of pigments used to produce blocks of real glyphs (N=95) and pseudo-glyphs (N=108). Vessels with carved glyph or pseudo-glyph blocks are not included in this sample. While none of the standardized residuals express a large disparity from that expected, it should be noted that none of the pseudo-glyphs consist of more than three colors. Six vessels display real glyphs composed of more than four colors. All six of these vessels are decorated with complex scenes of multiple interacting figures. Glyph blocks with more than four

pigments include rare, presumably expensive materials. For example, the text of Culbert 1993:Figure 68a (see digital Appendix 5) employs a yellow pigment and K8008 displays hieroglyphs highlighted in blue. By contrast, the majority of pseudoglyphs are restricted to blocks of two colors: a black outline highlighted with orange or red. None of the pseudo-glyph decorated vessels included yellow or blue blocks. Of the 10 pseudo-glyphs consisting of more than three colors, only two vases (Tikal K8000 and Culbert 1993:72b) displayed complex multi-character icons.

To parse this analysis even finer, I conduced a series of tests to compare the distribution of motifs on bowls, plates and vases decorated with real text and pseudo-glyphs. Each vessel shape was identified independently.

Although the distribution of glyphs and pseudo-glyphs on bowls with various decorative motifs did not reach the arbitrary threshold of 0.05 statistical significance, Table 19 indicates that patterns were nonetheless discernable in the sample. For example, the majority of bowls with interacting characters display real glyphs. Conversely, the majority of the pseudo-glyph decorated bowls lack surface imagery, with none of the pseudo-glyph bearing bowls carrying images of either interacting characters or disembodied heads.

Table 20 reveals no large disparity between the distribution of plates with legitimate text or pseudo-glyphs. Table 21 displays a similar lack of strong patterning in the distribution patterns of surface motif and the presence of real glyphs or pseudo-glyphs on vases.

As summarized in Table 22, although not always statistically significant at 0.05, the differences that exist between the corpus of Guatemalan ceramics with

pseudo-glyphs and a sample of 100 vessels with conventional Maya hieroglyphs provides suggestions about the roles and value of pseudo-glyphs in Maya society. Pseudo-glyphs appear more frequently on plain, undecorated bowls than on vases. The median size of bowls bearing pseudo-glyphs is significantly smaller than that of bowls carrying real glyphs. Recalling that many bowls with hieroglyphic text specify the vessel contents as corn, and assuming that the smaller bowls would restrict communal use, it seems likely that these small bowls, decorated with pseudo-glyphs, were used for the individual consumption of corn-based foods. By contrast, real glyphs more frequently adorn vases which, as described in the Dedicatory Formula, often contained highly-valued *cacao*. Vases are more frequently decorated with complex scenes of multiple-character interaction that require greater esoteric knowledge and expertise by artists. Unlike bowls, the presence of either legitimate text or pseudo-glyphs seems statistically unrelated to the median size of vases and plates.

In terms of resources employed in their manufacture, the majority of pseudoglyphs consist of two pigments. Only legitimate hieroglyphics are created using more than three pigments. Statistical analyses of these two samples indicates that greater material resources, labor investment, artistic expertise and knowledge of esoteric imagery are displayed on pottery that includes writing.

Pseudo-glyph Category Analysis

As discussed earlier, the morphology and organization of pseudo-glyphs ranges from plain ovoid forms to legitimate hieroglyphics combined to create pseudo-

texts. My survey of the phrase-like sequences of pseudo-glyphs painted and carved on pottery led to the identification of three major categories. Vessels with Category 1 pseudo-glyphs display phrases composed only of elements from the Maya Pseudo-glyph Catalogue. Category 2 represents a mixed system that combines pseudo-glyph elements and legitimate hieroglyph signs in the same phrase. Category 3 consists of Maya logographs and syllabic signs with known values that do not form coherent phrases and have limited communicative value. Unlike the previous two categories, Category 3 pseudo-glyphs do not include elements from the Maya Pseudo-glyph Catalogue.

Examination of the 121 sherds and whole vessels decorated with pseudo-glyphs revealed that only Tikal vase K7999 exhibited both Category 3 pseudo-glyphs and legitimate hieroglyphs, the former encircling the rim while the latter appeared in the label location. On all other examples, pseudo-glyphs conformed to a single category, even when placed in multiple locations on a single vessel. For example, if pseudo-glyph Category 2 were identified in the encircling location, Category 2 would be found in other locations on the vessel as well.

Based on the statistical comparison of glyphs and pseudo-glyphs presented above, I posited that Category 3, consisting of legitimate signs arranged in an unconventional manner, should match the patterns identified for ceramics decorated with hieroglyphic writing. To assess the accuracy of this assumption, I conducted the same series of statistical tests to examine the relationship between each pseudo-glyph category, vessel shape, decorative motifs and number of pigments. I shall discuss the

results of the statistical tests before concluding with an analysis that combines the findings.

If, as suggested above, pseudo-glyph decorated bowls were used for the quotidian consumption of less prestigious corn-based foods, their exterior surfaces would more likely be decorated with Category 1 pseudo-glyphs that bear the least resemblance to conventional hieroglyphs. By contrast, since real glyphs appear most often on vases that were described as containing *cacao*, Category 3 should decorate vases more frequently. Data analysis began with a standardized residuals test of the corpus of vessels embellished with pseudo-glyphs to identify distribution patterns. Specialized vessel forms, like dishes, drums and jars were removed during this portion of analysis, reducing the sample to 116 ceramics.

Comparison of the three pseudo-glyph Categories in terms of vessel shape indicates no large or statistically significant disparity between the observed frequency and the expected distribution (Table 23). When compared with the total sample of pseudo-glyph decorated pottery, Category 1 pseudo-glyphs decorate the surface of bowls most frequently (N=30; r=+0.93; p=0.176). The majority of plates display Category 2 pseudo-glyphs (N=10; r=+0.97; p=0.166). However, as shown by chi-square analysis in Table 24, little statistical difference marks relationship between vessels shape and a particular pseudo-glyphs category ($\chi^2=4.065$, df=4, p-value = 0.397).

If the hierarchy of surface decoration proposed for real glyphs applies to vessels bearing pseudo-glyphs, then (1) Category 3 pseudo-glyphs should appear on

vessels with the most complex scenes of multiple interacting characters, (2) ceramics embellished with disembodied heads, animals and simple decorative motifs should carry Category 2 pseudo-glyphs, and (3) Category 1 should appear on plain, slipped vessels. Table 25 illustrates that my hypothesis regarding surface motif and pseudo-glyph category cannot be proven by the data. Based on the distribution of this sample, the strongest negative correlation is between Category 1 pseudo-glyphs and scenes of multiple-character interaction (N=4; r=-1.10; p=0.271). Category 2 pseudo-glyphs occur most often on vessels decorated with scenes of interacting humans or deities (N=13; r=+1.21; p=0.226). Although I had anticipated that the presence of Category 3 would correlate positively with more complex icons, analysis reveals that Category 3 pseudo-glyphs appear almost randomly distributed regardless of decorative motif. Perusal of the entire table indicates no strong pattern between pseudo-glyph category and surface motif.

Lastly, I tested whether any relationship existed between the various pseudo-glyph Categories and the number of pigments used in their production. Again, only the number of colors used to create the pseudo-glyphs and not the surface decoration was examined. Based on the assumption that real glyphs would employ more pigments than Category 1 elements, I anticipated that the Category 3 pseudo-glyphs would be executed more frequently with three pigments and that Category 1 would employ a single pigment. Table 26 indicates the strongest pattern displayed by the data is overrepresentation of Category 2 pseudo-glyphs employing a single pigment (N=18; r=+1.96; p=0.05) and underrepresentation of single-pigment Category 3

glyphs (N=1; r=-1.93; p=0.054). Contrary to my expectations, Category 1 pseudo-glyphs were almost randomly distributed.

I then sought to identify differences among the three Categories of pseudoglyphs in terms of vessel shape, artistic motifs and number of pigments. To
summarize the data, Table 27 presents the observed frequencies for each category
based on vessel shape. Table 28 reviews the observed frequencies of the pseudoglyph category and number of pigments for each vessel shape. Because so many of
the cells lacked data, no statistical tests were conducted at this level of analysis. The
"unknown" column represents rim sherds from which surface decoration could not be
established.

The limited size of each category provides a challenge to interpretation of these statistical tests. Most obvious is the absence of complex imagery on the surfaces of bowls. Regardless of category, a simple pattern or plain surface covered the walls of all bowls. The majority of bowls are decorated with Category 1 pseudoglyphs composed of two colors (Table 29; N=21; r=+0.55; p=0.064) that display decorative motifs (see Table 27; N=4). The expected pattern, in which Category 1 elements would consist of a single color and adorn plain, slipped bowls was not confirmed by the data. The decision to devote additional labor and material to the painting or carving of the vessel walls and to filling the elements with a second (or even third) pigment distinguishes the Category 1 pseudo-glyphs on bowls as more than simple decoration.

None of the plates bear pseudo-glyphs composed of more than two pigments. The majority of plates are adorned with Category 2 pseudo-glyphs executed in a single color and accompanied by a scene of deity or human interaction involving multiple individuals. The combination of some recognizable hieroglyphic signs and complex icons may have been designed to compensate for the fact that Category 2 pseudo-glyphs do not form words or phrases.

To the extent that pottery shape represents a hierarchy based on vessel contents, the application of Category 1 pseudo-glyphs primarily on bowls would affirm the earlier interpretation that pseudo-glyphs were viewed as less prestigious than hieroglyphic text. So too, the dominance of Category 3 glyphs on vases, assumed to contain *cacao*, reinforces the view that real glyphs, regardless of communicative value, occupied a more privileged position than pseudo-glyphic elements. Future research with a larger sample of vessels adorned with pseudo-glyphs may reveal whether the separate Categories associate with differences in manufacturing costs. However, labor costs, as indicated by the application of more complex artistic motifs and the number of pigments used to produce the blocks, show a more direct relationship to vessel shape than to pseudo-glyph category.

Temporal and Spatial Context

This study emphasizes the examination of ceramics recovered as part of government approved archaeological projects in order to explore the relationship between artifacts and actors through an analysis of context. As stated earlier, a number of cultural and non-cultural processes affect our interpretations about the

archaeological record. However, I believe that only by establishing the archaeological deposition of ceramics decorated with pseudo-glyphs can inferences be made about where the pottery was used and by whom (Hodder 1991:4). While the previous chapter reviewed the specific location from which provenienced vessels were recovered, the next portion of my analysis examines the data more generally before returning to the specific contexts from which pseudo-glyphs derive.

Dating Pseudo-glyph Bearing Pottery

Although considerable academic ink already has been devoted to establishing the significance of type:variety attributions to ceramics analysis (including Ball 1979:828, 1994:362-363; Gifford 1960; Smith 1979; Smith, et al. 1960), survey of the several chronological schemes developed for the various ceramic types allows me to roughly date the manufacture of 101 pseudo-glyph decorated vessels to between A.D. 550-850, the Late Classic Period. During these 300 years, artifacts and monuments inscribed with a hieroglyphic writing system recording Classic Ch'oltian speech appear throughout the Southern Maya Lowlands. As noted by Stuart (1995:79), Classic Period Maya hieroglyphic texts display extraordinary uniformity in the repertoire of signs used by scribes throughout the region. Indeed, it is this universality that has facilitated decipherment of legitimate Maya hieroglyphics and marked pseudo-glyphs as qualitatively different.

Analysis of burials accompanied by pseudo-glyph bearing vessels serve to define more narrowly the time during which pseudo-glyphs appear. Table 30 presents a summary of dated burials that indicates pseudo-glyph decorated ceramics

were placed in tombs from approximately A.D. 662 to 781. Unfortunately, the sample of vessels recovered from burials with secure dates is so small as to preclude making assessments as to whether the frequency of pseudo-glyphs changed during that period of time.

As described in the previous chapter, a variety of techniques were employed to establish this chronology, including stratigraphy that associated floors and construction episodes with dated monuments and C₁₄ tests. The decipherment of associated stelae, lintels and wall panels that mark the presence of a burial, name the occupant and record the date of death also aided in identifying the interred individual (Coggins 1975, Houston and Mathews 1985:8, Proskouriakoff 1960). The identity of the deceased can also occasionally be inferred from inscriptions placed on nonceramic artifacts that accompany the burial. As noted by David Stuart (2005a), the appellatives inscribed on ceramic vessels found in tombs never name the occupants; these vessels are almost always imports from another polity or gifts from another individual. By contrast, personal objects like jade or carved trophy bones do appear to carry the name of the interred (García Moll 2004:112-113, Plate 55, Jones and Satterthwaite 1982). To assess what role pseudo-glyph decorated ceramics may have played during this period involves establishing the archaeological context whence they derive.

Archaeological Context Within the Site

As illustrated by Table 31, ceramics with pseudo-glyphs were excavated from a variety of locations, with burials (N=54) contributing the largest portion of the

sample⁸. After applying a chi-square test (Table 32) to establish that archaeological provenience of this sample was not randomly distributed ($\chi 2 = 29.56$; df = 2; p-value < 0.001), I performed a standardized residual test to identify which cells departed from the expected frequency (Table 33). Unique shapes (i.e., two drums, two jar fragments found in fill, and a dish from Tikal Burial 24) were not included in this analysis. Based on this sample, pseudo-glyph bearing plates (N=15; r=+2.15) and vases (N=25; r=+1.97) appear more frequently in burials than bowls (N=13; r = -2.75). By comparison, the fill, middens, caches and other locations throughout the sites are overrepresented by bowls bearing pseudo-glyphs (N=47; r=+2.52). Of the total 63 pieces of pottery not recovered from burials, 57 are sherds and likely represent broken vessels discarded into middens and later used as fill (although I could not confirm this through the site reports). Unfortunately, I have no information with which to compare the deposition patterns of sherds with real glyphs or pseudoglyphs.

To assess whether vessels decorated with pseudo-glyphs displayed the same surface decoration regardless of deposition context, I counted the number of bowls, plates and vases from burials as compared with the rest of the site. Only pottery for

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Only the Proyecto Arqueológico Piedras Negras provided samples of all the pseudo-glyph decorated sherds recovered during their fieldwork. I believe that a comprehensive collection of slipped ceramics from throughout the Maya region would reveal that the majority of vessels with pseudo-glyphs were excavated from middens. Fry (1979:496) reports that "serving vessels [bowls, plates and vases]... at Tikal are the most common class of vessels in most middens." However, analysis of these additional ceramics would have no effect on the distribution pattern of vessels from within burials.

which the surface decoration could be established is included in Table 34; this results in a much smaller sample than the entire corpus of pseudo-glyph decorated vessels. Although sample size prohibited statistical comparison between the motifs, visual inspection of the observed frequency indicates the majority of bowls with pseudo-glyphs (N=11) bore no decoration. By contrast, the plates (N=14) and vases (N=24) recovered from burials displayed more complex artistic motifs than the vessels recovered from elsewhere in the site.

I had hoped to identify whether pseudo-glyphs appear with equal frequency in the burials of both sexes; however, only one burial was positively identified as that of a woman. Nor were pseudo-glyph decorated vessels excavated from activity areas that could clearly be defined as male or female controlled. Middens, even when containing detritus from cooking, provide no information about the sex or social standing of the individual who discarded a piece of pottery. As succinctly stated by (Inomata, et al. 2002:306), middens reflect "diverse practices by various individuals at different moments."

Having earlier established that real glyphs correlated with ceramics displaying greater labor and resource costs, I had hoped to determine whether the more elite tombs were stocked primarily with vessels bearing legitimate text, while lower status burials contained pottery with pseudo-glyphs. As reviewed in Chapter 4, pseudo-glyph decorated ceramics appear in burials ranging from the most simple interment in construction fill to the elaborate tomb and temple-pyramid of Tikal Burial 116, *Ajaw Jasaw Chan K'awiil*. However, the nature and composition of this sample precluded this analysis from providing strong patterns.

I posited that if vessels with hieroglyphic text were more valued than pottery with pseudo-glyphs, and if the most elite members of society were interred with the richest grave goods, then the majority of vessels with real glyphs would be found in burials placed in the site center. This line of inquiry assumes all sites to be geographically organized in a concentric pattern of decreasing social power and wealth depending on distance from the site core or Acropolis. The model relies on Haviland's research that correlated the quantity of grave goods, construction costs and physical stature of the individuals interred in the Tikal site core with the highestranking members of Tikal society (Haviland 1997:2, Haviland and Moholy-Nagy 1992:12). It should be noted that consensus regarding the universal applicability of this concentric settlement pattern remains elusive (Arnold and Ford 1980, Chase and Chase 1992). Not all elites were buried in the site center, nor were elites the only people buried in the center of the site (Becker 1971, 1992, 1999). Further, extensive research over the last 50 years confirms that not all Maya sites possessed equal wealth or power, and that the fortunes of a site waxed and waned from one generation to the next.

However, without the resources to address these issues in this dissertation, I proceeded by atemporally identifying the 26 burials in terms of their geographic location (Table 35). The following italicized terms define the three archaeological zones. The *Acropolis*, identified by a concentration of large buildings (often with cutstone architecture and hieroglyphic monuments), served as the administrative-residential center of the site. Members of the royal court lived, conducted affairs of state and were buried within the Acropolis. Surrounding the Acropolis are plaza

groups in which were buried elite, though not necessarily royal, inhabitants (Puleston 1983:24-25). For purposes of my analysis, I identified these burials with the term +*Residential*. Plaza compounds found at some distance from the acropolis are described as –*Residential* and were assumed to form the least elite, yet still urban, dwellings. Table 36 records the observed frequencies of vessels with glyphs, pseudoglyphs and no text whatsoever that were recovered from burials in the various zones.

Table 37 combines all vessel shapes with real glyphs into one group, and pseudo-glyph decorated vessels into another, in order to compare the distribution of ceramics from the three locations. Due to the lack of comparably rich tombs, Tikal Burial 116 and Tikal Burial 196 were excluded from this table. Additionally, Tikal Acropolis Burial 200/Problematic Deposit 134 was removed because the nature of the original interment could not be established. Finally, those vessels without inscription were removed from the analysis.

As shown in Table 37, burials in the Acropolis are overrepresented by vessels with real glyphs (N=6; r=+0.87), while both +Residential and –Residential zone burials show a slight overrepresentation in vessels with pseudo-glyphs. When compared with the other two zones, +Residential zone burials contained the fewest number of vessels with real glyphs (N=1; r=-0.76).

As noted above, a variety of factors flaw the design and challenge the interpretation of this data. Small sample size prohibits rigorous testing of the pseudoglyph decorated ceramics in burials. Over time, no doubt, the excavation of additional Maya graves will provide more data with which to compare the various

zones or to compare burials based on other criteria. However, the most significant factor influencing this analysis is the paucity of vessels recovered from each tomb. After excluding the two largest Tikal tombs and combining all sites, burials in the Acropolis zone contain an average of 7.4 vessels (including real glyphs, pseudoglyphs and undecorated ceramics), burials in the +Residential zone contain 3.6 vessels, and in the -Residential zone, the average is 3.0 vessels per burial. At Tikal, archaeologist T. Patrick Culbert (2005:22-23) noted a strong preference for three ceramics per grave and "an obvious avoidance of offering two or four vessels." Culbert further commented that only one of the burials excavated by the University of Pennsylvania contained a utilitarian vessel. The underrepresentation of pottery with real glyphs, in favor of pseudo-glyph decorated ceramics, in Residential burials would lend support to the argument that possession of artifacts with hieroglyphic text represented an elite privilege. However, the presence of any pseudo-glyph decorated pottery in the Acropolis burials suggests that social factors beyond production costs affect decisions regarding which vessels to include as burial offerings.

Archeological Context Within the Burial

In the previous chapter, I reviewed the provenience of pottery from 13 burials containing pseudo-glyph decorated vessels. As seen in Figures 248a-c, comparison of these interments did not reveal discernable patterns in terms of the placement of pseudo-glyph decorated vessels within the burial. Vessels were not segregated based on the criteria of legitimate writing or pseudo-glyphs. Pots with pseudo-glyphs displayed no pattern in terms of being consistently placed at the head, foot or sides of

the body. Vessels with real glyphs were not placed in closer proximity to the deceased nor were pseudo-glyphs restricted from contact with the body. As shown by Altar de Sacrificios Burial 128, a plate with pseudo-glyphs and a carefully drilled hole was used to cover the face of the deceased. Pseudo-glyph decorated ceramics were not oriented in relation to the cardinal directions; e.g., all pseudo-glyph decorated vessels were not placed at the north or south end of the burial. In sum, nothing in terms of spatial organization marked the vessels decorated with pseudo-glyphs as different from the ceramics inscribed with hieroglyphic text.

Statistical analysis that combines the data from all burials indicates that undecorated vessels form the largest portion of vessels interred (Table 38). The identification of such a quantity of undecorated and pseudo-glyph bearing pottery in burials, combined with the lack of discrimination in terms of vessel placement, suggests that labor and materials costs were not the primary criteria determining which vessels should be included as grave goods. Instead, I propose that social factors, not revealed through statistical analysis of vessel shape, size, surface decoration or the number of pigments employed in their manufacture, influenced the decision to include pottery with pseudo-glyphs within Late Classic Period elite burials.

The Unseen Social Dynamic

The majority of pseudo-glyphs were painted on small bowls, presumably used for the individual consumption of corn-based comestibles. When broken, these pseudo-glyph bearing bowls were tossed into middens and later used as construction

fill. However, some vases, plates and even a few bowls embellished with pseudo-glyphs were deposited in the richest of Maya tombs — along with text-bearing artifacts of jade, trophies of war and inscribed polychrome ceramics. All three pseudo-glyph Categories were included as grave offerings and no deposition pattern marked pseudo-glyphs as less important or less valued than pottery with hieroglyphs. To address the social factors that may have influenced the selection of grave goods, I turn to iconographic evidence from beyond the Southern Maya Lowlands.

Based on epigraphic and archaeological evidence, the period during which pseudo-glyph decorated vessels were included in burials (ca. A.D. 662-781) represents a time of dynamic political change throughout the Southern Maya Lowlands. For the first time in their history, many subsidiary sites erected hieroglyphic monuments (e.g., Cackler 1997, Marcus 1976, e.g., Mathews 1988). As articulated by Martin and Grube (Grube and Martin 2000, Martin and Grube 1995, 2000:21), the glyphic inscriptions of this period chronicled and codified a shifting social landscape of elite alliance, diplomacy, marriage and warfare. In addition to the rapid changes of political and economic fortune during the Late Classic Period, the physical landscape of many Maya cities underwent radical transformation with the addition and modification of great pyramids, temples and residential compounds (e.g., Coe 1990, Culbert 1991, Fash 1994, Golden and Borgstede 2004, Sabloff and Henderson 1993). Polities like that of Dos Pilas were established in sparsely populated areas and promptly initiated construction of monumental architecture (e.g., Demarest 1997, 2006, Houston 1993). During this same period, the hieroglyphic record articulated new elite titles that emphasized the subservience of certain

individuals and their communities to overlords in larger, more powerful polities (Martin 1996, Martin and Grube 1995, Miller and Martin 2004:27, Stuart 1995). Interestingly, the only indication of domination in the records of these political "superpowers" is the addition of the epithet *k'ul ajaw* ("holy lord") to rulers' titles. A checklist of the sites or individuals slated to render tribute did not form part of the royal rhetoric known from hieroglyphic inscription (Houston and Stuart 1996:295, Martin and Grube 2000).

In recent years, a number of Mayanists have explored the way polychrome ceramics were used by Classic Period Maya rulers as a form of social currency to reinforce relationships (e.g., Bill 1997, Foias 1996, 2002, 2004, LeCount 1996, 1999, Reents-Budet 1994). The majority of these studies have emphasized redistribution from the perspective of the rulers "gifting decorated pottery to commoners to build vertical alliances and symbolize shared power" (LeCount 1999:254). However, the presence of pseudo-glyph decorated pottery in the vaulted tombs of Maya rulers, where one would expect to find the most sumptuous grave goods, suggests that polychrome ceramics may have passed from the less elite upwards, as well as sideways between members of society. As noted by Mauss (1990:13), the tradition of gifting imposes two obligations: "on the one hand, to give presents, and on the other, to receive them."

Unfortunately, little is known about the Maya script community — the "social group committed to learning, using and transmitting the writing system" (Houston 2004a:235). The decipherment of artists' names and elite titles in the Dedicatory Formula has reinforced the view that the painting of polychrome ceramics was

limited to members of the royal household or specialists attached thereto (Ball 1993:264-265, Closs 1992). As noted by Rice (1987a:527) specialized manufacture of polychrome pottery among the lowland Maya is simply assumed on the basis of the high level of painting skill involved. Although much has been inferred, nothing has been archeologically established about the schools in which these scribes were taught, the nature of their lessons or how the writing system was disseminated from one Maya polity to the next (Coe and Kerr 1997, Davoust 1994, Johnston 2001).

Few examples of ceramic workshops have been identified in the archaeological record. Inomata (1995:678-679) recovered scribal implements (as well as text-bearing shells and two human skulls with carved hieroglyphic inscriptions) from one of the Late Classic buildings in the site core of Aguateca, part of the Petexbatún hegemony. At Tikal, Becker (1973:399, 2003:97-98) suggested that the quantity of molds and mold-made ceramics, as well as "decorated vessels, including three with miscellaneous texts" recovered from middens in Group 4H-1, indicated the presence of a pottery workshop. Fry (1980:16), using multidimensional scaling of paste attributes and firing characteristics, suggested that although three to five loci outside the site core of Tikal were producing polychrome vessels, between one-quarter to one-third of the polychrome pottery recovered from the Tikal periphery may have been produced outside of the Tikal region. As described in Chapter 4, Instrumental Neutron Activation data and visual inspection indicated that as many as 15 of the total 54 pseudo-glyph embellished ceramics recovered from burials had been imported. One model to explain the presence of these pseudo-glyphic imports may be revealed through excavations conducted in central western Belize.

In 1988, as part of their excavations at Buenavista del Cayo, Jennifer Taschek and Joseph Ball excavated the tomb of a young, elite male that contained a polychrome vase with hieroglyphic text (Ball and Taschek 2001, Taschek and Ball 1992). The surface of vase K4464 was decorated with a beautifully-painted scene of two individuals identified as the "Holmul Dancer," representations of the Young Corn God engaged in ritual dance. Encircling the rim of this vessel is a Dedicatory Formula that records the owner as K'ak Tiliw Chan Chaak, who ruled the site of Naranjo from A.D. 693-719 (Houston, et al. 1992:504). Instrumental neutron activation analysis confirmed that the clays used to manufacture K4464 matched the majority of ceramics found at Naranjo, in modern-day Guatemala (Figure 249). Compared to Buenavista, Naranjo is a much larger, politically-dominant site with an epigraphic history of bellicose encounters with a number of other Maya cities (Houston 1983a, Martin and Grube 2000:84). The gifting of vase K4464, embellished with the Naranjo ruler's name, may have represented an attempt to ensure the political fealty of a needed ally. As articulated by Taschek and Ball (1992:494), the presence of this vase in Buenavista Burial 88B-11,

...could well reflect any one of a number of processes ranging from 'purchase' or trade-acquisition by its owner to funerary gifting or the socioceremonial conferring or exchange of gifts by persons of comparable or unequal social or political rank during their lifetimes... we suggest the vessel represented both a prized possession and an important status-symbol very likely acquired at a formal ceremonial affair-of-state... we regard it as probable that the vessel had been presented not to the young occupant of the Burial 88B-11 crypt, but to a royal parent believed interred deep within the massive bulk of Structure Bv-3 across the plaza to the east.

If the interred vessel indeed had been re-gifted by the Buenavista paramount to a child, the chain of prestation would stretch even farther from the original donor. At

minimum, the excavation of this vessel at Buenavista illustrates the great geographic and social distances over which political alliances could extend⁹. However, more important for this study is the effect that K4464 had on the production of a new ceramic style at Buenavista.

Further excavations by Taschek and Ball, in an elite residential compound located near the ceremonial center of the site, identified rooms that may have served as a pottery workshop (Ball 1993, Ball and Taschek 1991, 2001). Broken vessels excavated from the midden outside the compound displayed a local variation of the Holmul Dancer theme with "fire clouds and other indications of unsuccessful production, which resulted in their being thrown out before they left the workshop" (Reents-Budet 1994:309, Figure 7.12). However, instead of the well-executed hieroglyphs of K4466, these Buenavista ceramics were endowed with pseudo-glyphs and rendered in a style indicating little skill in reproducing the motif (Figure 250). Identified by ceramicist Joseph Ball as Cabrito Cream-Polychrome:Guajiro variety (Ball 1993:250), additional examples of this type:variety subsequently were identified during excavations at Cahal Pech and Yaxox, sites apparently subservient to Buenavista (Ball and Taschek 2004:199-204). The introduction of vase K4464 to Buenavista from Naranjo stimulated production of pottery that was either traded by

The analysis of vase K4464 by Houston, et al. (1992) illustrates additional ceramics excavated from Buenavista Special Deposit 2. Visual inspection of the ceramic style and text encircling the rim suggests that these sherds were manufactured somewhere in the Nakbé-Calakmul region. Since Naranjo declares its allegiance to the "superpower" Calakmul during this period (Martin 1993) these vessels may reveal further examples of re-gifting or reflect other webs of political alliance.

Buenavista elites to others lower on the social scale or else copied by potters at third-tier or even fourth-tier sites. My survey of the published Buenavista and Cahal Pech ceramics failed to identify any pottery carrying legitimate hieroglyphic text (Ball and Taschek 1996).

What remains unknown is whether the Buenavista elites in turn presented their ceramics, adorned with pseudo-glyphs, to their overlords in Naranjo.

Unfortunately, little scientific excavation has been conducted at Naranjo; instead, the site has been looted so extensively that it was recently entered in the World Monuments Fund list of "100 Most Endangered Sites 2006." (Skidmore 2005).

However, if burials at Naranjo contained Buenavista-style ceramics, their presence may indicate the reciprocal gifting by the less elite. Certainly, the payment of tribute (recorded as *yu bute*), in the form of ceramics filled with food, appears frequently in scenes painted on pottery (see K1728 and K2914 in legitimate glyph sample). However, unless epigraphically recorded, little would distinguish the difference between gifts and tribute in the archaeological record. Although the pottery exchanged may not have represented great value, "the route of exchange itself was of equal or greater value, as it marked important political relationships" (Potter and King 1995:29).

Coggins (1975:539-540), Culbert (2005:23) and Adams (1971:76-78)¹⁰ have suggested that some of the burial ceramics represent gifts made as a sign of respect for the deceased at the time of burial. In Tikal Burial 116, the stylistic variation displayed on multiple vases decorated with the same motif has been interpreted as the work of multiple elite artists expressing a single theme. Coggins (1975:545) asserts that greenware pottery was "set up as blanks with framing lines dictating the composition, which was to be painted by different artists." Culbert wryly notes (2005:23), that "none of the scenes could be called great masterpieces... the painting was not done by highly skilled artisans." The similarity of motif and variation in execution supports the suggestion that all derived from a single model, perhaps cylinder vase K7997 (see Figures 150-152).

Coggins (1975:564) suggests that the increasing abstraction of *K'awiil* on the set of vessels excavated from Tikal Burial 196 also reflects the work of multiple potters with various levels of skill. It may be significant to note that, as the image of *K'awiil* devolves to only a series of lines, efforts at producing text or even pseudoglyphs are abandoned. To my knowledge, no INAA has been conducted on the vessels recovered from Tikal burials. Rigorous testing of the chemical composition may aid in refining our understanding of whence vessels with pseudo-glyphs derived.

Adams' (1971:68-79) argument that the "Altar Vase" (K30088) had been imported to Altar de Sacrificios is clearly true. However, epigraphic decipherment of the SNT identifies the figures shown on K30088 as way-ob, supernatural characters associated with various polities, rather than individuals participating in the funerary rites (Grube and Nahm 1994; Calvin 1994, 1997).

As illustrated in the previous chapter, pseudo-glyphs were not restricted to ceramic contexts. Houston (1994:39) notes that pseudo-glyphs comprise approximately five percent of the graffiti incised into stucco walls at Tikal. Additional examples of pseudo-glyph graffiti appear on the fired bricks of Comalcalco (Andrews, et al. 1989, Steede and Quevedo B. 1984) and the walls of Jolja Cave (Bassie, et al. 2000:6-7, Figures 5, 6). It has been suggested that the Tikal graffiti may represent the work of individuals engaged in trance (Haviland and de Laguna Haviland 1995) or even that of children (S.R. Hutson, personal communication 2006). Such explanations could equally apply to the presence of pseudo-glyphs on Classic Period pottery, with their final deposition in tombs representing the desire to hoard childhood memories or episodes of communication with the supernatural. As shown on the faces of sculpture that adorned the exterior façade of Seibal Structure A-3, pseudo-glyphs also appear in public space. At Seibal the pseudo-glyphs may replicate tattooing or serve to "identify" particular individuals. The presence of pseudo-glyphs in these contexts is irrefutable; however, the question of why they exist at all leads to questions related to the nature of literacy during the Late Classic Period, a question may be partially answered through iconography.

Scholars of literacy focus on two related but independent domains, reading and writing (Baines 1989, Harris 1990, Stoddart and Whitley 1988). Reading represents the "response to an encoded message" that can extend from the barest perception of meaning or sound to the facility to interpret and analyze esoteric texts. The skill of writing ("production") ranges from the ability merely to form or copy symbols to the autonomous creation of beautifully inscribed narrative or poetry

(Houston 1994:28). The degree of literacy along either of these dimensions varies within and between societies and even during the lifetime of an individual (Halverson 1992). However, to paraphrase from White's (1992:540) study of representation, it is the *material forms* of literacy that we monitor in the archaeological record; individual literacy or the capacity for it only can be inferred.

The ceramics included in burials seem to serve the same function regardless of whether real glyphs or pseudo-glyphs adorn their surface. In terms of pottery shape, placement on the vessel, artistic motifs and the use of multiple pigments, vessels with pseudo-glyphs conform to the standards displayed by ceramics with legitimate glyphs. The most significant criterion that differentiates glyphs from pseudo-glyphs is the message conveyed by the hieroglyphic text. I believe that the Dedicatory Formula itself may provide a suggestion as to the why Late Classic artists painting pseudo-glyphs did not copy glyphs from public monuments or break the conventions established for ceramic decoration.

The first two glyph blocks of the Dedicatory Formula focus attention (*alay*, "Here") and record the presentation or ritual activation (*t'abay* "ascends" or "goes up") of the vessel (Boot 2005, Houston 1997:299, D. S. Stuart, et al. 1999:II-30). The text affirms a particular type of transformation from a ceramic receptacle into an actor that participates in ritual (Stuart 2005a:123). The artist who enlivens these ceramics through inscription is identified as *itz'at* or *miats*, a term used to describe "wise man," "sorcerer" or "magician" (Grube and Nahm 1990:19, Tate 1992:13-14).

Iconographic analysis supports the interpretation that, for the Classic Period Maya, writing was a form of sorcery sanctioned by supernatural agents — in

particular the ancestors. One of the carved bones excavated from Tikal Burial 116 (see Figure 251; MT53, University of Pennsylvania Museum Tikal Project, Negative 63-004-361), depicts the hand of the artist emerging from the mouth of a bone serpent (glyphically identified as *chapaht*, meaning "centipede") (Coe 1977:332, Herring 2005:96, 106-107). This same supernatural creature adorns the façade of Copan Structure 9N-82, this time disgorging a scribe who holds his paint pot in one hand and stylus in the other (Figure 252). Inside this building lies a carved bench that epigraphically identifies the structure as belonging to the ruler's scribe (Coe and Kerr 1997:100, Fash 1989:69-70). As shown in Figure 253, the mythical centipede forms a conduit through which the living communicate with powerful ancestors, who control the powers of nature and fortunes of war (Freidel, et al. 1993, Proskouriakoff 1950). "The calligrapher's brushstroke, then, figured the vital presence of ancestors" (Herring 2005:113). Additionally, the hieroglyphs themselves possess an animate nature, as seen by the "full figure" Maya glyphs that physically and metaphorically carry logographic or phonetic meaning (Figure 254).

It is possible that the artists at Buenavista or elsewhere, who placed pseudoglyphs on pottery instead of inscribing hieroglyphic texts, lacked the training or authority to permit them to invoke the supernatural power of real writing. Without formalized training, ceramic artists either dared not or might not have been permitted to invoke this particular power. During the Classic Period, the rapid elevation of Maya rural communities to the status of cities with title-bearing elites may have exceeded the number of artists with sufficient expertise to inscribe ceramic texts. Steve Houston (personal communication, 2005) has suggested that pseudo-glyphs represent a simulacrum or simulated object. The term simulacrum derives from Plato's condemnation of artists who altered the proportions of colossal statues to accommodate the perspective of the viewer rather than creating a replica of the natural form. As noted by Camille (2003:36), "from the beginning, then, the simulacrum involved not just images makers but also their viewers." Identifying pseudo-glyphs as simulacra emphasizes that although the Classic Period artists may have had access to hieroglyphics that they could have replicated, their production of pseudo-glyphs reflected one or more social decisions. The creation and gifting of visually similar vessels bearing pseudo-glyphs and iconic motifs would signal access to labor and resources, as well as knowledge about esoteric rituals and paraphernalia, to those of equal or lower status. At the same time, the presentation of these vessels to dominant lords emphasized continued subservience and loyalty.

The question as to whether ceramics bearing pseudo-glyphs were endowed with the same type and quantity of metaphysical animation as pottery embellished with the Dedicatory Formula seems impossible to answer from the existing archaeological record. That the Dedicatory Formula appears most frequently on plates and vases displaying greater artistic expertise, using more resources, and containing more prestigious contents (like *cacao* or venison tamales), would suggest that the Formula identified certain vessels as endowed with a greater supernatural essence or ritual power than those undecorated or bearing pseudo-glyphs. However, ethnographic analogy (e.g., McGee 1990, Tozzer 1941, Vogt 1969), as well as epigraphic and iconic studies (e.g., Freidel, *et al.* 1993, Miller and Martin 2004),

illustrate that the entire Maya world was composed of animated objects, both natural and human-made. I question whether it will be possible to establish if the application of pseudo-glyphs was seen as spiritually equivalent to the inscription of the Dedicatory Formula for members of Classic Period Maya society.

Surprisingly, a survey of the epigraphic literature reveals few cross-cultural examples with which to compare the presence and distribution of Mayan pseudo-glyphs. However, my research indicates that the presence of pseudo-glyphs correlates with periods of shifting social and economic circumstances and societies endowed with a market economy.

A Cross-Cultural Look at Pseudo-glyphs

Pseudo-glyphs are found in the archaeological records of ancient Greece, the Byzantine Mediterranean (especially Turkey and Spain), and Egypt. Before turning to a review of Egyptian pseudo-glyphs, I will briefly comment on the traditions of pseudo-inscription in Greece and the Islamic Mediterranean. Although I have not investigated these cross-cultural examples in depth, it is possible that additional research may reveal information by literate scribes of the period regarding the nature of pseudo-glyphs.

Greece and the Islamic Mediterranean

Between 565-500 B.C., Greek potters produced amphora decorated with images of decorative animal friezes and bearing unintelligible inscriptions for export to Central and Southern Italy (Boardman 1974:36-37). Identified as "Tyrrhenian

amphorae," only a few of these vessels have been excavated from Aegean sites; the majority were recovered from the Etruscan cities of Caere and Vulci. Clark and others (2002) note that the distinctly ovoid-shaped amphora employed multiple colors in order to attract a market already familiar with Corinthian tradewares. In addition to pseudo-writing, Greek artists decorated the ceramics for export with the earliest images of Athenian sexual encounters (Boardman 1974:36-37). Rather than conforming to the conventions of Greek vase painting, Tyrrhenian amphorae displayed a combination of motifs, colors and inscriptions designed to please a foreign market. Although it may be assumed that the artists themselves knew how to write, they rarely inscribed literate messages on ceramics destined for foreign shores.

"Pseudo-Kufic," a decorative form that resembles the Arabic Kufic script but does not form pronounceable words, appeared on ceramic artifacts, tiles and minted currency distributed throughout the Mediterranean coastline beginning in the 11th century (Rynearson 2006). Pseudo-Kufic borders were knitted, woven and printed on clothing and rugs (biti-Anat 2006, Suriano 2001). Ceramics decorated with pseudo-Kufic motifs were recovered during the underwater excavation of an 11th century Byzantine merchant ship along the coast of present-day Turkey. Made in modern-day Lebanon or northern Israel, the pots had been carefully-packed for transport to markets located farther west (Bass and van Doornick 2006). The tradition of producing and selling artifacts with pseudo-Kufic motifs continued throughout the 16th century (Rogers and Ward 1988:191, Figure 130).

In form, pseudo-Kufic employs knotted ligatures, decorative ascenders and repeated groups of Kufic letters (Rogers and Ward 1988:190, Figure 129). Arabic

letters endowed with divine or talismanic meaning (like *alif*, "A") repeat in a mnemonic fashion to evoke phrases from the Koran or the 99 beautiful names (Welch 1979:25). The creation of objects with pseudo-Kufic aided in the expansion of Byzantine-Muslim aesthetics and religious symbolism into regions formerly dominated by non-Arabic speakers. For the cognoscenti, the illegible marks affirmed their faith and cultural participation, while for others, the calligraphy-like forms provided a pleasing decorative pattern (Metropolitan Museum of Art 2006).

In addition to the Greek and Islamic examples, my research located references to artifacts from ancient Egypt embellished with pseudo-hieroglyphic text. Like Mayan, Egyptian hieroglyphs recorded only a single language and, for most of its history, the use of hieroglyphic text on stone monuments defined Egypt's boundaries.

Egyptian Pseudo-hieroglyphs

The first Egyptian hieroglyphic pictographs appeared on portable art produced sometime around 3100 B.C. (Ritner 1996:73). At approximately the same time, hieratic or "priestly" script developed as a cursive equivalent to record economic transactions, religious texts and correspondence. During the seventh century B.C., demotic or "popular" writing (also known as "cursive hieroglyphic," see Houston et al. 2003:439) further abbreviated and simplified the hieroglyphic signs to facilitate the transcription of speech. Because the writing systems of Egypt were tied to a single Hamito-Semite language, the script was endowed with an "enormous ideological weight" that served self-consciously to unify the culture (Baines 2004:164, Houston, et al. 2003:442). Following the decipherment of Egyptian

hieroglyphics, epigraphers have identified examples of pseudo-hieroglyphs that do not conform to the canons of any of the three established writing systems.

Cylinder Seals. The earliest Egyptian pseudo-hieroglyphs are attested on small cylinder seals created during the 1st-2nd dynastic period (sometime after 2950 B.C.). Of the four identified examples, three were made of black soapstone and one of wood (Figure 255). Three of the seals are organized semi-pictorially with a seated figure at the right and glyph-like elements on the left (Baines 2004:183). The "text" consisted of single consonantal signs that did not combine to form words (Houston et al. (2003:444-445).

It has been speculated that the cylinders functioned as emblems to reinforce the prestige of their owners by identifying the sealed objects as personal property. However, since all of the seals lack archaeological context, little more can be suggested regarding their social role or function.

Horus Stelae. Identified by archaeologists as "Horus Stelae," small plaques of stone inscribed with a standardized sequence of incantations dedicated to the deity Horus first appeared during the Nineteenth Dynasty (ca. 1305-1080 B.C.). During her analysis of monuments curated in a variety of museums, Sternberg-El Hotabi (1994, 1999) identified 20 Horus Stelae dated to the Late Ptolemaic/Greco-Roman Period (ca. 180-30 B.C.) that bore pseudo-hieroglyphic markings (Figure 256). Based on epigraphic and iconic criteria, she grouped these monuments into three categories:

Type I-a — Stelae produced during a period of transition during which pseudo-glyphic *Füllsel* (roughly translated as "space-fillers") appeared within

the standardized incantations. The space-fillers carved into the monuments may have served to highlight the syntactical transposition of certain words or as a type of punctuation (Sternberg-El Hotabi 1999:127). Iconographic analysis indicates that at least two workshops were engaged in manufacturing Type I-a stelae. Additional examples of this type of pseudo-glyph are found on papyri from the Late Ptolemaic period (Sternberg-El Hotabi 1999:127). **Type I-b** — Stylistically-dated to between 265-230 B.C., the faces of Type I-b stelae bore orthodox incantations, while the backs displayed a random sequence of about 15 hieroglyphs (Sternberg-El Hotabi 1999:137). **Type I-c** — Only the posture and associated icons of Horus distinguished Type I-c stelae from those of Type I-a; both types contained conventional text interspersed with non-legible pseudo-hieroglyphics. Based on stylistic similarities, Sternberg-El Hotabi (1999:145) suggested that all five of the Type I-c Horus Stelae were manufactured at a single workshop during the Ptolemaic Period.

As noted by Sternberg-El Hotabi (1999:2), none of the Horus Stelae derived from archaeologically-documented contexts. The absence of personal (including royal) names on the stelae preclude ascribing an absolute date of manufacture or use, although stylistic comparison indicates the objects were produced during the Late Ptolemaic/Greco-Roman period. A diachronic survey revealed that, in addition to the use of pseudo-glyphs, these Horus stelae no longer adhered to the artistic canons established in 1200 B.C. Sternberg-El Hotabi(1999:122) noted that the faces and figures of Horus on these stelae were so lacking in detail as to suggest mass-

production. Grajetzki (Grajetzki 2003) suggested that the crude workmanship reflected changed social values as the function of Horus Stelae moved from public monument to private, devotional amulet. Unfortunately, discovering whether the monuments with pseudo-glyphs were as highly valued as other Horus Stelae would require more information about archaeological provenience (Houston, et al. 2003:445).

Mummy Cases. In 1985 an Anglo-Dutch expedition excavating at Saqqâra, the mortuary for ancient Memphis, encountered a tomb that included coffins decorated with pseudo-glyphs that dated to between 1075-715 B.C., the Third Intermediate Period (Raven 1991). The tomb was identified has having belonged originally to Iurudef, servant to the brother-in-law of Ramses II. After the burial, the tomb was robbed during New Kingdom period. Then, sometime later, the chambers were repeatedly re-entered to deposit the bodies of approximately 70 individuals.

Shoddy mummification techniques and a paucity of grave goods identified this intrusive population as of a "quite humble social stratum" (Raven 1991:3). Physical-anthropological analysis of the bodies revealed a group of people whose livelihood required physical labor and whose quality of health was generally poor (Walker 1991:65). Of the 27 anthropoid wooden coffins, only one bore a legitimate burial text; two coffins were embellished with pseudo-hieroglyphic script and two lids were decorated with an "illegible, corrupt offering formulae" (Aston, et al. 1991:26-30). These two coffins represent the only fully provenienced examples of artifacts bearing pseudo-hieroglyphs recovered from Egypt.

Burial 27 consisted of an anthropoid coffin decorated with polychrome paint and containing an elderly female. Pseudo-hieroglyphic text appeared on the sides and back of the coffin case as well as on the lid (Figure 257). On the coffin sides (Figure 258), square spaces were left blank for never-added text (described as "anepigraphic" by Aston, et al. 1991:26-27). Although this burial represented one of the most elaborate in the tomb, the condition of the body revealed that only a few days passed between death and interment. The corpse had been loosely wrapped in bandages with the bodily fluids and internal organs still intact (Walker 1991:70). Burial 54+64 consisted of a sub-adult male placed in an anthropoid coffin with pseudo-glyphs adorning the lid (Figure 259). Neither individual displayed any evidence of professional mummification (Walker 1991:74-75). Additional coffins with similar pseudo-hieroglyphic script were documented from excavations at el_Lahûn (Petrie 1891), Sedment and el-Hîbeh (Raven 1991). The recovery of a glass eye-bead (diagnostic of the period between 1000-700 B.C.) suggests that these later burials dated to the Third Intermediate Period (Raven 1991:35).

Of the entire corpus of Egyptian pseudo-hieroglyphics, only the intrusive Third Intermediate Period coffins from the Iurudef tomb complex are archaeologically provenienced. The combination of poor mummification techniques, paucity of grave goods, and osteology suggested that the interred were likely laborers of low social status. In his analysis of the burials, Raven (1991:3) speculated that the pseudo-hieroglyphs had been painted by illiterate provincial Memphis scribes for non-elites who could not appreciate fully-legible hieroglyphic text.

In all of the Egyptian examples, pseudo-glyphs coexisted with the established traditions of hieroglyphic writing. The pseudo-glyphs consisted of legitimate signs arranged into non-legible combinations; no new signs were created. Artifacts bearing pseudo-glyphs were presumed to have been purchased by illiterate Egyptians who either did not care, could not recognize or could not afford, real writing. Based on the number of artifacts recovered, it appears that buyers believed communication with the deities through the Horus Stelae and mummy cases was not compromised by the presence of non-legible pseudo-hieroglyphs — if, indeed, the buyers were able to recognize the difference.

Summary of Cross-cultural Comparisons

In the examples presented above, pseudo-glyphs were produced for an open market in which anyone with sufficient wealth could purchase objects adorned with writing. For the ancient Egyptians, as well as those embellishing artifacts with pseudo-Kufic, script continued to express prestige and power; however, "the evocation of writing's potential presence evidently sufficed" (Houston, et al. 2003:445). As noted by Baines (1989:479), although "writing served important administrative functions, how far works of art meaningfully communicated with anyone beyond the gods is less clear." By contrast, the makers of Tyrrhenian amphorae appear to have employed a more mercenary perspective in concluding that the gratuitous addition of Greek letters would confirm the vessels' foreign origins and add to their perceived value.

Late Classic Period Maya ceramics adorned pseudo-glyphs derive from contexts that suggest different social goals. Pseudo-glyphs appear on small bowls that likely held corn-based comestibles consumed by a single individual. While it may be inferred that these vessels represent the drinking vessels of less elite individuals, deposition context tells us little about when the bowls were used or by whom. When broken, the bowls were thrown into middens and subsequently may have been employed as construction fill.

The presence of vases and plates decorated with pseudo-glyphs in the richest of Late Classic Period Maya elite tombs served to reiterate the relationships that united the ruler with members of his own and subsidiary communities. As noted by Costin (1999:85), the objects recovered from human burials comprise consciously constructed assemblages that form a deliberate statement of ideology, some of which is an ideology of the social order.

Chapter 7 — Conclusion

Although occasionally disparaged in discussions of Maya ceramic texts (Coe and Kerr 1997), pseudo-glyphs on Late Classic Period Maya ceramics represent more than random marks made by illiterates from the "boondocks." Most clearly, pseudo-glyphs serve as an illustration of the heterogeneous nature of Maya society that can be revealed through careful examination of material culture.

Summary of the Research and Results

This analysis has established that pseudo-glyphs do not form an alternate glyphic system. Pseudo-glyphs appear in the same locations on pottery as conventional Maya writing. However, their idiosyncratic nature indicates that pseudo-glyphs are not signs or symbols that convey meaningful words or replicate spoken language. Of the 314 pseudo-glyphs documented in the Maya Pseudo-glyph Catalogue (Appendix 1), only 24 elements appear on multiple ceramics. These replicated elements are either so generic in form as to reflect independent invention or else were excavated from the same unit or site, suggesting the work of a single artist. My research clearly indicates that pseudo-glyphs do not represent writing.

To refine the analysis, I classify pseudo-glyph decorated ceramics as belonging to one of three Categories. As was discussed in Chapter 2, Category 1 consists of pseudo-glyphs not recognized as part of the legitimate hieroglyphic corpus. Category 2 forms phrase-like sequences composed of pseudo-glyphs from

both Category 1 and Category 3. Finally, Category 3 contains logographic and syllabic signs consistent with legitimate hieroglyphs, but combined to form words or phrases that have little communicative value.

After conducting a series of statistical tests, I am unable to identify any strong or consistent relationship between pseudo-glyph category, surface decoration and number of pigments employed in their manufacture. Vessels with Category 3 pseudo-glyphs (i.e., legitimate signs arranged in aberrant combinations) do not replicate the pattern of labor or resource use displayed by real glyphs. Instead, the presence of certain iconic motifs and number of pigments correlate more strongly with vessel shape than with a particular category.

Finally, comparison between burials and non-burials reveal that the majority of bowls decorated with pseudo-glyphs were recovered from middens and construction fill. However, unlike the pattern hypothesized, both plates and vases with pseudo-glyphs are overrepresented in burial contexts. Although small sample size precluded statistical analyses of the relationship between vessel shape, provenience within the site and artistic motif, raw counts indicate that the majority of vases recovered from burials displayed scenes of multi-character interaction.

Statistical analysis reveal that burials in the Acropolis zone (assumed to have contained the bodies of the Maya royal court) contain more vessels with real glyphs than burials from the suburban Residential areas. Although not all elites were buried in the Acropolis and not all burials placed in the Acropolis were elite individuals, the data indicate that pseudo-glyphs appear only slightly more frequently than expected in the Residential burials. However, the identification of pseudo-glyphs in some of

the most elaborate of Maya burials suggests that manufacturing costs or artistic expertise were not the only factors influencing the decisions as to which ceramics should be included as grave goods.

Inspection of maps of the burials reveals no pattern of deposition that discriminates between pottery decorated with real glyphs or pseudo-glyphs.

Temporally, burials containing pseudo-glyph decorated ceramics date from approximately A.D. 662 to 781, a time that has been documented both epigraphically and archaeologically as a period of dynamic social change. During this time, the gifting of pottery represents one means by which political and economic alliances could be articulated and reinforced.

Mortuary offerings embellished with hieroglyphs cannot be assumed to reflect the literacy of the persons with whom they are buried (Houston and Stuart 1992:591). Nor can the presence of pseudo-glyphs in the archaeological record be assumed to indicate only lack of skill or knowledge; writing is a social act subject to many restrictions. The production of Category 3 pseudo-glyphs illustrate how confidently signs can be inscribed, while their meaning remains elusive.

I suggest that archaeological research at Buenavista del Cayo in Belize may provide one model with which to understand the presence of at least some of the pseudo-glyph decorated ceramics in the burials of the rulers and other elites. At Buenavista, the introduction from Naranjo of vase K4464, decorated with images of the dancing Young Corn God and finely-painted hieroglyphs, stimulated local production of the same motif in a less sophisticated manner and accompanied by pseudo-glyphs. I propose that the burials at Naranjo may contain ceramics from

Buenavista, rendered in this derivative style, as evidence of reciprocal gifting or as tribute.

I believe the iconography of the Late Classic Period may hold the key as to why in some circumstances pseudo-glyphs, instead of hieroglyphic texts, were produced. Images from carved bones in Tikal Burial 116 and the façade of Copan Structure 9N-82 illustrate that the authority to inscribe derives from supernatural sanctions. The power to create and animate words, images and ceramics flows from the realm of the ancestors, through the supernatural bone centipede and into the world of the living through the hand of the artist.

Ceramics with pseudo-glyphs appear in the archaeological record during a time of social upheaval, with some sites displaying hieroglyphic monuments for the first time in their history. The demand for the production of text by newly titled secondary and tertiary lords may have exceeded the supply of literate scribes. Without sufficient formalized training, artists who lacked the supernatural sanction to enliven ceramics may not have dared or might not have been permitted, to invoke the power of true writing.

The creation and gifting of pottery that at least visually resembled the work of the finest scribes affirmed the power to access labor and resources, as well as knowledge about esoteric paraphernalia and ritual knowledge, to others of equal or lower status. In turn, the presentation of these vessels to more dominant lords formed a contract of continued mutual alliance. The tendency by some archaeologists to identify all polychrome pottery as equally part of a prestige, political or wealth economy produced by artists attached to palaces misses the finer distinctions revealed

through the epigraphic identification of pseudo-glyphs (Foias 2004:157, Webster 2001:148). Although the majority of pseudo-glyphs decorate small bowls likely used in quotidian consumption, the identification of vases and plates with pseudo-glyphs in the richest of rulers' tombs emphasizes the complex network of relationships that defined Classic Period Maya society.

Future Research

As shown by the excavations at Buenavista, the pedigree of pseudo-glyph decorated ceramics must be more closely established. Profiles generated through instrumental neutron activation may aid in grouping ceramics into compositionally similar units, but the places where pottery was manufactured and the clay sources employed still remain to be identified in the archaeological record. I recommend testing of ceramic composition to establish whether the networks articulated in public monuments and the exchange of vessels adorned with hieroglyphic text also can be documented in the archaeological record through the presence of vessels with pseudo-glyphs. Vessels or sherds endowed with pseudo-glyphs need to be as carefully provenienced as those with legitimate glyphs.

More female burials are needed to establish whether the patterns indicated in my analysis hold true for all members of Maya society. And, it is hoped that additional excavation of secondary or tertiary-level communities will also enlarge the comparative database. Analysis should extend into sites and museum collections not accessible during this research, particularily eastward into Belize and the Dolores region of Guatemala. Comparative material from Mexico may also prove helpful in

understanding the role of pseudo-glyphs on public monuments and the carved bricks at Comalcalco.

From an epigraphic standpoint, the morphological similarity between some pseudo-glyphs and real glyphs suggests it would be valuable to establish whether substituting the real glyph for the pseudo-glyph would produce legitimate words or phrases. Additionally, is there pattern of affixation by legitimate signs that might indicate pseudo-glyphs were replicating verb or noun forms? Does this pattern of affixation follow any pattern in terms of site or region? And how do those pseudo-glyphs identified by Longyear from El Salvador and Guatemala match or diverge from the patterns displayed by pseudo-glyphs in the Southern Maya Lowland?

At a minimum, this research represents another step towards unpacking the complexity of polychrome pottery production. Many of the vessels illustrated in this work had not been photographed with the rollout camera and their distribution should prompt additional scholarship. To paraphrase from Mountford (1996:627), the basic sociolinguistic question is: Who uses the writing system, to whom is it addressed, and for what purposes? My research lays the foundation for further investigations by articulating that although pseudo-glyphs cannot be read, they are not without meaning.

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Appendix 1: Maya Pseudo-glyph Catalogue

<u> </u>	PG01		PG11	0	PG21
	PG02	<u>©</u>	PG12 T511 PET / -u		PG22
	PG03	\bigcirc	PG13		PG23
	PG04		P G14		PG24 T521 cha / T520 CHUWEN
B	PG05 postfix		PG15	(<u>J</u>	PG25 T1016 k'u
	PG06		PG16		PG26 T1016 k'u
	PG07		PG17 T693 ja	((3)	PG27
@	PG08	0	PG18 <i>T715</i>		PG28
0	PG09 single block		PG19 avian		PG29 T1016 k'u
0	PG10 T24 LAY "mirror"		PG20 PG20a = outline PG20b = solid		PG30 T602 pa

PG31 T617:T125 ALAY	9	PG41 prefix -u		PG51
PG32 prefix 717 & T18 yi		PG42	(PG52
PG33 T580 lo / T513 u-	JIL	PG43 T122 K'AK'	0	PG53
PG34 T222 'aj	E C	PG44 T527 ETZ'NAB	©	PG54
PG35 downward T1016 k'u	(A).	PG45	(3)	PG55 T683 ja
P G36	2 J. (1)	PG46		PG56
Ø PG37		PG47 T1030 K'AWIIL		PG57
PG38		PG48		PG58
PG39		PG49	(B)	PG59
PG40 prefix u-	3	PG50	00	PG60

59	PG61 AJAW/xi	Cy .	PG71		PG81 see PG82 T1016 k'u
0	PG62 T178 la	U V	PG72	(3)	PG82 see PG81 T1016 k'u
9	PG63 postfix 51 ta or T87 ti	3	PG73		PG83 T1005 KABAN
9	PG64		PG74		PG84
	PG65		PG75		PG85 T74:528: 518c:87 KALOOMTE'
	PG66		PG76		PG86
	PG67	ල ල	PG77 T142 ma / T178 la		PG87 see PG169
	PG68 T1014 God N		PG78		PG88
	PG69		PG79	الاست	PG89
	PG70		PG80	Ci de la companya de	PG90

PG91 T74 ma T74:528:518c:87 KALOOMTE	B	PG101 postfix	ØF:)	PG111
PG92 foliation inside quatrefoil	A O	PG102 T756 ZOTZ /xu/ tz'i		PG112 T533v NIK?
PG93		PG103 T1016 k'u		PG113 T736 CHAM
PG94	6	PG104	(ij)	PG114
PG95 777 k'i		PG105		PG115
PG96 T24 li	000	PG106 see PG40		PG116
PG97 777 k'i	0	PG107		PG117
PG98		PG108 ALAY	D	PG118
PG99 prefix		PG109 see PG39 T561 CHAN	(Ki	PG119
PG100	D	PG110 postfix		PG120 K568 lu

PG121 KT77 k'i		PG131 T281 K'AN		PG141
PG122 see PG92-PG93 note WAY-mouth		PG132 T653 JUL		PG142
PG123		PG133		PG143 T683 ja
PG124 God N	*s	PG134 hi:LAMAT w/ tar-wars" drops	୍ କ	PG144 T130 -wa
PG125		PG135 T767 LAKAM		PG145 PG143 + T568 lu
PG126	(F)	PG136	\mathfrak{g}	PG146 T568 lu
PG127 T676 TAL		T137 <i>T</i> 736 CHAM		PG147 T561 CHAN
PG128 T574 he		PG138 T586 pa- T17 -yi		PG148
PG129	M	PG139		PG149
PG130 T565 -ta		PG140		PG150 K25 ka prefix

	PG151		PG161	9	PG171
	PG152		PG162 T544 k'in	(2)	PG172
E03	PG153 T12 'a / T126 ya	0	PG163		PG173
	PG154 T617-T125 LAY-ya	(ુું)	PG164	4	PG174
9 .9	PG155		PG165		PG175
	PG156		PG166		PG176
EST	PG157		PG167		PG177 T1 -u
	PG158 <i>T'AB'AY</i>	(0)	PG168	(PG178
چي)	PG159		PG169 see PG87	P	PG179 T528 k'u
	PG160	@	PG170	3	PG180

(S)	PG181		PG191	79	PG201
0	PG182 <i>T17</i> yi		PG192	EN ST	PG202 T501 ba
<u></u>	PG183	۴٦	PG193 u-		PG203
%	PG184 BOLON (9)		PG194 T187 CH'UL		PG204
	PG185 God N		PG195 postfix	(3)	PG205
(PG186	(3)	PG196	8	PG206 joined PG20?
	PG187	6	PG197	G	PG207
	PG188	9	PG198		PG208
Salar Sala Sala	PG189	(G)	PG199	0	PG209
	PG190	(3)	PG200	ES	PG210 prefix

	PG211	0	PG221		PG231
6	PG212		PG222	(PG232
25	PG213 postfix	(A.)	PG223	(3)	PG233
	PG214	(Y	PG224		PG234
	PG215		PG225		PG235
8	PG216		PG226		PG236
0	PG217		PG227 T74 ma		PG237
0	PG218		PG228		PG238
\mathcal{Q}	PG219		PG229	RIGHT	PG239
0	PG220	@	PG230	CER	PG240

	PG241		PG251		PG261
	PG242		PG252		PG262 <i>T77 k'i</i>
	PG243	(C)	PG253 see PG81		PG263
	PG244		PG254		PG264 prefix
	PG245		PG255		PG265
	PG246		PG256		PG266 T110 k'o
©	PG247		PG257 T533 AJAW on side	(TOR	PG267 prefix
(!)	PG248	Exist.	PG258 T115 yo		PG268
	PG249	Ser.	PG259 prefix u		PG269
59	PG250 T568 lu	B	PG260 Postfix ya		PG270

PG271		PG281	B	PG291
PG272 postfix		PG282 w/ ko prefix ch'ok		PG292
PG273	Ot.	PG283 w/ ja prefix		PG293
PG274		PG284 w/ ja prefix - na postfix		PG294
PG275 yotot	(Fig	PG285 w/ ja prefix		PG295 T1014 God N
PG276		PG286	Fig	PG296
PG277		PG287	F	PG297
PG278	8	PG288		PG298
PG279 T671 chi/MANIK		PG289	B	PG299
PG280 T188 -le / T279 -o	\otimes	PG290 T527 ETZ'NAB	7	PG300

P G301	PG311	
PG302	PG312	
PG303	PG313	
PG304	PG314	
PG305	PG315	
PG306	PG316	
PG307	PG317	
PG308 AJAW T533	PG318	
PG309	PG319	
PG310	PG320	

Appendix 2: Whole Vessels With Pseudo-Glyphs

Altar de Sacrificios — Burial 128, Operation 58(K)4, Structure A-III

K-Number 30123

Museum # MNAE 9395

Publication #1 Adams 1971:Figure 86a-b, 87

Altar #1 58-128

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 15.3 cm
Diameter 7.6 cm
Whole? True

Shape-Form Vase, cylinder Type: Variety non-local

Complex Late Pasion (A.D. 691-771)
Where made not Altar de Sacrificios

Text type 3

Museum # MNAE 6982

Publication #1 Adams 1971:Figure 91

Altar #1 58-136

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 9.2 cm
Diameter 4.1 cm
Whole? True

Shape-Form Plate, tripod flaring-side w/ legs Type: Variety non-local, unspecified red-on-orange

Complex Late Pasion (A.D. 691-771)

Where made Bonampak, Piedras Negras, Yaxchilan

Text type 2

Museum # MNAE 9187

Publication #1 Adams 1971:Figure 86d, 89

Altar #1 58-122

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 9.6 cm
Diameter 34.8 cm
Whole? True

Shape-Form Plate, tripod flaring-side w/ legs

Type: Variety non-local, unspecified (red-on-orange with stucco rim)

Complex Late Pasion (A.D. 691-771)
Where made not Altar de Sacrificios

Altar de Sacrificios — Burial 128, Operation 58(K)4, Structure A-III (continued)

Altar #1 58-132

Curated by unknown Height 9.6 cm Diameter 34.8 cm Whole?

Shape-Form Plate, tripod flaring-side w/ legs

Type: Variety non-local, unspecified (red-on-orange with stucco rim)

Complex Late Pasion (A.D. 691-771)
Where made not Altar de Sacrificios

Text type 2

Altar #1 58-131

Publication #1 Adams 1971:Figure 86c, 90

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 12.0 cm
Diameter 5.1 cm
Whole? False

Shape-Form Plate, tripod flaring-side w/ legs

Type: Variety unspecified

Complex Late Pasion (A.D. 691-771)

Where made Bonampak, Piedras Negras, Yaxchilan

Text type 2

Altar #1 58-130

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 12.0 cm
Diameter 51.0 cm
Whole? True

Shape-Form Plate, tripod flaring-side w/ legs

Type: Variety non-local, unspecified (red-on-orange with stucco rim)

Complex Late Pasion (A.D. 691-771)
Where made not Altar de Sacrificios

Text type 2

Altar #1 58-135

Publication #1 Adams 1971:Figure 77-80

Height 15.7 cm
Diameter 18.0 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Model Carved with stucco
Complex Late Pasion (A.D. 691-771)
Where made Chajcar, Alta Verapaz region

Text type PSS

Altar de Sacrificios — Burial 128, Operation 58(K)4, Structure A-III (continued)

Altar #1 58-123

Publication #1 Adams 1971:Figure 88

Curated by unknown Height 18.3 cm cm

Diameter ? cm Whole? True

Shape-Form Vase, cylinder

Type: Variety unspecified (red-on-orange with green stucco rim)

Complex Late Pasion (A.D. 691-771)

Where made Alta Verapaz, not Altar de Sacrificios

Text type date

Altar de Sacrificios — unknown provenience

Museum # MNAE 6997

Publication #1 Adams 1971:Figure 44

Field #1 43-G7

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height ? cm Diameter ? cm Whole? False

Shape-Form Bowl, round side

Type: Variety Saxche Orange Polychrome: Acul Variety

Complex Chixoy (A.D. 573-613)
Where made Altar de Sacrificios

Text type 3

Altar de Sacrificios — unknown provenience

K-Number K30091

Museum # MNAE 8906

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 9.1 cm
Diameter 18.3 cm
Whole? True

Shape-Form Dish, tripod straight-side with nubbin feet

Type: Variety Petexbatun Orange Polychrome: Petexbatun Variety

Complex Early Pasion (A.D. 613-691)

Where made Altar de Sacrificios?

Motul de San Jose — Midden, Operation MSJ 2A-3-12-1; Group C, plaza fill

Field #1 MSJ 2A-3-12-1, Vessel 3

Field #2 Cat. 53

Curated by Ceramoteca IDAEH, Guatemala

Height 4.6 cm
Diameter 33.5 cm
Whole? False

Shape-Form Plate, tripod flaring-side without legs

Type: Variety Zacatel Cream Polychrome

Complex Late Classic Period (A.D. 650/700-830)

Text type 2

Field #1 MSJ 2A-3-12-1, Vessel 5

Field #2 Cat. 55 INAA # MSJ 90

Curated by Ceramoteca IDAEH, Guatemala

Height 20.3 cm
Diameter 11 cm
Whole? False

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Late Classic Period (A.D. 650/700-830)

Text type 2

Field #1 MSJ 2A-3-12-1, Vessel 6

Field #2 Cat. 56 INAA # MSJ 91

Curated by Ceramoteca IDAEH, Guatemala

Diameter 12 cm Whole? False

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Late Classic Period (A.D. 650/700-830)

Motul de San Jose — Midden, Operation MSJ 2A-5; Group C, plaza fill

Field #1 MSJ 2A-5-6-18

Field #2 Cat. 10503

Curated by Ceramoteca IDAEH, Guatemala

Diameter 40.0 cm Whole? False

Shape-Form Plate, flaring side

Type: Variety unknown eroded polychrome

Complex Late Classic Period (A.D. 650/700-830)

Text type 1

Petexbatun Project

Arroyo de Piedra — Burial 4, Operation AP 13B-1-3, 13, North Plaza

IDAEH # 17-07-05-10 Field #1 404539

Field #1 404539
Field #2 DPAP 61
INAA # DPAP 61

Other # Burial 4-Vessel 1

Curated by Ceramoteca IDAEH, Guatemala

Height 19.8 cm
Diameter 12.5 cm
Whole? False

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Tepeu 1-2, Nacimiento Phase (A.D. 550-850)

Where made Petexbatun area

Text type 1

Dos Pilas — Burial 25, Operation DP26F-5-4; Group M5-5, M5-18

IDAEH # 17-07-02-14

Field #1 602145 INAA # DPD 51

Other # Burial 25-Vessel 2

Curated by Ceramoteca IDAEH, Guatemala

Height 5.0 cm
Diameter 31.4 cm
Whole? False

Shape-Form Plate, tripod flaring-side without legs

Type: Variety Palmar Orange Polychrome

Complex Petexbatun Period 1, Nacimiento Phase (A.D. 600-760)

Where made Dos Pilas

Dos Pilas — Burial 25, Operation DP26F-5-4; Group M5-5, M5-18 (continued)

Field #1 602144 INAA # DPD 46

Other # Burial 25-Vessel 1

Curated by unknown Height 15.1 cm Diameter 10.0 cm Whole? False

Shape-Form Vase, cylinder

Type: Variety Palmar Orang Polychrome

Complex Petexbatun Period 1, Nacimiento Phase (A.D. 600-760)

Where made Petexbatun

Text type PSS

Dos Pilas — Burial 26, Operation DP30C-1-3; Group P5-1, P5-3

IDAEH# 17-07-02-20

Field #1 603134 INAA # DPD 50

Other # Burial 26-Vessel 3

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 5.8 cm
Diameter 25.0 cm
Whole? True

Shape-Form Plate, tripod round-side w/ nubbin feet

Type: Variety Palmar Orange Polychrome

Complex Petexbatun Period 1, Nacimiento Phase (A.D. 600-760)

Where made Dos Pilas

Text type 1

Field #1 603136

INAA # DPD 41

Other # Burial 26-Vessel 1

Curated by unknown Height 20.1 cm Diameter 12.0 cm Whole? False

Shape-Form Vase, cylinder

Type: Variety Palmar Orang Polychrome

Complex Petexbatun Period 1, Nacimiento Phase (A.D. 600-760)

Where made Tikal, Motul de San Jose, Uaxactun

Text type PSS?

Petexbatun Project, Dos Pilas — Burial 30, Operation DP6A-32-4; Plaza Central, L5-1

Museum # MNAE 18703 *IDAEH #* 17-07-02-182

Field #1 610001

INAA # DPD 35 & DPD 103
Other # Burial 30-Vessel 6

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 17.3 cm
Diameter 10.9 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Petexbatun Period 1, Nacimiento Phase (A.D. 600-760)

Where made Petexbatun

Text type 2

IDAEH # 17-07-02-179

Field #1 610003 INAA # DPD 34

Other # Burial 30-Vessel 5

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 8.2 cm
Diameter 30.0 cm
Whole? True

Shape-Form Plate, tripod flaring-side w/ legs Type: Variety Palmar Orange Polychrome

Complex Petexbatun Period 1, Nacimiento Phase (A.D. 600-760)

Where made Dos Pilas
Text type PSS

Dos Pilas — Burial 30, Operation DP6A-32-4; Plaza Central, L5-1 (continued)

IDAEH # 17-07-02-181

Field #1 610002

INAA # DPD 36 & DPD 104 Other # Burial 30-Vessel 2

Curated by unknown Height 5.5 cm Diameter 35.5 cm Whole? True

Shape-Form Plate, tripod flaring-side w/ legs Type: Variety Palmar Orange Polychrome

Complex Petexbatun Period 1, Nacimiento Phase (A.D. 600-760)

Where made Tikal, Motul de San Jose, Uaxactun

Text type PSS?

Museum # MNAE 15357

IDAEH # 17-07-02-180

Field #1 610004 INAA # DPD 33

Other # Burial 30-Vessel 1

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 12.4 cm
Diameter 41.5 cm
Whole? True

Shape-Form Plate, tetrapod w/ legs Type: Variety Palmar Orange Polychrome

Complex Petexbatun Period 1, Nacimiento Phase (A.D. 600-760)

Where made Tikal, Motul de San Jose, Uaxactun

Text type PSS

Dos Pilas — Burial 51, Operation DP 37D-1-7; Group 5-2, O5-4

IDAEH # 17-07-02-239

Field #1 620598 INAA # DPD 195

Other # Burial 51-Vessel 3

Curated by Ceramoteca IDAEH, Guatemala

Height 17.2 cm
Diameter 13.0 cm
Whole? False

Shape-Form Vase, cylinder

Type: Variety Zacatal Cream Polychrome

Complex Tepeu 1-2, Nacimiento Phase (A.D. 550-850)

Where made Tikal, Motul de San Jose, Uaxactun

Text type 2

Dos Pilas # 620596

INAA # DPD 199

Field #1 Burial 51-Vessel 1

Height 9.5 cm
Diameter 37.0 cm
Whole? True

Shape-Form Plate, tripod flaring-side w/ legs
Type-Variety Palmar Orange Polychrome
Complex Nacimiento Phase (AD 550-850)
Where Made Tikal, Motul de San Jose, Uaxactun

Text type PSS

Piedras Negras — Burial 045, Operation PN 23B-3-7, R-20, South Group

K-Number 30064

Field #1 PN 023B-03-07-04

Curated by Guatemala
Height 7.1 cm
Diameter 17.3 cm
Whole? True

Shape-Form Bowl, round side

Type: Variety Saxche Orange Polychrome: Unspecified Vareity

Complex Balche (A.D. 560-620)

Piedras Negras — Burial 045, Operation PN 23B-3-7, R-20, South Group (continued)

K-Number 30065

Field #1 PN 023B-03-07-22

Curated by Guatemala
Height 7.7 cm
Diameter 23.5 cm
Whole? True

Shape-Form Bowl, round side
Type: Variety Balche Plano Relief
Complex Balche (A.D. 560-620)

Text type 3

K-Number 30066

Field #1 PN 023B-03-07-31

Curated by Guatemala
Height 8.0 cm
Diameter 17.7 cm
Whole? True

Shape-Form Bowl, round side

Type: Variety Saxche Orange Polychrome-Variety Unspecified

Complex Balche (A.D. 560-620)

Text type 2

K-Number 30067

Field #1 PN 023B-03-07-34

Curated by Guatemala
Height 9.1 cm
Diameter 27.0 cm
Whole? True

Shape-Form Bowl, flaring side

Type: Variety Saxche Orange Polychrome: Saxche Variety

Complex Balche (A.D. 560-620)

Piedras Negras — Burial 045, Operation PN 23B-3-7, R-20, South Group

(continued)

K-Number 30068

Field #1 PN 023B-03-07-35

Curated by Guatemala
Height 6.8 cm
Diameter 17.0 cm
Whole? True

Shape-Form Bowl, round side

Type: Variety Saxche Orange Polychrome: Unspecified Variety

Complex Balche (A.D. 560-620)

Text type 2

Piedras Negras — Burial 077, Operation PN 41B-1-5, C-13, South Plaza of Group C

K-Number 30070

Field #1 PN 041B-01-05-23

Curated by Guatemala
Height 13.5 cm
Diameter 11.1 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Coabano Red-on-Orange Complex Yaxche (A.D. 630-740)

Text type 1

Piedras Negras — Sweatbath, Operation PN 49A-05-02, J-17, Acropolis

K-Number 30072

Field #1 PN 049A-05-02-24

Curated by Guatemala
Height 16.3 cm
Diameter 11.5 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Yaxche-Chacalhaaz (A.D. 630-850)

Seibal — Burial 37, Operation 109, Piendiente Quadrangle, Str. 4E-10

 K-Number
 30117

 Museum #
 17467

 Field #1
 S-3074

 Field #2
 BNL S-43

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 12.9 cm
Diameter 19.3 cm
Whole? True

Shape-Form Bowl, round side

Type: Variety Saxche & Palmar Polychrome Complex Tepejilote (A.D. 650-830)

Text type 1

Seibal — Midden, Operation 49(B), Court A, Group D, behind Str. D-26

K-Number 30118

Museum # No MNAE #

Publication #1 Sabloff 1995:12, Figure 6c & Sabloff 1995:146, Figure 269
Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 14.8+ cm
Diameter 8.9 cm
Whole? False

Shape-Form Vase, barrel shaped

Type: Variety Saxche & Palmar Polychrome Complex Tepejilote (A.D. 650-830)

Text type 2

Seibal — Burial 19, Operation 52(A), NW Plaza, Group D, court near Str. D-3

Seibal #1 S-1316a

Publication #1 Sabloff 1995:138, Fig. 248

Curated by unknown Diameter 31.6 cm Whole? False

Shape-Form Dish, tripod round-side w/ bulbous feet

Type: Variety Saxche & Palmar Polychrome Complex Tepejilote (A.D. 650-830)

Tikal — Burial 23, Operation 5D, 5D-33-2nd, North Acropolis

Publication #1 Culbert 1993:Figure 39a

Publication #2 Coe 1990:Figure 176, Locus 7

Field #1 12K-86/13
Other # MT 8
Curated by unknown
Height 9.2 cm
Diameter 39.2 cm
Whole? True

Shape-Form Plate, flaring-side tripod w/ legs

Type: Variety Jama Red

Complex Ik (A.D. 550-700)

Text type 3

Publication #1 Culbert 1993:Figure 39b

Publication #2 Coe 1990:Figure 176, Locus 10

Field #1 12K-85/13 Field #2 66-5-23 Other # MT 7

Curated by Parque Nacional Tikal, Guatemala

Height 8.4 cm
Diameter 39.0 cm
Whole? True

Shape-Form Plate, flaring-side tripod w/ legs

Type: Variety Jama Red

Complex Ik (A.D. 550-700)

Text type 3

Publication #1 Culbert 1993:Figure 40a

Publication #2 Coe 1990:Figure 176, Locus 12

Field #1 12K-84/13 Field #2 67-5-47 Other # MT 6

Curated by Parque Nacional Tikal, Guatemala

Height 9.2 cm
Diameter 39.0 cm
Whole? True

Shape-Form Plate, flaring-side tripod w/ legs

Type: Variety Jama Red

Complex Ik (A.D. 550-700)

Tikal — Burial 24, Operation 5D, 5D-33-2nd, North Acropolis

K-Number K30077

IDAEH # 17-01-01-120

Publication #1 Culbert 1993:Figure 41b2Publication #2 Coe 1990:Figure 177, Locus 5

Field #1 12K-141/18 Field #2 68-5-28 Other # MT 2

Curated by Parque Nacional Tikal, Guatemala

Height 10.6 cm
Diameter 18.0 cm
Whole? True

Shape-Form Bowl, round side

Type: Variety Sibal Buff

Complex Ik (A.D. 550-700)

Text type 2

IDAEH # 17-01-01-121

Publication #1 Culbert 1993:Figure 42aPublication #2 Coe 1990:Figure 177, Locus 4

Field #1 12K-139/18

Field #2 48; 105 sticker on bottom

Other # MT 291

Curated by Parque Nacional Tikal, Guatemala

Height 7.3 cm
Diameter 30.6 cm
Whole? True

Shape-Form Dish, lateral ridge w/ ring base Type: Variety Saxche Orange Polychrome

Complex Ik (A.D. 550-700)

Tikal — Burial 77, Structure 5D-11, west side of West Plaza

IDAEH # 17-01-01-137

Publication #1 Culbert 1993:Figure 58b

Field #1 41F-2/4 Field #2 66-5-32 Other # MT 19

Curated by Parque Nacional Tikal, Guatemala Height 5.5 cm (bowl height without legs)

Diameter 32.7 cm Whole? True

Shape-Form Plate, tripod flaring-side without legs

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type 2

K-Number K30125

IDAEH # 17-01-01-131

Publication #1 Culbert 1993:Figure 57c2

Field #1 41F 5/4 Other # MT 339

Curated by Parque Nacional Tikal, Guatemala

Height 15.6 cm
Diameter 8.2 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850)

Text type 2

Tikal — Burial 80, Operation 28B/24, Structure 5G-11-3rd and Platform 5G-2,

Group 5G-11

K-Number K30132

IDAEH # 17-01-01-546

Publication #1 Culbert 1993:Figure 59b1

Publication #2 Becker 1999: Figure 91d, Locus 1

Field #1 28B-36/24 Other # MT 287

Curated by Parque Nacional Tikal, Guatemala

Height 12.8 cm
Diameter 15.7 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850)

Tikal — Burial 81, Operation 30A/2, 4G-9, Group 4G-1

Publication #1 Culbert 1993:Figure 43d

Publication #2 Becker 1999: Figure 10a, Locus 4

Field #1 30A-4/2Field #2 64-5-93 Other # MT 288 Curated by unknown Height 22.7 cm Diameter 13.2 cm Whole? False

Vase, cylinder Shape-Form Kau Incised *Type: Variety* **Complex**

Ik (A.D. 550-700)

Text type 2

Tikal — Burial 116, Operation 4P/2, 5D-1, Great Plaza

K-Number K6580

Publication #1 Culbert 1993:Figure 65a

Publication #2 Coe 1990:Figure 177: Locus 2

Field #1 4P-3/2Field #2 64-5-79 Other # MT 68

Curated by Parque Nacional Tikal, Guatemala

Height 9.6 cm Diameter 36.4 cm Whole? True

Shape-Form Bowl, cut shell, tripod *Type: Variety* Chinos Black-on-Cream *Complex* Imix (A.D. 700-850) Text type Emblem Glyph?

K-Number K7996

Publication #1 Culbert 1993:Figure 74a
Publication #2 Coe 1990:Figure 177, Locus 9

Field #1 4P-123/2 Field #2 64-5-79 Other # MT 60

Curated by Parque Nacional Tikal, Guatemala

Height 26.9 cm
Diameter 17.5 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850)

Text type 3

K-Number K7997

Publication #1 Culbert 1993:Figure 70

Publication #2 Coe 1990:Figure 177, Locus 8

Field #1 4P-124/2 Field #2 67-5-69 Other # MT 58

Curated by Parque Nacional Tikal, Guatemala

Height 29.0 cm
Diameter 18.0 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type PSS

K-Number K7998

Publication #1 Culbert 1993:Figure 72a

Publication #2 Coe 1990:Figure 177, Locus 15

Field #1 4P-109/2 Other # MT 64

Curated by Parque Nacional Tikal, Guatemala

Height 28.2 cm
Diameter 18.7 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850)

Tikal — Burial 116, Operation 4P/2, 5D-1, Great Plaza (continued)

K-Number K7999

Publication #1 Culbert 1993:Figure 69

Publication #2 Coe 1990:Figure 177, Locus 18

Field #1 4P-106/2 Field #2 64-5-74 Other # MT 57

Curated by Parque Nacional Tikal, Guatemala

Height 30.3 cm
Diameter 17.0 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type 2

K-Number K8000

Publication #1 Culbert 1993:Figure 71

Publication #2 Coe 1990:Figure 177, Locus 17

Field #1 4P-107/2 Other # MT 63

Curated by Parque Nacional Tikal, Guatemala

Height 27.6 cm
Diameter 19.0 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type 3C

Tikal — Burial 116, Operation 4P/2, 5D-1, Great Plaza (continued)

K-Number K8001

Publication #1 Culbert 1993:Figure 75a

Publication #2 Coe 1990:Figure 177, Locus 14

Field #1 4P-110/2 Field #2 67-5-68 Other # MT 62

Curated by Parque Nacional Tikal, Guatemala

Height 27.6 cm
Diameter 20.0 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850)

Text type 3

K-Number K8002

Publication #1 Culbert 1993:Figure 73

Publication #2 Coe 1990:Figure 177, Locus 13

Field #1 4P-119/2 Other # MT 59

Curated by Parque Nacional Tikal, Guatemala

Height 28.3 cm
Diameter 20.0 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850)

Text type 3

K-Number K8003

Publication #1 Culbert 1993:Figure 74b

Publication #2 Coe 1990:Figure 177, Locus 16

Field #1 4P-108/2 Field #2 64-5-77 Other # MT 61

Curated by Parque Nacional Tikal, Guatemala

Height 27.0 cm
Diameter 18.0 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850)

Tikal — Burial 116, Operation 4P/2, 5D-1, Great Plaza (continued)

Publication #1 Culbert 1993:Figure 72b

Publication #2 Coe 1990:Figure 177, Locus 10

Field #1 4P-122/2 Field #2 66-5-89 Other # MT 65

Curated by Parque Nacional Tikal, Guatemala

Height 26.2 cm
Diameter 18.3 cm
Whole? False

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type 2

K-Number K8004

Publication #1 Culbert 1993:Figure 75bPublication #2 Coe 1990:Figure 177, Locus 7

Field #1 4P-125/2 Other # MT 66

Curated by Parque Nacional Tikal, Guatemala

Height 21.7 cm
Diameter 13.5 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type 1

K-Number K30126

IDAEH # 17-01-01-163

Publication #1 Culbert 1993:Figure 68b
Publication #2 Coe 1990:Figure 177, Locus 3

Field #1 4P-2/2 Field #2 64-5-82 Other # MT 69

Curated by Parque Nacional Tikal, Guatemala

Height 19.7 cm
Diameter 11.2 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Kanalcan Gouged-incised Complex Imix (A.D. 700-850)

Tikal — Burial 116, Operation 4P/2, 5D-1, Great Plaza (continued)

Publication #1 Culbert 1993:Figure 64c2

Publication #2 Coe 1990:Figure 177, Locus 4

Field #1 4P-7/2
Other # MT 70
Curated by unknown
Height 5.2 cm
Diameter 14.8 cm
Whole? True

Shape-Form Bowl, flaring side

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type date

Publication #1 Culbert 1993:Figure 68a

Publication #2 Coe 1990:Figure 177, Locus 5

Height 26.8 cm
Diameter 17.6 cm
Whole? False

Shape-Form Vase, cylinder

Type: Variety Stucco over Zacac Black Complex Imix (A.D. 700-850)

Text type SNT

Tikal — Burial 132, Operation 3B-3-4, Structure 7F-30, Group 7F-1

K-Number K30128

IDAEH # 17-01-01-124

Publication #1 Culbert 1993:Figure 46a1

Field #1 3B-3/04

Curated by Parque Nacional Tikal, Guatemala

Height 13.7 cm
Diameter 16.2 cm
Whole? True

Shape-Form Bowl, barrel shaped

Type: Variety Saxche Orange Polychrome

Complex Ik (A.D. 550-700)

Tikal — Burial 140, Operation 3B, Structure 7F-30, Group 7F-1

K-Number K8005

Publication #1 Culbert 1993:Figure 46c3

Field #1 3B-25/4 Field #2 68-5-37 Other # MT 342

Curated by Parque Nacional Tikal, Guatemala

Height 14.3 cm
Diameter 21.2 cm
Whole? True

Shape-Form Bowl, round side Type: Variety Saxche Orange Complex Ik (A.D. 550-700)

Text type 2

Tikal — Burial 147, Operation 70F/4, Structure 6B-9, Group 6B-1

Publication #1 Culbert 1993:Figure 78a1

Field #1 70F-4/2
Curated by unknown
Height 10.0 cm
Diameter 29.5 cm
Whole? True

Shape-Form Plate, tripod with legs
Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850) Where made unusual for Tikal

Text type 1

Tikal — Burial 159, Operation 3C, Structure 7F-31-2nd, Group 7F-1

Publication #1 Culbert 1993:Figure 48c

Field #1 3C-8/9 Other # MT 99

Curated by Parque Nacional Tikal, Guatemala (not found)

Height 6.5 cm
Diameter 33.8 cm
Whole? true

Shape-Form Plate, tripod flaring-side w/ legs Type: Variety Saxche Orange Polychrome

Complex Ik (A.D. 550-700)

Where made local Text type 2

Tikal — Burial 183, Operation 98A, Structure 5D-46, Group 5D-11

K-Number K30157

IDAEH # 17-01-01-1184

Publication #1 Culbert 1993:Figure 49a2

Field #1 98D-70/12 Other # MT 148

Curated by Parque Nacional Tikal, Guatemala

Height 13.1 cm
Diameter 16.6 cm
Whole? True

Shape-Form Bowl, round side

Type: Variety Uacho Black-on-orange

Complex Ik (A.D. 550-700)

Where made local Text type 3

Tikal — Burial 190, Operation 3B-19, Structure 7F-30, Group 7F-1

IDAEH # 17-01-01-119

Publication #1 Culbert 1993:Figure 81a

Field #1 3B-119/19 Field #2 66-5-22 Other # MT 168

Curated by Parque Nacional Tikal, Guatemala

Height 10.3 cm Diameter 30.6 cm Whole? True

Shape-Form Plate, tripod flaring-side with legs

Type: Variety Palmar Orange Polychrome

Complex Imix (A.D. 700-850)

Where made atypical for this time period (Culbert 1993)

Tikal — Burial 196, Operation 117A/36, 5D-73, Platform 5D-1

K-Number K30127

IDAEH # 17-01-01-177

Publication #1 Culbert 1993:Figure 86a

Publication #2 Coe 1990:Figure 282, Locus 12

Field #1 117A-11/36 Field #2 "56" on bottom Other # MT 334a

Curated by Parque Nacional Tikal, Guatemala

Height 19.2 cm
Diameter 10.2 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Stuccoed over Kanalcan Gouged-incised

Complex Imix (A.D. 700-850)

Text type 2

K-Number K30133

IDAEH # 17-01-01-917

Publication #1 Culbert 1993:Figure 87c

Publication #2 Coe 1990:Figure 282, Locus 27

Field #1 117A-12/36 Other # MT 334d

Curated by Parque Nacional Tikal, Guatemala

Height 18.7 cm
Diameter 10.4 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Stuccoed over Kanalcan Gouged-incised

Complex Imix (A.D. 700-850)

Tikal — Burial 196, Operation 117A/36, 5D-73, Platform 5D-1 (continued)

K-Number K30139

IDAEH # 17-01-01-923

Publication #1 Culbert 1993:Figure 87aPublication #2 Coe 1990:Figure 282, Locus 8

Field #1 117A-5/36 Field #2 "50" on bottom Other # MT 334c

Curated by Parque Nacional Tikal, Guatemala

Height 20.9 cm Diameter 12.2 cm Whole? True

Shape-Form Vase, cylinder

Type: Variety Stuccoed over Kanalcan Gouged-incised

Complex Imix (A.D. 700-850)

Text type 1

Publication #1 Culbert 1993:Figure 86b

Publication #2 Coe 1990:Figure 282, Locus 16

Field #1 117A-6/36
Other # MT 334e
Curated by unknown
Height 19 cm
Diameter 11.2 cm
Whole? False

Shape-Form Vase, cylinder

Type: Variety Stuccoed over Kanalcan Gouged-incised

Complex Imix (A.D. 700-850)

Text type 1

K-Number K30095

Museum # 9965

Publication #1 Culbert 1993:Figure 87b

Publication #2 Coe 1990:Figure 282, Locus 33

Field #1 117A-8/36

Field #2 764

Other # MT 334b

Curated by Museo Nacional de Arqueología y Etnología, Guatemala

Height 19.7 cm
Diameter 10.6 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Stuccoed over Kanalcan Gouged-incised

Complex Imix (A.D. 700-850)

Text type PSS

Tikal — Burial 196, Operation 117A/36, 5D-73, Platform 5D-1 (continued)

Publication #1 Culbert 1993:Figure 91k

Publication #2 Coe 1990:Figure 282, Locus 7

Field #1 117A-27/36 Other # MT 182

Curated by Parque Nacional Tikal, Guatemala

Height20.6 cmDiameter10.8 cmWhole?True

Shape-Form Bowl, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type 1

K-Number K2698

IDAEH # 17-01-01-3415

Publication #1 Culbert 1993:Figure 85b

Publication #2 Coe 1990:Figure 282, Locus 40

Field #1 117A-2/36 Field #2 67-5-87

Other # MT 177;"91" on bottom;

Curated by Parque Nacional Tikal, Guatemala

Height 17.8 cm
Diameter 10.6 cm
Whole? True

Shape-Form Vase, cylinder

Type: Variety Zacatel Cream Polychrome

Complex Imix (A.D. 700-850)

Text type SNT

K-Number K8008

Publication #1 Culbert 1993:Figure 83c

Publication #2 Coe 1990:Figure 282, Locus 20

Field #1 117A-1/36 Other # MT176

Curated by Parque Nacional Tikal, Guatemala

Height12.5 cmDiameter8.0 cmWhole?True

Shape-Form Vase, cylinder
Type: Variety Unnamed Cream
Complex Imix (A.D. 700-850)

Where made outside Tikal (Culbert 1993:83c)

Text type PSS & SNT

Tikal — Burial 200/PD 134, Operation 12T, Structure 5D-22-1st

Publication #1 Culbert 1993:Figure 147a

Field #1 12T-11/16, 18, 8, 9

Field #2 64-5-89 Other # MT 102

Curated by Parque Nacional Tikal, Guatemala

Height 7.0 cm
Diameter 30.8 cm
Whole? False

Shape-Form Plate, lateral-ridge tripod Type: Variety Saxche Orange Polychrome

Complex Ik (A.D. 550-700)

Where made Tikal Text type 2

Tikal — Problematic Deposit 54, Operation 12C, Unit 26, Room 3, Structure 5D-34-

l st

Publication #1 Moholy-Nagy 2003:Figure 144a

Field #1 12C-168/8
Other # MT 1
Curated by unknown
Height 52.2 cm
Diameter 18.0 cm

Whole? no

Shape-Form Drum, Type A

Type: Variety Saxche Orange Polychrome

Complex Ik (A.D. 550-700)

Where made unknown

Text type 1

Tikal — Lot 12L/31, Unit 47N & SW, Structure 5D-33-1st

Publication #1 Moholy-Nagy 2003:Figure 145e

Field #2 12L-269/31
Other # MT 253
Curated by unknown
Height unknown
Diameter unknown
Whole? unknown
Shape-Form Drum, Type C

Type: Variety Unspecified orange polychrome

Complex Ik (A.D. 550-700)

Where made unknown

Uaxactun — Burial A3, Pyramid E, Temple A-1, Group A

Museum # MNAE 3521

Publication #1 R.E. Smith 1955:Figure 73a(1)

Field #1 981

Curated by Museo Nacional de Arqueología y Etnología

Height 8.6 cm
Diameter 34.9 cm
Whole? yes

Shape-Form Plate, basal-ridge tripod

Type: Variety unknown

Complex Tepeu 1 (A.D. 550-650)

Text type 2

K-Number K30079

Museum # MNAE 977a

Publication #1 R.E. Smith 1955:Figure 72d

Curated by Museo Nacional de Arqueología y Etnología

Height +11.9 cm Diameter 16.8 cm Whole? no

whole:

Shape-Form Bowl, round side

Type: Variety unknown

Complex Tepeu 1 (A.D. 550-650)

Text type 3

Uaxactun — Burial A23, Construction V, Structure A-V, Group A

K-Number K30082

Museum # MNAE 2256

Publication #1 R.E. Smith 1955:Figure 7-h

Curated by Museo Nacional de Arqueología y Etnología

Height 11.8 cm
Diameter 16.8 cm
Whole? yes

Shape-Form Bowl, round side

Type: Variety unknown

Complex Tepeu 1 (A.D. 550-650)

Uaxactun — Burial 237, Operation 191, Sub-op 23, Lot 2, (F2-8) 2F+8

K-Number K30016

 Museum #
 MNAE 17212

 Field #1
 PNTA 565

Field #2 Hallazgo 191-5

Curated by Museo Nacional de Arqueología y Etnología

Height 21.0 cm Diameter 12.5 cm Whole? yes

Shape-Form Vase, cylinder Type: Variety unknown Complex unknown

Text type 1

Uaxactun — Operation XLIII, Lot 1, Sub-op 1

K-Number K30015 Museum # MNAE 16640 Field #1 PNTA 554

Curated by Museo Nacional de Arqueología y Etnología

Height 11.6 cm
Diameter 16.5 cm
Whole? yes

Shape-Form Bowl, round side

Type: Variety unknown Complex unknown

Text type 1

Uaxactun — unknown provenience

K-Number K30090

Museum # MNAE 8840

Publication #1 R.E. Smith 1955:Figure 32(9)

Curated by Museo Nacional de Arqueología y Etnología

Height 13.5 cm
Diameter 21.2 cm
Whole? no

Shape-Form Bowl, round side

Type: Variety unknown Complex unknown

Uaxactun — Burial A48, doorway Room 69, Construction S, Structure A-V,

Group A

Museum # MNAE 318 *IDAEH #* 1-1-01-0531

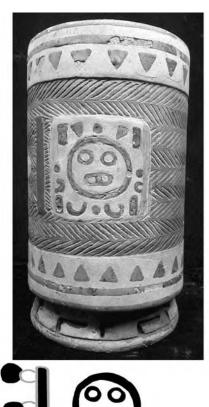
Publication #1 R.E. Smith 1955:Figure 1h & 1i

Curated by Museo Nacional de Arqueología y Etnología

Height 18.5 cm
Diameter 11.1 cm
Whole? yes

Shape-Form Vase, cylinder Type: Variety unknown

Complex Tepeu 2 (A.D. 650-830)







Appendix 3: Piedras Negras Sherds with Pseudo-Glyphs

Location Operation PN 11G-6-5, Patio 3, Acropolis

Field #1 PN 011G-06-05

Shape Vase
Type-Variety Unknown
Complex Late Yaxche ()

Text Category 2

Background cream
Outline black
Interior gray
Glyph A ?.PG8

Glyph B PG37.**NIK**?(T533)

Glyph C PG36 Glyph D PG37.PG8

Location Operation PN 12A-1-6, Front of Structure K-5, Plaza of

West Group

Field #1 PN 012A-01-06(b)

Field #2 Ficha 12 Shape Bowl

Type-Variety Sache Orange Polychrome:

Variety Unspecified

Complex Balche-Yaxche (A.D. 550-740)

Text Category 2

Background orange slip
Outline black

Interior orange slip

Glyph A ?.na Glyph B PG7



Location Operation PN 20F-1-4, Patio of Group U-14

Field #1 PN 020F-01-04

Field #2 Ficha 12 Shape Bowl

Type-Variety Mataculebra-Pseudo Glyph Complex Balche (A.D. 550-630)

Text Category 1

Background cream slip
Outline black
Interior red

Glyph A PG40.PG47 Glyph B PG40.PG47 Glyph C PG40.?



Location Operation PN 23-14-1, Plaza of Structure R-20, South Group

Field #1 PN 023-14-01

Field #2 Ficha 4
Shape Bowl

Type-Variety Sache Orange Polychrome:

Variety Unspecified

Complex Balche-Yaxche (A.D. 550-740)

Text Category 1

Background orange slip
Outline black

 Interior
 red

 Glyph A
 ?.ja

 Glyph B
 PG9

 Glyph C
 PG32.?



Location Operation PN 23B-1-2, Structure R-20, South Group

Field #1 PN 023B-01-02

Field #2 Ficha 4
Shape Bowl

Type-Variety Saxche: Interior-Exterior Complex Yaxche (A.D. 630-740)

Text Category 1

Background orange slip

Outline black
Interior red
Glyph A PG6
Glyph B PG38
Glyph C PG291:?



Location Operation PN 23E-6-2, Exterior walls Structures 18 and 31,

South Group

Field #1 PN 023E-06-02

Field #2 Ficha 2 Shape Vase

Type-Variety Resist-Reserve Polychrome

(Fichado Mataculebra J)

Complex Balche-Yaxche (A.D. 550-740)

Text Category 1
Background red
Outline black
Interior cream slip
Glyph A PG50
Glyph B PG49



Location Operation PN 23E-6-7, Exterior walls Structures 18 and 31,

South Group

Field #1 PN 023E-06-07

Field #2 Ficha 13 Shape Bowl

Type-Variety Sache Orange Polychrome:

Variety Unspecified

Complex Balche-Yaxche (A.D. 550-740)

Text Category 1

Background orange slip
Outline black
Interior red
Glyph A ?
Glyph B PG9
Glyph C PG10.?



Location Operation PN 23E-14-2, Interior of Structure R-18,

South Group

Field #1 PN 023E-14-02

Field #2 Ficha 1 Shape Bowl

Type-Variety Mataculebra-Unspecified Complex Balche (A.D. 550-630)

Text Category 2

BackgroundorangeOutlineblackInteriorcream slipGlyph APG27.PG28

Glyph B **JO?** (5=1 bar).**JO?** (5 dots)

Glyph C abraded.PG24



Location Operation PN 23E-14-3, Interior of Structure R-18,

South Group

Field #1 PN 023E-14-03(c)

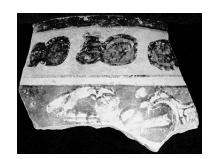
Field #2 Ficha 41 Shape Bowl

Type-Variety Mataculebra-Mataculebra PN

Complex Balche (A.D. 550-630)

Text Category 2

Background cream slip
Outline black
Interior brown
Glyph A na.PG20b
Glyph B ta.PG30
Glyph C ja.?



Location Operation PN 023E-14-3-1, Interior of Structure R-18,

South Group

Field #1 PN 023E-14-03-01

Shape Bowl

Type-Variety Sache Orange Polychrome:

Variety Unspecified

Complex Balche-Yaxche (A.D. 550-740)

Text Category 2

Background cream slip
Outline black
Interior red
Glyph A ?

Church B. KA2 (2 do

Glyph B KA? (2 dots)

Glyph C u?.ku



Location Operation PN 24B-3-4, Structure N-10, Southeast of West

Group Plaza

Field #1 PN 024B-03-04(a) body sherd

Field #2 Ficha 14
Shape Bowl

Type-Variety Mataculebra-Internal External

Complex Balche (A.D. 550-630)

Text Category 1

Background cream slip
Outline black
Interior orange
Glyph A PG1.PG33



Location Operation PN 24B-3-4, Structure N-10, Southeast of West

Group Plaza

Field #1 PN 024B-03-04(b) exterior

Field #2 Ficha 7 Shape Bowl

Type-Variety Mataculebra-Internal External

Complex Balche (A.D. 550-630)

Text Category 1

Background cream slip
Outline black
Interior orange
Glyph A PG34.PG35
Glyph B PG34?



Location Operation PN 24B-3-4, Structure N-10, Southeast of West

Group Plaza

Field #1 PN 024B-03-04(c) exterior

Shape Bowl

Type-Variety Mataculebra-Internal External

Complex Balche (A.D. 550-630)

Text Category 1

Background cream slip
Outline black
Interior orange
Glyph A ?

Glyph B PG34.PG35



Location Operation PN 24B-3-4, Structure N-10, Southeast of West

Group Plaza

Field #1 PN 024B-03-04F(c)

Shape Jar

Type-Variety Mataculebra-Pseudo Glyph Complex Balche (A.D. 550-630)

Text Category 1

Background cream slip+yellow on body

Outline black
Interior red

Glyph A PG13.PG12 Glyph B PG13.? Glyph C PG292



Location Operation PN 26A-7-4, Structure F-2, North Group Plaza

Field #1 PN 026A-07-04(b)

Shape Bowl

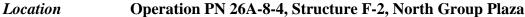
Type-Variety Sache Orange Polychrome:

Variety Unspecified

Complex Balche-Yaxche (A.D. 550-740)

Text Category 2
Background red
Outline black
Interior orange slip
Glyph A ?.PG16

Glyph B **NAH (T4)**.PG17



Field #1 PN 026A-08-04(a)

Field #2 Ficha 5
Shape Plate

Type-Variety Saxche: Interior-Exterior Complex Yaxche (A.D. 630-740)

Text Category 2

Background orange slip
Outline black

Interior orange slip Glyph A ?.PG280

Glyph B WINIK.PG280

Glyph C ?.PG280 Glyph D **chi.ni**



Location Operation PN 32G-6-4, South Room, Structure J-11, Patio 2,

Acropolis

Field #1 PN 032G-06-04(a)

Field #2 Ficha 3 Shape Vase

Type-Variety Palmar Orange Polychrome:

Pseudo Glyph

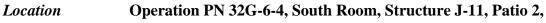
Complex Yaxche (A.D. 630-740)

Text Category 1

Background cream slip
Outline black
Interior cream slip

Glyph A?

Glyph B PG20b Glyph C PG20b Glyph D PG20b



Acropolis

Field #1 PN 032G-06-04(d)

Shape Bowl

Type-Variety Palmar Orange Polychrome:

Pseudo Glyph

Complex Yaxche (A.D. 630-740)

Text Category 1

Background cream slip
Outline black
Interior orange
Glyph A PG21
Glyph B PG21
Glyph C PG21
Glyph D PG21



Location Operation PN 32G-6-4, South Room, Structure J-11, Patio 2,

Acropolis

Field #1 PN 032G-06-04(e)

Shape Bowl

Type-Variety Palmar Orange Polychrome-

Pseudo Glyph

Complex Yaxche (A.D. 630-740)

Text Category 2

Background cream slip
Outline black
Interior cream slip

Glyph A NIK(T533?).PG20b Glyph B PG20b?.PG20b Glyph C PG20b.PG20b

Glyph D?

Glyph E PG20b.PG20b

Glyph F PG20b.?

Location Operation PN 33C-03-03, Patio of Structures U-8 & U-17,

Sector U

Field #1 PN 033C-03-03

Field #2 Ficha 7
Shape Plate

Type-Variety Saxche Orange Polychrome

Complex Yaxche (A.D. 630-740)

Text Category 1

Background cream slip
Outline black
Interior red

Glyph A fragment.PG298
Glyph B T715.PG298
Glyph C na?.PG299
Glyph D T715?.fragment



Location Operation PN 34A-08-1

Field #1 PN 034A-08-01

Shape Bowl

Type-Variety Sache Orange Polychrome:

Variety Unspecified

Complex Balche-Yaxche (A.D. 550-740)

Text Category

Background orange slip

Outline black
Interior red
Glyph A ?
Glyph B PG24



Location Operation PN 36A-5-3

Field #1 PN 036A-05-03

Shape Vase

Type-Variety Mataculebra-Mataculebra PN

Complex Balche (A.D. 550-630)

Text Category 3

Background cream slip
Outline black
Interior orange
Glyph A ?.nal:PG19
Glyph B 'a.PG45



Location Operation PN 41C-9-1

Field #1 PN 041C-09-01

Shape Bowl

Type-Variety Pacal Inciso Fino Monocromo

Complex Yaxche (A.D. 630-740)

Text Category 2

Background carved cream

Outline

Interior

Glyph A ?.K'AN.PG5

Glyph B na?



Appendix 4: Rio Azul Sherds with Pseudo-Glyphs

K-number 5621

Curated by Museo Nacional de

Arqueología y Etnología

Shape Vase

Type-Variety unknown

Complex Late Classic (A.D. 550-

900)

Text Category 2

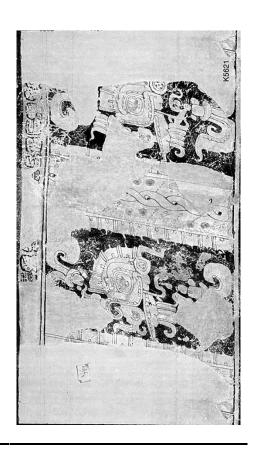
Background orange slip

Outline black
Interior white
Glyph A ja.k'al

Glyph B ETZ'NAB(T527):ja

Glyph C?

Glyph D ETZ'NAB(T527):ja



Field #1 001AC(a)

Curated by Ceramoteca IDAEH
Shape Bowl, round side

Type-Variety unknown

Complex Late Classic (A.D. 550-

900)

Text Category 3

Background black/red
Outline black
Interior cream slip
Glyph A 'a.K'U (T1016)
Glyph B 'a.K'U (T1016)



Field #1 001AC(b)

Curated by Ceramoteca IDAEH
Shape Bowl, round side
Type-Variety Palmar Orange

Polychrome

Complex Tepeu 2 (A.D. 650-830)

Text Category 3

Background orange slip
Outline black
Interior orange slip
Glyph A ?-ku
Glyph B mu:mu.ku



Field #1 005V 415

Curated by Ceramoteca IDAEH
Shape Bowl, round side with

ring base

Type-Variety unknown

Complex Late Classic (A.D. 550-

900)

Text Category 1

Background orange slip
Outline black
Interior pink
Glyph A PG18
Glyph B PG18:PG18



Field #1 401

Curated by Ceramoteca IDAEH
Shape Bowl, restricted neck

Type-Variety Palmar Orange

Polychrome

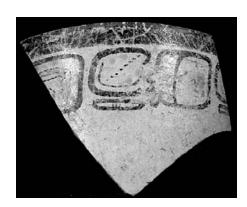
Complex Tepeu 2 (A.D. 650-830)

Text Category 2

Background orange slip
Outline black

Interior orange slip & red

Glyph A fragment
Glyph B PG151:ta?
Glyph C PG162
Glyph D fragment



402 Field #1

> Curated by Ceramoteca IDAEH Shape Bowl, restricted neck

Type-Variety Palmar Orange Polychrome

Complex Tepeu 2 (A.D. 650-830)

Text Category

Background orange slip

Outline black

Interior orange slip & red

?:ta? Glyph A PG162 Glyph B PG151:ta? Glyph C



Field #1 408 (d)

Curated by Ceramoteca IDAEH Shape Vase, restricted neck

Type-Variety unknown

Late Classic (A.D. 550-*Complex*

900)

Text Category 1

Background carved brown Glyph A ?.PG154 Glyph B PG153.PG154 Glyph C PG153.PG154 Glyph D PG153-PG154

Glyph E fragment



Field #1 5001 (3 rim sherds) Curated by Ceramoteca IDAEH Shape Bowl, round side

Type-Variety Palmar Orange Polychrome *Complex* Tepeu 2 (A.D. 650-830)

Text Category

Background cream slip Outline black Interior cream slip Glyph A PG155 Glyph B PG155 Glyph C PG155 Glyph D PG155 Glyph E PG155 Glyph F PG155



Field #1 no number (a)

Ceramoteca IDAEH Curated by Shape Bowl, restricted neck

Type-Variety unknown

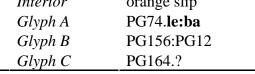
Late Classic (A.D. 550-900) Complex

Text Category 2

orange slip Background

Outline black

Interior orange slip PG74.le:ba





Field #1 no number (d) (3 sherds)

Ceramoteca IDAEH Curated by Bowl, round side Shape

Type-Variety Palmar Orange Polychrome Tepeu 2 (A.D. 650-830) *Complex*

Text 2

Category

Background orange slip

Outline black Interior red

Glyph A fragment.PG152

Glyph B PG152 Glyph C PG151:ta? Glyph D PG162

Glyph E ETZ'NAB(T527):ta?.PG152

Glyph F ETZ'NAB(T527).?



Appendix 5: Uaxactun Sherds with Pseudo-Glyphs

MNAE 1781 Field #1

Curated by Museo Nacional de

Arqueología y Etnología

Vase, barrel shaped Shape

Complex Tepeu 1 (A.D. 550-650)

Text Category

Background orange slip Outline black Interior cream

PG71.PG20b:PG20b. Glyph A

PG20b

PG20b Glyph B



Ceramoteca IDAEH Curated by Shape Bowl, round side *Type-Variety* Palmar Orange

Polychrome, Panela

Pasion (A.D. 613-771) *Complex*

Est. Diameter 18.0 cm

Text Category

orange slip Background Outline black Interior red

NIK?(T533).PG167 Glyph A

Glyph B NIK?(T533)

NIK?(T533).PG167 Glyph C

Field #1 34 (f)

Ceramoteca IDAEH Curated by Bowl, round side Shape *Type-Variety* Palmar Orange Polychrome, Panela

Pasion (A.D. 613-771)

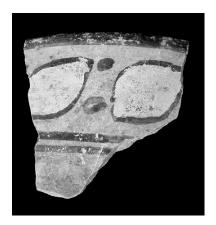
Complex 22.0 cm

Est. Diameter

Text Category Background orange slip Outline black Interior white PG20a Glyph A Glyph B KA (2 dots) Glyph C PG20a







Field #1 Curated by Shape *Type-Variety Complex* Est. Diameter

Text Category Background Outline Interior Glyph A Glyph B Glyph C

43 E-4

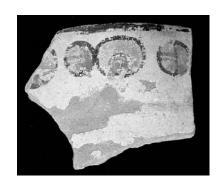
Ceramoteca IDAEH Bowl, round side Palmar Orange Polychrome, Panela

Pasion (A.D. 613-771) 20.0 cm

orange slip black red & green fragment PG167.PG163

PG167

43 T-5



Field #1

Curated by Ceramoteca IDAEH Bowl, round side Shape

Est. Diameter 20.0 cm

Text Category

Background orange slip Outline black Interior red

PG013.PG301 Glyph A Glyph B PG013.PG301



Field #1

50 A-01 (a) Ceramoteca IDAEH Curated by Shape Bowl, round side

22.0 cm Est. Diameter

Text Category

Background orange slip Outline black red Interior Glyph A fragment Glyph B **KA** (2 dots) Glyph C PG173:PG77



Field #1 50 A-01 (b)
Curated by Ceramoteca IDAEH
Shape Bowl, round side
Est. Diameter 17.0 cm

Text Category 2

Backgroundorange slipOutlineblackInteriororange slipGlyph APG174.PG175Glyph BTUUN.fragment



Field #1 50 A-01 (d)

Curated by Ceramoteca IDAEH4
Shape Bowl, round side

Est. Diameter 19.0 cm

Text Category 1

Background orange slip
Outline black
Interior red

Glyph A PG170.PG171 Glyph B PG172.PG171



Field #1 50 A-07

Curated by Ceramoteca IDAEH
Shape Bowl, round side

Estimated Diameter 16.0 cm

Text Category

Backgroundorange slipOutlineblackInteriororange slipGlyph Afragment.PG300Glyph BPG177.PG178



Field #1 62 H-02

Curated by Ceramoteca IDAEH4
Shape Bowl, round side

Est. Diameter 14.0 cm

Text Category

Background orange slip
Outline black
Interior red

Glyph A fragment.PG179
Glyph B PG179.fragment



Field #1 90 D-04 (a & b) Curated by Ceramoteca IDAEH2 Shape Bowl, round side

Est. Diameter 20.0 cm

Text Category

Background orange slip Outline black Interior red Glyph A fragment PG013.PG180 Glyph B Glyph C PG180 Glyph D PG180



Field #1 90 D-04 (c)

Curated by Ceramoteca IDAEH Shape Bowl, round side

PG013.PG180

Estimated Diameter 20.0 cm

Text Category

Glyph E

1 orange slip **Background** Outline black Interior red Glyph A PG181 PG181 Glyph B Glyph C PG181



Field #1 90 D-05

Ceramoteca IDAEH Curated by Bowl, round side Shape

Est. Diameter 20.0 cm

Text Category 1

Background orange slip Outline black Interior red Glyph A fragment Glyph B PG182.PG082 Glyph C PG182.PG082 Glyph D PG182.PG082 Glyph E PG182.PG082 Glyph F PG182.fragment



Field #1 97 A-14 (a) Ceramoteca IDAEH Curated by Shape Bowl, round side Est. Diameter 18.0 cm Text Category 3 Background cream slip Outline red Interior orange Glyph A fragment



Field #1 97 A-14 (b)

Glyph B Glyph C

Glyph D

Curated by Ceramoteca IDAEH
Shape Bowl, round side

u?.ku

u?.ku

u?.ku

Est. Diameter 20.0 cm Text Category 1

Text Category 1
Background orange slip
Outline black
Interior red

Glyph A PG183 Glyph B PG183.PG183

Glyph C PG183



Field #1 97 A-14 (d)

Curated by Ceramoteca IDAEH
Shape Bowl, round side

Est. Diameter 16.0 cm

Text Category 3

Background cream slip
Outline black
Interior orange
Glyph A HA (T501v)

Glyph B HA (T501v).HA (T501v)
Glyph C HA (T501v).HA (T501v)



Publication Number R.E. Smith 1955:

Figure 33(8)

Field #1 4306

Curated by Ceramoteca IDAEH
Shape Bowl, restricted neck
Complex Tepeu 1 (A.D. 550-650)

Text Category 2

Background orange slip

Outline black Interior red

Glyph A WUK (2 dots+1 bar)

Glyph B ki

Glyph C LAMAT

Glyph D ki



Appendix 6: Pottery with Legitimate Glyphs (N=100)

Site	Identification Number	INAA∻ Number	Citation
	K30114 ©		
	MNAE 16318		
Aguateca site®	K30173		
Altar de Sacrificios	Adams 1971:		Adams 1971:Figure 57a
site	Figure 57a		
Altar de Sacrificios site	K30092		Adams 1971:Figure 53a
Altar de Sacrificios site, Burial 096 (Ik site style)	K30088		Adams 1971:Figure 93
Altar de Sacrificios site, Burial 128	Adams 1971: Figure 77-80		Adams 1971:Figure 77-80
Altar de Sacrificios	Adams 1971:		Adams 1971:Figure 88
site, Burial 128	Figure 88		Additis 19/1.1 igute 66
Altun Ha style □	K2993		Reents-Budet 1994:204, Figure 5.43
Altun Ha style	K3034	253	Reents-Budet 1994:200- 201, Figure 5.40
Buenavista site, Burial 88b-11 (Naranjo artist)	K4464	1416	Reents-Budet 1994:295
Caracol site,	Chase & Chase		Chase & Chase 1987:44,
Structure 4L6	1987:44, Figure 58		Figure 58
Copan site (Altun Ha style)	K5446		Reents-Budet 1994:202, Figure 5.41
Dos Pilas region (EG)	K1599	651	Reents-Budet 1994:76, Figure 3.4
Dos Pilas region (EG)	K4669	1421	Reents-Budet 1994:83, Figure 3.11
Dos Pilas site, Burial 26	Dos Pilas No. 603136		Foias 1996:1097, Figure C.12c
Dos Pilas site, Burial 30	IDAEH 17-7-02-179		
Dos Pilas site, Burial 30	IDAEH 17-7-02-181		Foias 1996:1087, Figure C.2a
Dos Pilas site, Burial 30 (<i>Ik</i> ' EG)	MNAE 15357		Demarest et al. 1991:64, Figure 4.18

Site	Identification Number	INAA ♦ Number	Citation
Dos Pilas site, Burial 51	Dos Pilas No. 620596		Palka 1995:309, Figure 66
El Petén region	K30089		
El Zotz region	K4962	1432	Reents-Budet 1994:316, Figure 5
Holmul region (Tikal EG)	K03033	740	Reents-Budet 1994:351, Figure 82
Holmul site	Peabody Museum, Harvard No. c-5668		Merwin & Vaillant 1932:Plate 30a & c
Motul de San Jose region	K791		Reents-Budet 1994:174, Figure 5.10
Motul de San Jose region (<i>Ik</i> ' EG)	K533		Coe 1978
Motul de San Jose region (<i>Ik</i> ' EG)	K534		Reents-Budet 1994:172, Figure 5.7
Motul de San Jose region (<i>Ik</i> ' EG)	K1399	1419	Reents-Budet 1994:170, Figure 5.5
Motul de San Jose region (<i>Ik</i> ' EG)	K1439	1121	Reents-Budet 1994:166, Figure 5.2
Motul de San Jose region (<i>Ik</i> ' EG)	K1452		Reents-Budet 1994:97, Figure 3.23
Motul de San Jose region (<i>Ik</i> ' EG)	K1453		
Motul de San Jose region (<i>Ik</i> ' EG)	K1463	1418	Reents-Budet 1994:60, Figure 2.29
Motul de San Jose region (<i>Ik</i> ' EG)	K1728	1373	Reents-Budet 1994:95, Figure 3.21
Motul de San Jose region (Ik EG)	K2784	445	Reents-Budet 1994:94, Figure 2.30a
Motul de San Jose region (<i>Ik</i> ' EG)	K8286		
Motul de San Jose region (<i>Ik</i> ' EG)	K30112		
Nakbé region (codex style)	K511	1404	Reents-Budet 1994:357, Figure 89
Nakbé region (codex style)	K512		Coe 1973:Vessel 43
Nakbé region (codex style)	K521		Coe 1973:Vessel 47
Nakbé region (codex style)	K531		Robicsek & Hales 1981:Vessel 33

Site	Identification Number	INAA∻ Number	Citation
Nakbé region	K1185	347	Reents-Budet 1994:316,
(codex style)			Figure 4
Nakbé region	K1226		Robicsek & Hales
(codex style)			1981:Vessel 109
Nakbé region	K5057	648	Reents-Budet 1994:73,
(codex style)			Figure 3.1
Nakbé region	K5072		Reents-Budet 1994:73,
(codex style)			Figure 3.1
Nakbé region	K5164	1722	Reents-Budet 1994:328,
(codex style)			Figure 30
Nakbé region	K5364	151	Reents-Budet 1994:117,
(codex style)			Figure 4.8
Naranjo region	K1698	1684	Reents-Budet 1994:246,
			Figure 6.13
Naranjo region	K2730		
Naranjo region	K3400	1582	
Naranjo region	K4619		
Naranjo region	K5458	40	Reents-Budet 1994:150,
			Figure 4.41
Naranjo region	K5722	606	Reents-Budet 1994:345,
			Figure 71
Naranjo region	K5723	605	Reents-Budet 1994:84,
			Figure 3.12
Naranjo region (Ah	K633		Reents-Budet 1994:63,
Maxam signature)			Figure 2.31
Naranjo region (Ah	K635	1375	Reents Budet 1994:61,
Maxam signature)			Figure 2.30
Naranjo region (Ah	K2796		Reents-Budet 1994:64,
Maxam signature)			Figure 2.32
Naranjo region	K5976		
(Ucanal)			
Rio Azul region	K2914		
(Mo-Mouth			
appellative)	770=4:		
Rio Azul region	K3744		
(Mo-Mouth			
appellative)	1120155		
Tamarindito site (<i>Ik</i> '	K30177		
EG)	172707	4.40.4	D
Tayasal region	K2707	1491	Reents-Budet 1994:27,
			Figure 1.25

Site	Identification Number	INAA♦ Number	Citation
Tikal region	IDAEH 17-01-01- 1010		
Tikal region	IDAEH 17-01-01- 1362		
Tikal region	K772		Robicsek & Hales 1981:135, Figure 39A
Tikal region	K4427		
Tikal region	K4958		
Tikal region	K4961		
Tikal region	K4976	1680	Reents-Budet 1994:145, Figure 4.38
Tikal region	K5452	77	Reents-Budet 1994:136- 137, Figure 4.28
Tikal region	K5746		
Tikal region	K8007		
Tikal region	K30095		
Tikal region	K30160		
Tikal region (Animal Skull appellative)	K1261		Martin & Grube 2000:40
Tikal region (Animal Skull appellative)	K4679		Martin & Grube 2000:41
Tikal region (<i>Jasaw Chan K'awiil</i> appellative)	K4562		
Tikal region (Tikal EG)	K1941		Reents-Budet 1994:158, Figure 4.49
Tikal region (Tikal EG)	K2323	1397	Reents-Budet 1994:159, Figure 4.50
Tikal region (Tikal EG)	K30110		
Tikal site, Burial 116	Culbert 1993: Figure 68a		Culbert 1993:Figure 68a
Tikal site, Burial 116	K7997		Culbert 1993:Figure 70b
Tikal site, Burial 150	K30165		Culbert 1993:Figure 47a
Tikal site, Burial 159	K5620		Culbert 1993:Figure 48a
Tikal site, Burial 195	Culbert 1993: Figure 50e		Culbert 1993:Figure 50e
Tikal site, Burial 195	Culbert 1993: Figure 51a		Culbert 1993:Figure 51a
Tikal site, Burial 196	K2698		Culbert 1993:Figure 85b
Tikal site, Burial 196	K8008		Culbert 1993, Figure 84

Site	Identification Number	INAA ∻ Number	Citation
Tikal site - Burial 72	K2704		Culbert 1993:Figure 42c
Tikal site, Mundo Perdido	K2695		
Tikal site, Mundo Perdido	K3009		
Tikal site, Mundo Perdido	K30098		
Tikal site, Structure 5C-49	K2697		
Uaxactun site, Burial A2	Smith 1955:Figure 72b & 80k		Smith 1955:Figure 72b & 80k
Uaxactun site, Burial A23	MNAE 304		Smith 1955:Figure 7f & 80d
Uaxactun site, Burial A43	Smith 1955:Figure 3c & 80h		Smith 1955:Figure 3c & 80h
Uaxactun region	K5350	194	Reents-Budet 1994:326, Figure 24
Xultun region	K4572	1446	
Xultun region	K4909	1445	
Xultun region	K5366	1525	Reents-Budet 1994:13, Figure 1.9
Xultun region (codex style)	K1547		

- ◆ "INAA Number" = Instrumental Neutron Activation Analysis Number assigned by the Smithsonian Institution
- Vessels with K-numbers but no citation may be illustrated at the FAMSI website (http://research.famsi.org/kerrmaya.html)
- "Site" designations are given only for vessels provenienced through scientific excavation.
- "Style" or "region" indicates archaeological attribution through INAA or the identification of artistic motif, Emblem Glyph or appellative.

Images of these vessels are included in CD format.

Appendix 7: Cross List of Maya Pseudo-glyphs

PG#	Vessel Number	Site
1	PN24B-3-4(a) body sherd	Piedras Negras
2	K30068	Piedras Negras
3	K30068	Piedras Negras
4	K30068	Piedras Negras
5	K30117	Seibal
	PN 41C-9-1	Piedras Negras
6	PN 23B-1-2	Piedras Negras
7	PN 12A-1-6(b)	Piedras Negras
8	PN 11G-6-5	Piedras Negras
9	PN 23E-6-7	Piedras Negras
	PN 23-14-01	Piedras Negras
10	PN 23E-6-7	Piedras Negras
	K8000	Tikal
11	MNAE 6982	Altar de Sacrificios
	MNAE 9187	Altar de Sacrificios
12	PN 24B-3-4-F(c)	Piedras Negras
	no number (a)	Rio Azul
	K30091	Altar de Sacrificios
13	Field No. 43 T-5	Uaxactun
	Field No. 90 D-4 (a & b)	Uaxactun
	PN 24B-03-04-F(c)	Piedras Negras
14	MNAE 9187	Altar de Sacrificios
15	MSJ 2A-3-12-1, Vessel 3	Motul
16	PN 26A-7-4(b)	Piedras Negras
17	PN 26A-7-4(b)	Piedras Negras
18	K30127	Tikal
	5V 415	Rio Azul
19	PN 36A-5-3	Piedras Negras

PG#	Vessel Number	Site	
20a	Field No. 34 (f)	Uaxactun	
	Culbert 1993:Figure 43d	Tikal	
20b	PN 23E-14-3(c)	Piedras Negras	
	PN 32G-6-4(a)	Piedras Negras	
	PN 32G-6-4(e)	Piedras Negras	
	K30125	Tikal	
	K30157	Tikal	
	MNAE 8768 a & b	Uaxactun	
	K30118	Seibal	
21	PN 32G-6-4(d)	Piedras Negras	
22	MSJ 2A-3-12-1, Vessel 3	Motul	
23	MSJ 2A-3-12-1, Vessel 3	Motul	
24	PN 23E-14-2	Piedras Negras	
	PN 34A-8-1	Piedras Negras	
25	MSJ 2A-5-6-18	Motul	
26	MSJ 2A-5-6-18	Motul	
27	PN 23E-14-2	Piedras Negras	
28	PN 23E-14-2	Piedras Negras	
29	MSJ 2A-5-6-18	Motul	
30	PN 23E-14-3(c)	Piedras Negras	
31	K30097	Poptún	
32	PN 23-14-1	Piedras Negras	
	K8000	Tikal	
33	PN 24B-3-4(a) body sherd	Piedras Negras	
34	PN 24B-3-4(b) exterior	Piedras Negras	
	PN 24B-3-4(c) exterior	Piedras Negras	
35	PN 24B-3-4(b) exterior	Piedras Negras	
	PN 24B-3-4(c) exterior	Piedras Negras	
36	PN 11G-6-5	Piedras Negras	
37	PN 11G-6-5	Piedras Negras	
38	PN 23B-1-2	Piedras Negras	
39	K30068	Piedras Negras	
40	PN 20F-1-4	Piedras Negras	
41	K30068	Piedras Negras	

PG#	Vessel Number	Site	
42	K30067	Piedras Negras	
43	K30082	Uaxactun	
44	K30084	Poptun	
45	PN 36A-5-3	Piedras Negras	
46	K30070	Piedras Negras	
47	PN 20F-1-4	Piedras Negras	
48	Moholy-Nagy 2003:Figure 144a	Tikal	
49	PN 23E-6-2	Piedras Negras	
50	PN 23E-6-2	Piedras Negras	
51	Moholy-Nagy 2003:Figure 144a	Tikal	
52	K30091	Altar de Sacrificios	
53	K30091	Altar de Sacrificios	
54	K30091	Altar de Sacrificios	
55	K30091	Altar de Sacrificios	
56	K30091	Altar de Sacrificios	
57	K30091	Altar de Sacrificios	
58	K30067	Piedras Negras	
59	K30116	Uaxactun	
60	Moholy-Nagy 2003:Figure 145e	Tikal	
61	K30115	Uaxactun?	
62	IDAEH 17-07-02-20	Dos Pilas	
63	K7998	Tikal	
64	IDAEH 17-07-05-10	Arroyo de Piedra	
65	MNAE 6997	Altar de Sacrificios	
66	Moholy-Nagy 2003:Figure 145e	Tikal	
67	Moholy-Nagy 2003:Figure 145e	Tikal	
68	Culbert 1993:Figure 48c	Tikal	
69	Culbert 1993:Figure 48c	Tikal	
70	K30117	Seibal	
71	MNAE 1781	Uaxactun	
72	K30096	Poptún	
73	K30096	Poptún	
74	no number (a)	Rio Azul	
75	MNAE 6997	Altar de Sacrificios	

PG#	Vessel Number Site	
76	MNAE 6997	Altar de Sacrificios
77	MNAE 8768 a & b	Uaxactun
	K8001	Tikal
	Field No. 50 A-1 (a)	Uaxactun
78	MNAE 3521	Uaxactun
79	Culbert 1993:Figure 147a	Tikal
80	K7999	Tikal
81	K7999	Tikal
82	Field No. 90 D-5	Uaxactun
83	K7998	Tikal
84	MSJ 2A-3-12-1, Vessel 5	Motul de San Jose
85	IDAEH 17-01-01-121	Tikal
86	K7996	Tikal
87	K7996	Tikal
88	K7998	Tikal
89	K30139	Tikal
90	Culbert 1993:Figure 91k	Tikal
91	IDAEH 17-01-01-121	Tikal
92	K30077	Tikal
93	K30077	Tikal
94	K30125	Tikal
95	K30127	Tikal
96	K30127	Tikal
97	K30127	Tikal
98	K30127	Tikal
99	K30128	Tikal
100	K30128	Tikal
101	K30128 Tikal	
102	K30127	Tikal
103	Culbert 1993:Figure 78a1 Tikal	
104	K30127 Tikal	
105	K30157 Tikal	
106	K30133 Tikal	
	Culbert 1993:Figure 48c	Tikal

PG#	Vessel Number	Site	
107	K30139	Tikal	
108	K30139	Tikal	
109	K30157	Tikal	
110	K30157	Tikal	
111	K30157	Tikal	
112	K30157	Tikal	
113	K30157	Tikal	
114	K30157	Tikal	
115	K30157	Tikal	
116	K30157	Tikal	
117	IDAEH 17-01-01-119	Tikal	
118	IDAEH 17-01-01-119	Tikal	
119	IDAEH 17-01-01-119	Tikal	
120	IDAEH 17-01-01-119	Tikal	
121	IDAEH 17-01-01-119	Tikal	
122	IDAEH 17-01-01-137	Tikal	
123	Culbert 1993:Figure 48c	Tikal	
124	K30133	Tikal	
125	K30139	Tikal	
126	K7996	Tikal	
127	K7996	Tikal	
128	K7998	Tikal	
	K8001	Tikal	
129	K7998	Tikal	
	K8001	Tikal	
130	K7999	Tikal	
131	K7999	Tikal	
132	K8001	Tikal	
133	K8001	Tikal	
134	K8001	Tikal	
135	K8002	Tikal	
136	K8002	Tikal	
137	K8002	Tikal	
138	K8003	Tikal	

PG#	Vessel Number	Site	
139	K8003	Tikal	
140	K8003	Tikal	
141	K8003	Tikal	
142	K8003	Tikal	
143	K8005	Tikal	
144	K8005	Tikal	
	MNAE 17-07-02-239	Dos Pilas	
145	K8005	Tikal	
146	K8005	Tikal	
147	K8005	Tikal	
148	IDAEH 17-07-05-10	Arroyo de Piedra	
149	K30139	Tikal	
150	MSJ 2A-3-12-1, Vessel 6	Motul de San Jose	
151	Field No. 401	Rio Azul	
	Field No. 402	Rio Azul	
	no number (d)	Rio Azul	
152	no number (d)	Rio Azul	
153	Field No. 408 (d)	Rio Azul	
154	Field No. 408 (d)	Rio Azul	
155	Field No. 5001 (3 rim sherds)	Rio Azul	
156	no number (a)	Rio Azul	
157	K30139	Tikal	
158	K30157	Tikal	
159	K30157	Tikal	
160	Field No. 206245	Tamarindito	
161	Field No. 295245	Tamarindito	
162	Field No. 401	Rio Azul	
	Field No. 402	Rio Azul	
	no number (d)	Rio Azul	
163	Field No. 43 E-4	Uaxactun	
164	no number (a)	Rio Azul	
165	Field No. 206245	Tamarindito	
166	Culbert 1993:Figure 114g	Tikal	

PG#	Vessel Number	Site	
167	Field No. 33 (e)	Uaxactun	
	Field No. 43 E-4	Uaxactun	
168	K30157	Tikal	
169	K7996	Tikal	
170	Field No. 50 A-1 (d)	Uaxactun	
171	Field No. 50 A-1 (d)	Uaxactun	
172	Field No. 50 A-1 (d)	Uaxactun	
173	Field No. 50 A-1 (a)	Uaxactun	
174	Field No. 50 A-1 (b)	Uaxactun	
175	Field No. 50 A-1 (b)	Uaxactun	
176	K8005	Tikal	
177	0050 A-07	Uaxactun	
178	0050 A-07	Uaxactun	
179	Field No. 62 H-2	Uaxactun	
180	Field No. 90 D-4 (a & b)	Uaxactun	
181	Field No. 90 D-4 (c)	Uaxactun	
182	Field No. 90 D-5	Uaxactun	
	MNAE 9187	Altar de Sacrificios	
183	Field No. 97 A-14 (b)	Uaxactun	
184	K7996	Tikal	
185	K7996	Tikal	
186	K7998	Tikal	
187	K7998	Tikal	
188	K7998	Tikal	
189	K7998	Tikal	
190	K8000	Tikal	
191	K8000	Tikal	
192	K8000	Tikal	
193	IDAEH 17-07-02-14	Dos Pilas	
194	IDAEH 17-07-02-14	Dos Pilas	
195	IDAEH 17-07-02-14	Dos Pilas	
196	MNAE 9187	Altar de Sacrificios	
197	Seibal-1316a	Seibal	
198	Seibal-1316a	Seibal	

199 Seibal-1316a Seibal 200 Culbert 1993:Figure 43d Tikal 201 Culbert 1993:Figure 43d Tikal 202 K30118 Seibal 203 K30118 Seibal 204 K30118 Seibal 205 K30118 Seibal 206 K30118 Seibal 207 K30118 Seibal 208 K30118 Seibal 209 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-02-20 Dos Pilas 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 <	PG#	Vessel Number	Site	
201 Culbert 1993:Figure 43d Tikal 202 K30118 Seibal 203 K30118 Seibal 204 K30118 Seibal 205 K30118 Seibal 206 K30118 Seibal 207 K30118 Seibal 208 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-	199	Seibal-1316a	Seibal	
202 K30118 Seibal 203 K30118 Seibal 204 K30118 Seibal 205 K30118 Seibal 206 K30118 Seibal 207 K30118 Seibal 208 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-239 Dos Pilas 223 IDAEH 17-07-0	200	Culbert 1993:Figure 43d	Tikal	
203 K30118 Seibal 204 K30118 Seibal 205 K30118 Seibal 206 K30118 Seibal 207 K30118 Seibal 208 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-239 Dos Pilas 224 <th< th=""><th>201</th><th>Culbert 1993:Figure 43d</th><th>Tikal</th></th<>	201	Culbert 1993:Figure 43d	Tikal	
204 K30118 Seibal 205 K30118 Seibal 206 K30118 Seibal 207 K30118 Seibal 208 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 <th>202</th> <th>K30118</th> <th>Seibal</th>	202	K30118	Seibal	
205 K30118 Seibal 206 K30118 Seibal 207 K30118 Seibal 208 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-239 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas	203	K30118	Seibal	
206 K30118 Seibal 207 K30118 Seibal 208 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-239 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas </th <th>204</th> <th>K30118</th> <th>Seibal</th>	204	K30118	Seibal	
207 K30118 Seibal 208 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-29 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificio	205	K30118	Seibal	
208 K30118 Seibal 209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar	206	K30118	Seibal	
209 K30118 Seibal 210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 230 K30091	207	K30118	Seibal	
210 K30118 Seibal 211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	208	K30118	Seibal	
211 K30118 Seibal 212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios	209	K30118	Seibal	
212 K30118 Seibal 213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	210	K30118	Seibal	
213 K30118 Seibal 214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	211	K30118	Seibal	
214 IDAEH 17-07-05-10 Arroyo de Piedra 215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	212	K30118	Seibal	
215 IDAEH 17-07-05-10 Arroyo de Piedra 216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	213	K30118	Seibal	
216 IDAEH 17-07-02-20 Dos Pilas 217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	214	IDAEH 17-07-05-10	Arroyo de Piedra	
217 IDAEH 17-07-02-20 Dos Pilas 218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios		IDAEH 17-07-05-10		
218 IDAEH 17-07-02-20 Dos Pilas 219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-239 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	216	IDAEH 17-07-02-20	Dos Pilas	
219 IDAEH 17-07-02-20 Dos Pilas 220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	217	IDAEH 17-07-02-20		
220 IDAEH 17-07-02-20 Dos Pilas 221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	218	IDAEH 17-07-02-20	Dos Pilas	
221 IDAEH 17-07-02-20 Dos Pilas 222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	219	IDAEH 17-07-02-20		
222 IDAEH 17-07-02-20 Dos Pilas 223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	220	IDAEH 17-07-02-20	Dos Pilas	
223 IDAEH 17-07-02-20 Dos Pilas 224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	221	IDAEH 17-07-02-20	Dos Pilas	
224 IDAEH 17-07-02-239 Dos Pilas 225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	222	IDAEH 17-07-02-20	Dos Pilas	
225 IDAEH 17-07-02-239 Dos Pilas 226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	223	IDAEH 17-07-02-20	Dos Pilas	
226 IDAEH 17-07-02-239 Dos Pilas 227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	224	IDAEH 17-07-02-239	Dos Pilas	
227 K30123 Altar de Sacrificios 228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	225	IDAEH 17-07-02-239	Dos Pilas	
228 K30091 Altar de Sacrificios 229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	226	IDAEH 17-07-02-239	Dos Pilas	
229 K30091 Altar de Sacrificios 230 K30091 Altar de Sacrificios 231 K30091 Altar de Sacrificios	227	K30123	Altar de Sacrificios	
230K30091Altar de Sacrificios231K30091Altar de Sacrificios	228	K30091 Altar de Sacrifici		
231 K30091 Altar de Sacrificios	229	K30091	Altar de Sacrificios	
	230	K30091	Altar de Sacrificios	
232 K30091 Altar de Sacrificios	231	K30091 Altar de Sacrifici		
	232	K30091	Altar de Sacrificios	

PG#	Vessel Number Site		
233	K30091	Altar de Sacrificios	
234	K30091	Altar de Sacrificios	
235	Culbert 1993:Figure 72b	Tikal	
236	Culbert 1993:Figure 72b	Tikal	
237	Culbert 1993:Figure 72b	Tikal	
238	Culbert 1993:Figure 72b	Tikal	
239	Culbert 1993:Figure 72b	Tikal	
240	Culbert 1993:Figure 72b	Tikal	
241	Culbert 1993:Figure 72b	Tikal	
242	Culbert 1993:Figure 72b	Tikal	
243	Culbert 1993:Figure 72b	Tikal	
244	Culbert 1993:Figure 114g	Tikal	
245	Culbert 1993:Figure 114g	Tikal	
246	Culbert 1993:Figure 43d	Tikal	
247	Culbert 1993:Figure 43d	Tikal	
248	Culbert 1993:Figure 43d	Tikal	
249	K8000	Tikal	
250	K8000	Tikal	
251	K8000	Tikal	
252	K8000	Tikal	
253	K8000	Tikal	
254	K8000	Tikal	
255	K8000	Tikal	
256	K8000	Tikal	
257	K8000	Tikal	
	Smith 1955:Figure 33(8)	Uaxactun	
258	K8002	Tikal	
259	K30126	Tikal	
260	K30126	Tikal	
261	K30139	Tikal	
262	K30127	Tikal	
263	Culbert 1993:Figure 86b	Tikal	
264	Culbert 1993:Figure 91k Tikal		
265	K30125	Tikal	

PG#	Vessel Number Site		
266	K30125	Tikal	
267	K30125	Tikal	
268	Culbert 1993:Figure 48c	Tikal	
269	Culbert 1993:Figure 48c	Tikal	
270	Culbert 1993:Figure 48c	Tikal	
271	Culbert 1993:Figure 48c	Tikal	
272	IDAEH 17-01-01-119	Tikal	
273	Culbert 1993:Figure 147a	Tikal	
274	Culbert 1993:Figure 147a	Tikal	
275	Culbert 1993:Figure 114g	Tikal	
276	K8001	Tikal	
277	K8003	Tikal	
278	K8000	Tikal	
	K8001	Tikal	
279	K30066	Piedras Negras	
280	K30066	Piedras Negras	
	K30067	Piedras Negras	
	PN 026A-8-4(a)	Piedras Negras	
281	K8003	Tikal	
282	K8002	Tikal	
283	K8002	Tikal	
284	K8002	Tikal	
285	K8003	Tikal	
286	K8003	Tikal	
287	K8003	Tikal	
288	K30185	Dos Pilas	
289	K30185	Dos Pilas	
290	K30185	Dos Pilas	
291	PN 23B-01-02	Piedras Negras	
292	PN24B-03-04F(c) Piedras Negras		
293	Culbert 1993:Figure 114g	Tikal	
294	K8004	Tikal	
295	K8005	Tikal	
296	K8005	Tikal	

PG#	Vessel Number	Site
297	K8005	Tikal
298	PN 33C-03-03	Piedras Negras
	K8005	Tikal
299	PN 33C-03-03	Piedras Negras
300	50 A-07	Uaxactun
301	43 T-5	Uaxactun
302	MNAE 8768 a & b	Uaxactun
303	MNAE 8768 a & b	Uaxactun
304	MNAE 8768 a & b	Uaxactun
305	MNAE 8768 a & b	Uaxactun
306	MNAE 8768 a & b	Uaxactun
307	MNAE 8768 a & b	Uaxactun
308	MNAE 318	Uaxactun
309	MNAE 3521	Uaxactun
310	MNAE 3521	Uaxactun
311	MNAE 3521	Uaxactun
312	MNAE 3521	Uaxactun
313	K30116	Uaxactun
314	IDAEH 17-07-02-239	Dos Pilas

Appendix 8: Pseudo-glyphs on More Than One Vessel

PG#	Same Excavation		
IGπ	Location	Same Site	Different Site
5		2.000	\mathcal{B}_{x2}
9		0 _{x2}	
10			O _{x2}
11	€ x 2		
12			(i) x 3
13			() x 3
18			\mathbf{O}_{x2}
20a			$\bigcap_{x \in \mathbb{Z}}$
20b			1 1 1 1 1 1 1 1 1 1
24		P _{x 2}	
32			$\Theta_{x 2}$
34	S x 2		
35	Q	_	

PG#	Same Excavation Location	Same Site	Different Site
77			
106		8,2	
128			
129	1 x 2		
151		€ x 3	
162		x 3	
167			
182			Ø x 2
257			G x 2
278	E ×2		
280		E _{x 3}	
298			x 2

Table 1: Chronological Periods

Periods	Dates
Modern	A.D. 1500 — present
Post Classic	A.D. 1500 — 950
Late Classic	A.D. 950 — 550
Early Classic	A.D. 550 — 200
Preclassic	A.D. 200 — 900 B.C.
Formative/Archaic	900 B.C. — ±2000 B.C.

Table 2: Pseudo-glyph Datasheet

Cita					
Site K-Number					
Museum Nu	mhan				
	** *				
	istration Number				
	nograph Number				
	Ionograph Numb	er			
Field #1					
Field #2					
INAA Numb	oer				
T (1 0)		I	A 10 10 35 1	• •	
	Pseudo-glyphs		Artistic Mot		
	ior rim			ns or deities	
	cle body al column		Disen decor	nbodied head	s or animais
under			<u>uecor</u> plain	auve	
label	side		ріан		
	rior body				
	or rim				
	or rim or surface				
Number of b					
Background Border color					
Interior colo					
Interior colo	Or				
Block A	DI	ock B		Block E	
Block C		ock B		Block F	
DIOCK C	B10	DCK D		DIOCK F	
<u> </u>	1 Phrases c	omnosod (anly of pooudo	alynh alama	ats
			only of pseudo ogographic sig		
Category		1 elements		iii combinea w	, iu i
			only of real gly	phs that do no	ot express a
	coherent r	•	, g.,	1- 1- 1-15	

Table 3: Provenience and Description Datasheet

Site			
K-Number			
Museum Numbe	er		
IDAEH Registra	tion Number		
Primary Monog	raph Number		
Secondary Mono	_		
Field #1	8 1		
Field #2			
INAA Number			
Owner			
Height	ст	Diameter	ст
Circumference	cm	Whole Vessel?	yes/no
Pottery Shape	bowl	Pottery Form	barrel shaped
	dish	v	cylinder
	drum		flaring side
	jar		round side
	lid		round-side w/ ring base
	plate		tripod flaring-side w/ legs
	vase		tripod straight-side w/
			nubbin feet
	unknown		
G .		G 1 D 1	
Ceramic		Complex Date	
Complex			
Specific Date			
Location			
Structure Type	administrative-	Burial Type	cist
	residential		am mt
	fill		crypt
	midden		fill
	radial platform		offering
	sweatbath temple		simple tomb
Occupant	male	Place of Manufa	1
Occupant	female		icture/ Evidence
	child		
	unknown		
	GIINIOWII		

Table 4: Classification of Graves

Simple...... Interment in an unlined hole or pit in the ground or structural

1988:17).

elaborate than others by their greater dimensions and/or more

construction, i.e., well cut horizontally placed stone slabs, as opposed to vertically positioned, roughly shaped slabs (Welsh

carefully placed stones in a more complex stone wall

Table 5: Ceramic Chronology

Long Count	Christian	Major Periods	Altar de Sacrificios	Petexbatun	Piedras Negras
			Adams 1971:150, Table 26	Foias 1996:1011, Table 9.1	Миñoz 2001:540
	900	900	900	900	900
	875		Late Boca		Kumche
	850			850	850
10.0.0.0.0	830	Terminal	830	Petexbatun	
	825	Classic		Period 2	
	800		Early Boca	(AD 760-850)	Chacalhaaz
	775				775
	760		771	760	
	750	750			
9.15.0.0.0	731				
	725		Late Pasión		Yaxche
	700				
			691	Petexbatun	
	675			Period 1	
	650	Late		(AD 600-760)	650
9.10.0.0.0	633	Classic			
			Early Pasión		
	625				
			613		
	600		Chixoy	600	
			573		Balche
	575			Nacimiento	
			Veremos		
			554		
	550	550	Late Ayn	550	550

Long Count	Christian	Major Periods	Rio Azul & Uaxactun	Seibal Sabloff	Tikal Culbert
			Adams	1975:9,	1993:4, Table
			1987:Table 6	Figure 4	1
	900	900	900	900	900
	875				
	850		Tepeu 3	Bayal	850
10.0.0.0.0	830	Terminal	830	830	
	825	Classic			
	800				
	775				Imix
	760				
	750	750	Tepeu 2	Tepejilote	
9.15.0.0.0	731				
	725				
	700				700
	675				
	650	Late	650	650	
9.10.0.0.0	633	Classic			
	625				
	600				Ik
	575		Tepeu 1		
	550	550	550	550	550

Table 6: List of Pseudo-glyphs Incised as Graffiti at Tikal

	,
Location	Citation
Structure 5C-13, Room 8, east wall	Trik & Kampen 1983:Figure 27d
Structure 5C-13, Room 11, north wall	Trik & Kampen 1983:Figure 28c
Structure 5C-13, Room 13, east wall	Trik & Kampen 1983:Figure 29b, c
Structure 5D-2-1st, Room 2, north jamb	Trik & Kampen 1983:Figure 37
Structure 5D-33-2nd, Room 2, south wall	Trik & Kampen 1983:Figure 42
Structure 5D-50, Room 2, north wall	Trik & Kampen 1983:Figure 53i
Structure 5D-65, Room 7, south wall	Trik & Kampen 1983:Figure 68e, f, i
Structure 5D-65, Room 9, above lintel	Trik & Kampen 1983:Figure 69d
Structure 5D-91, Room 1A, north jamb	Trik & Kampen 1983:Figure 78a
Structure 5D-91, Room 1C, north wall	Trik & Kampen 1983:Figure 80b

Table 1: Observed Frequency of Classic Period Maya Vessels with Pseudo-glyphs

Tyne of Glynh				Vessel Shape	43		
and the or other	Bowls	Drums	Jars	Vases	Plates	Dishes	Total
Pseudo-glyphs ($N=121$)							
observed frequency*	09	2	2	37	19	1	121

* Observed frequency = number of vessels

Table 8: Locations of Real Glyphs or Pseudo-glyphs on Vessels

Encircle BodyA series of blocks that form a horizontal band around the vessel body.

Vertical ColumnsA series of blocks that divide the body of bowls, drums, jars or vases into panels.

Exterior BodyGroups of blocks not in proximity to any individual or character. Found on bowls, drums, jars and vases.

Underside.....Blocks visible by turning the vessel upside-down.

Interior Rim......A series of blocks that encircle the interior wall of plates or dishes.

Interior Surface.......A series of blocks located on the top surface of a plate or dish, where they would have been covered by the vessel contents.

Bowls, Drums, Jars and Vases with Real Glyphs and Pseudo-glyphs Table 9: Observed Frequency and Standardized Residuals of

		Location	Location on Bowls, Drums, Jars & Vases	rums, Jars	& Vases	
Type of Glyph		Vertical			Exterior	
	Encircling	Column	Underside	Label	Body	Total
Real glyphs ($N=87$)						
observed frequency*	02	11	0	36	25	142
expected value O	81.46	11.96	0.75	28.4	19.43	
square root of expected value	9.03	3.46	0.87	5.33	1+.41	
standardized residual*	-I.27	-0.28	-0.87	1.43	1.26	
Pseudo-glyphs ($N=+2$)						
observed frequency	39	5	1	2	1	48
expected value	27.54	4.04	0.25	9.6	6.57	
square root of expected value	5.25	2.01	0.50	3.10	2.56	
standardized residual	2.18	0.48	1.50	-2.45	-2.17	
Total	109	16	1	38	26	190

* Observed frequency = number of vessels

The presence of glyphs or pseudo glyphs at any one location is not mutually exclusive. Thus, the total for each sample is larger than the number of vessels.

Table 10: Observed Frequency and Standardized Residuals of Plates and Dishes with Real Glyphs and Pseudo-glyphs

Type of Clyph		Location on F	Location on Plates & Dishes	
type of orlypin	Interior Rim	Interior Surface	Label	Total
real glyphs ($N=I3$)				
observed frequency*	11	3	0	14
standardized residual*	0.49	-0.53	-0.67	
pseudo-glyphs ($N=I3$)				
observed frequency	10	9	1	17
standardized residual	-0.45	0.48	0.61	
Total	21	6	1	31

* Observed frequency = number of vessels \bullet Standardized residual $(r) = \frac{O - E}{\sqrt{E}}$

The presence of glyphs or pseudo glyphs at any one location is not mutually exclusive. Thus, the total for each sample is larger than the number of vessels.

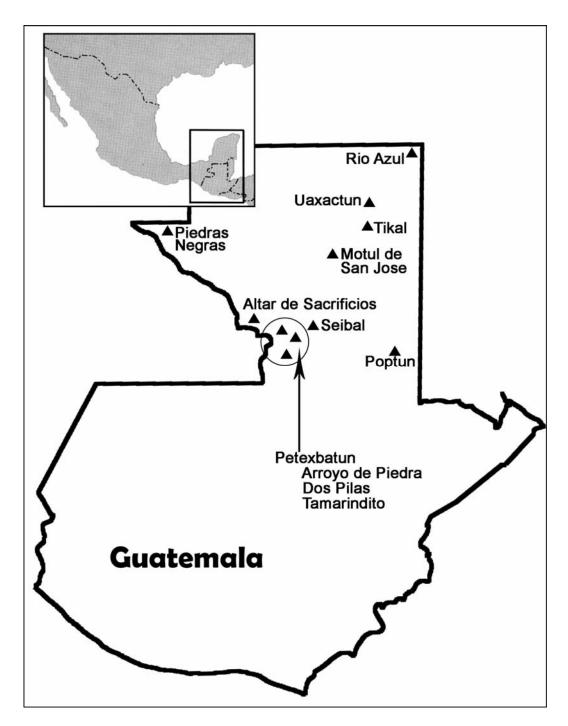


Figure 1 Map showing geographical location of the Maya region within Mesoamerica and the location of sites in Guatemala whence the vessels with pseudo-glyphs described in this dissertation were excavated (map after Grube, et al. 2001:10, Figure 1).

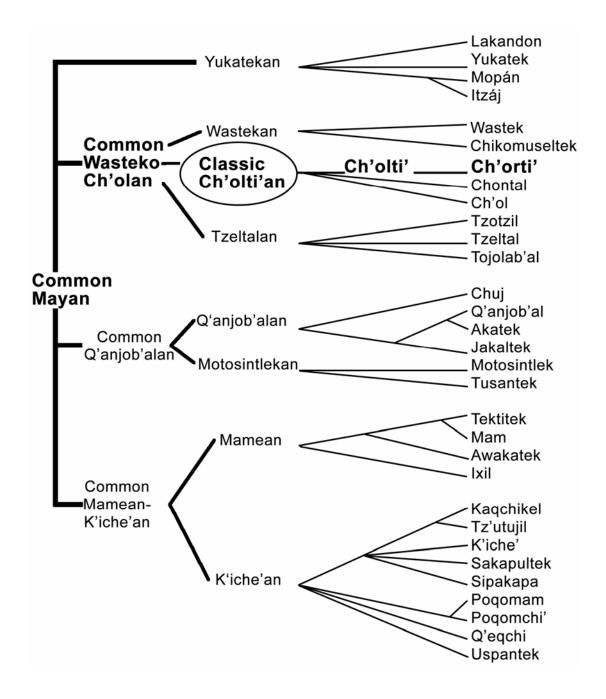


Figure 2 Dendrogram showing the evolution of Maya languages (modified from Robertson 1992:Figure I.I and Houston, et al. 2000:Figure 1). During the Classic Period (A.D. 200-950) the majority of legitimate hieroglyphic texts were written in Classic Ch'olti'an.



Figure 3 Photograph of equipment employed to create rollout photographs: a Hasselblad camera (modified with addition of continuous motor) and adjustable-speed turntable. The vase atop the turntable is a modern reproduction purchased by the author.

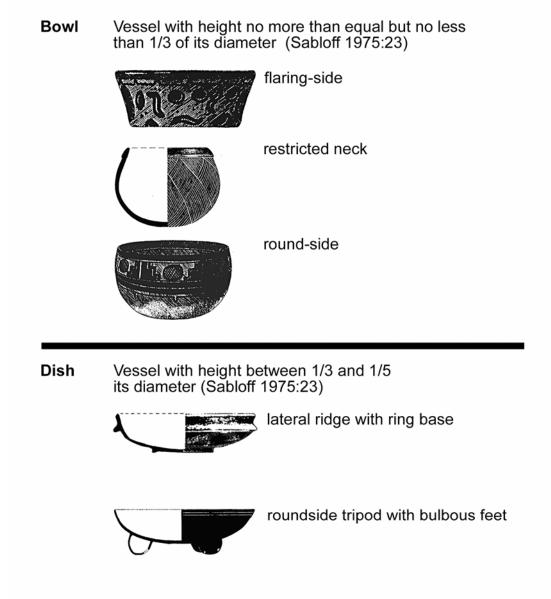


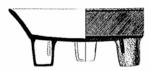
Figure 4 Vessel shape and form typology of bowls and dishes established by Sabloff (1975:23) for Maya ceramics from Seibal, Guatemala.

tripod straight-side with nubbin feet

Lid Connical shaped lid with handle (Sabloff 1975:23)



Plate Vessel with height less than 1/5 its diameter (Sabloff 1975:23)



flared sides with tripod legs



flared sides with nubbin-feet

Vase An unrestricted or simple restricted vessel with height greater than diameter (Sabloff 1975:23)

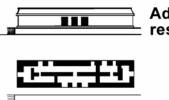


barrel shaped



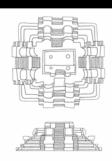
cylinder

Figure 5 Vessel shape and form typology of lids, plates and vases established by Sabloff (1975:23) for Maya ceramics from Seibal, Guatemala.

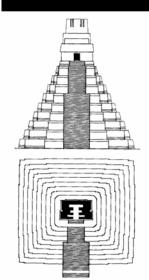


Administrativeresidential

Situated atop platforms, the multichambered structures likely functioned as a single- or extended-family residence. These buildings can contain fixed. masonry benches. Sometimes referred to as "palace" in the literature (illustration of Piedras Negras Structure J-9 after Andrews 1975:45, Figure 6).



Radial Platform A masonry mass in the form of a stepped and truncated pyramid without a structure at its summit. A radial platform has equal sides and stairs on all four sides leading to the summit that bears no structure (illustration of Uaxactun Structure E-Sub VII after Andrews 1975:12, Figure 3).



Temple

A platform in the form of a stepped and truncated pyramid with a structure at its summit; both structure and platforms tend towards square shapes in plan. In most cases the highly directional and exterior doorways are found only in the front wall of the superstructure (illustration of Tikal Structure 5D-1 after Andrews 1975:40, Figure 5).

Figure 6 Elite-dominated structure types from which pseudo-glyph decorated pottery was excavated (after Andrews 1975).

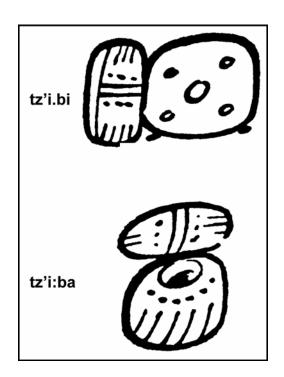


Figure 7 Phonetic *tz'ib* ("writing") (after Stuart 1987:2, Figure 2).

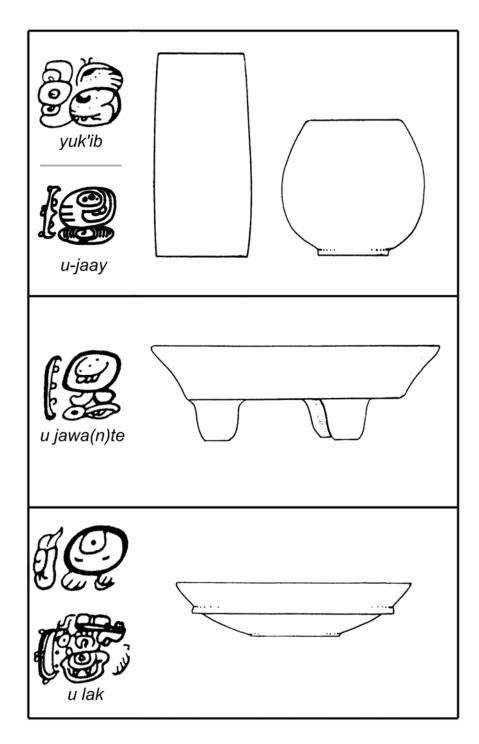


Figure 8 Glyphs in the Dedicatory Formula that describe vessel shapes as *yuk'ib* ("it is the drinking vessel of"), *u jaay* ("it is the clay bow of"), *u jawante* ("it is the wide-mouthed, tripod container of"), *u lak* ("it is the plate or dish of") (after Houston et al. 1989:723).

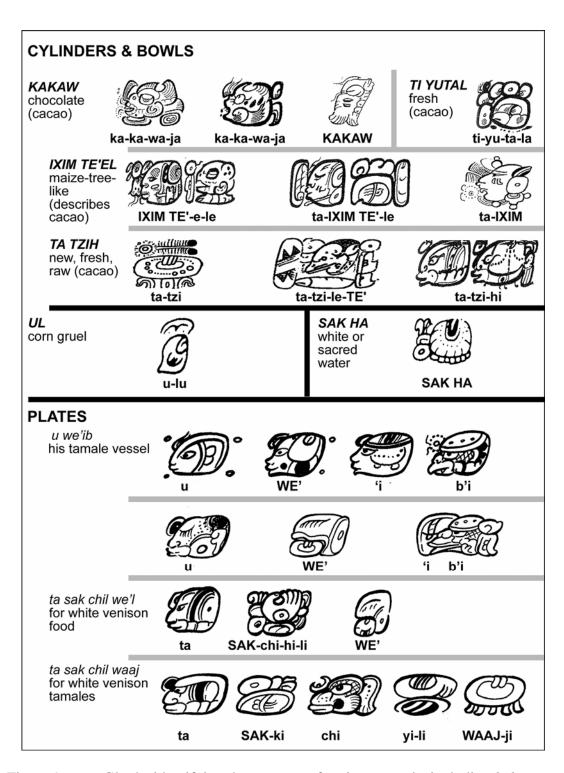


Figure 9 Glyphs identifying the contents of various vessels, including *kakaw* ("chocolate") (after D.S. Stuart 1988), *ul* ("corn gruel") (after MacLeod and Grube 1990), and tamales (after Zender 2000).



Figure 10 Reading order of the Dedicatory Formula or Primary Standard Sequence ("PSS") on Classic Period Maya pottery generally proceeds from left-to-right in a single band encircling the vessel (after Reents-Budet 1994:117, Figure 4.8).

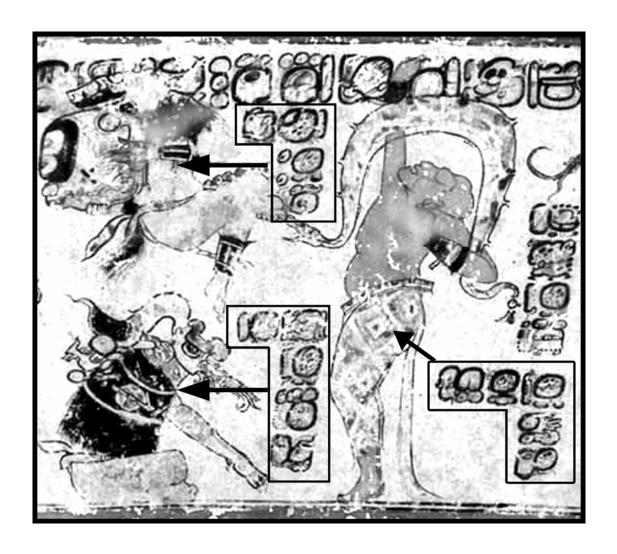


Figure 11 Detail from cylinder vase K30088 (from Altar de Sacrificios Burial 96) showing multiple characters, each identified by a SNT that gives their individual name and title.

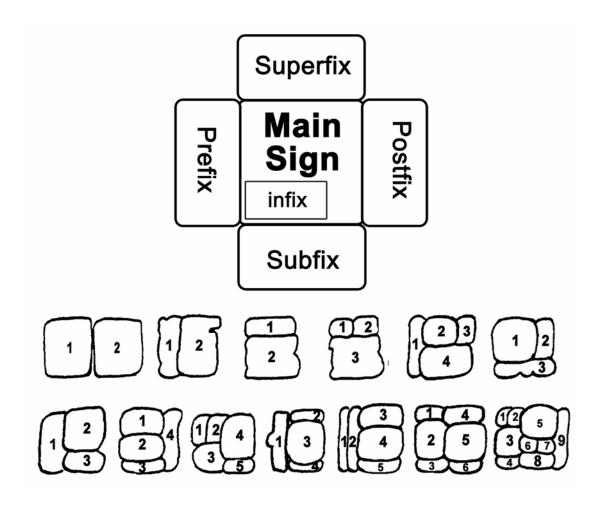


Figure 12 Maya glyph blocks are roughly square in outline with various "affixes" appended to a "main" sign (after Jones 1984:4). Logographs or syllables can serve as either affixes or main signs; size does not determine the sign's meaning or function.

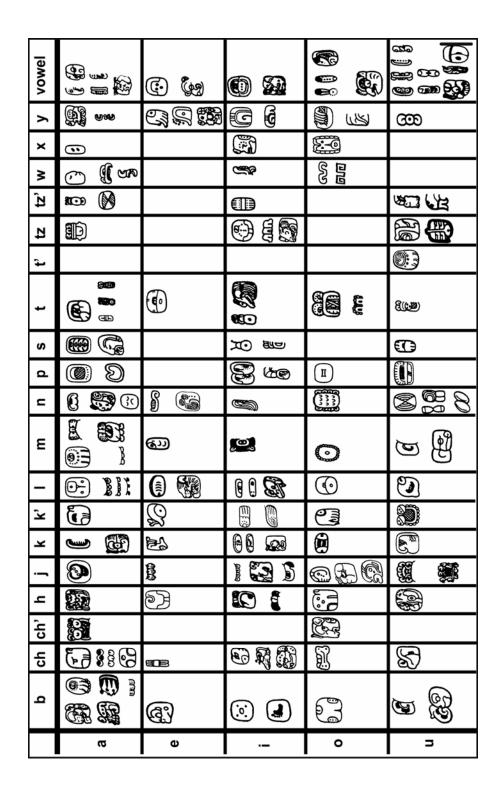


Figure 13 Maya phonetic signs arranged in a syllabary (after Grube 2000:16-17).

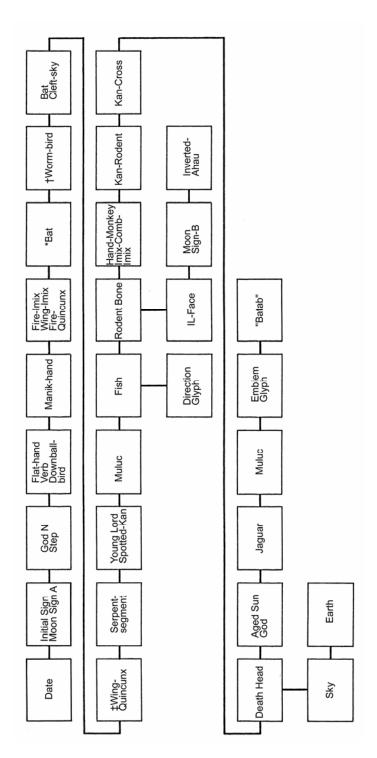


Figure 14 Michael Coe (1973:158, Table 1) employed descriptive terms to identify the glyphs used in the Dedicatory Formula or Primary Standard Sequence ("PSS") on Classic Period Maya vessels.

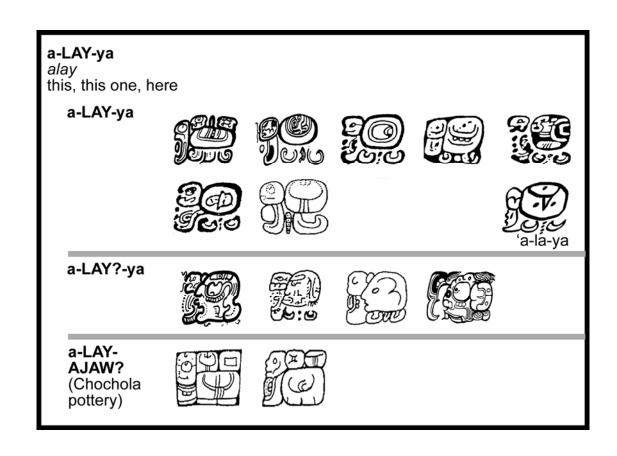


Figure 15 Most Dedicatory Formulas begin with a collocation deciphered as *alay* (after Calvin 2004:V-53).

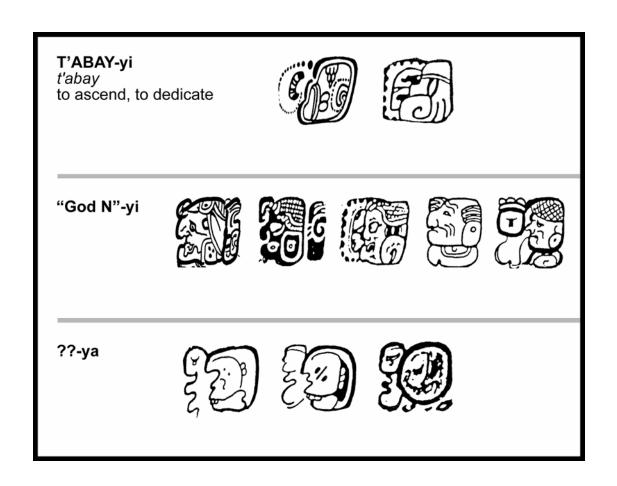


Figure 16 Read as *t'abay*, the **GOD N** and **DEATH HEAD** can substitute for the **STEP** glyph meaning "to ascend or dedicate" (after Calvin 2004:V-53).

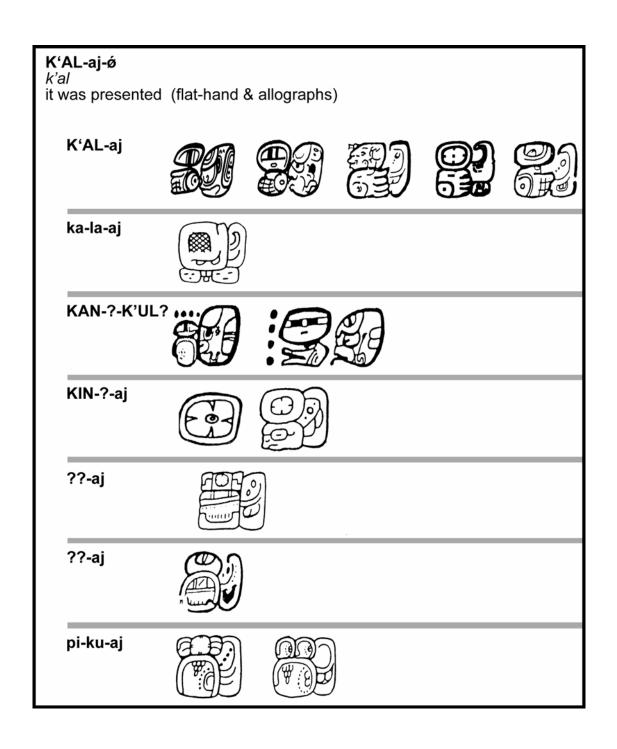


Figure 17 The flat-hand k'al has been deciphered as "it was presented." Although the allographs can be phonetically pronounced, their meaning remains elusive (after Calvin 2004:V-54).

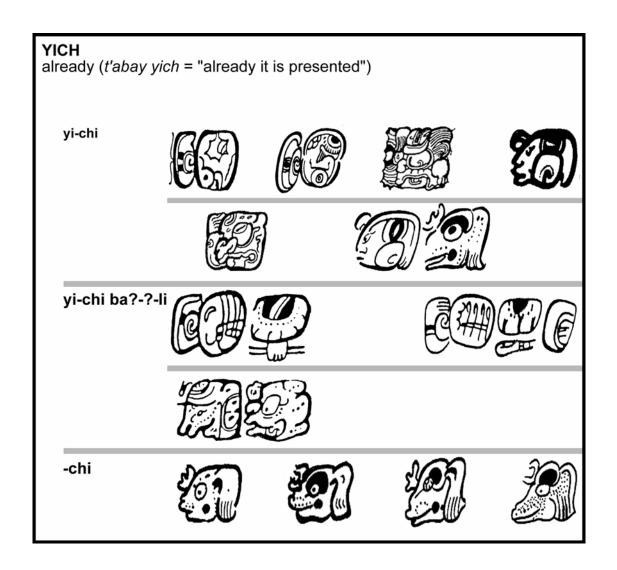


Figure 18 *Yich* combines with the **STEP** *t'abay* to possibly form the expression "already it is presented" (although this reading is not universally accepted; illustration after Calvin 2004:V-55).

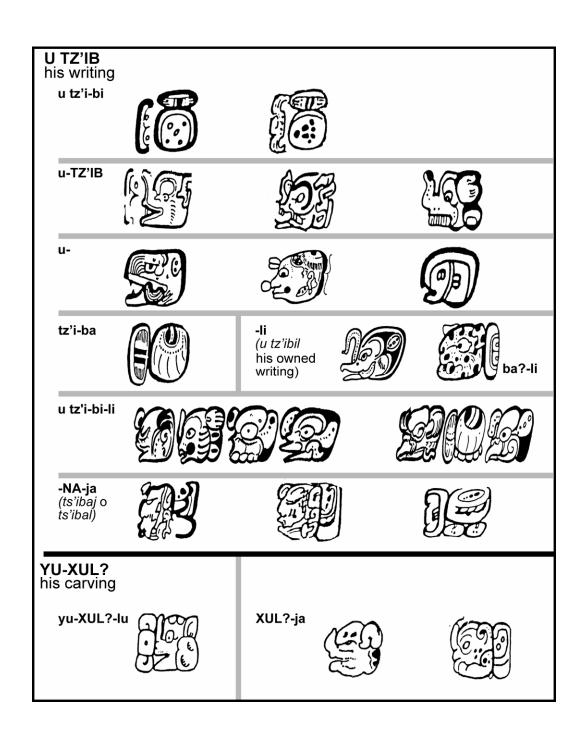


Figure 19 Glyphs record whether pottery was painted (*u tz'ib* "the writing of") or carved (*yu-xul?* "the carving of") (after Calvin 2004:56).

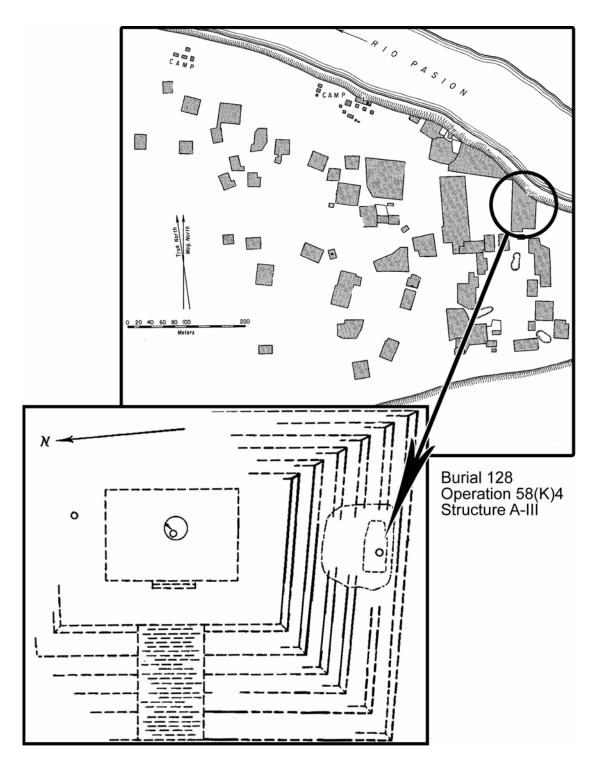


Figure 20 Map of Altar de Sacrificios highlighting the location of Operation 58(K)4 and detail showing Burial 128, Structure A-III (after Smith 1972:Figure 1).

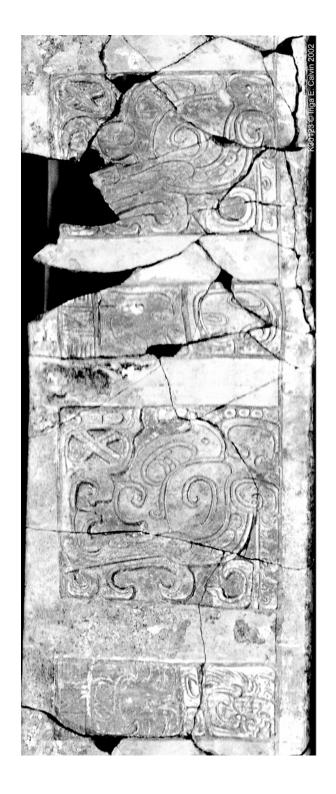


Figure 21 Rollout photograph of K30123, a cylinder vase from Burial 123, Operation 58(K)4, Structure A-III, Altar de Sacrificios.

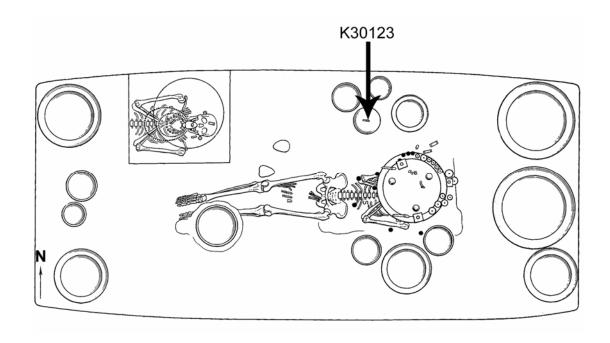


Figure 22 Plan drawing of Burial 128, Altar de Sacrificios, showing location of K30123 decorated with pseudo-glyphs (after Smith 1972:141, Figure 49a).

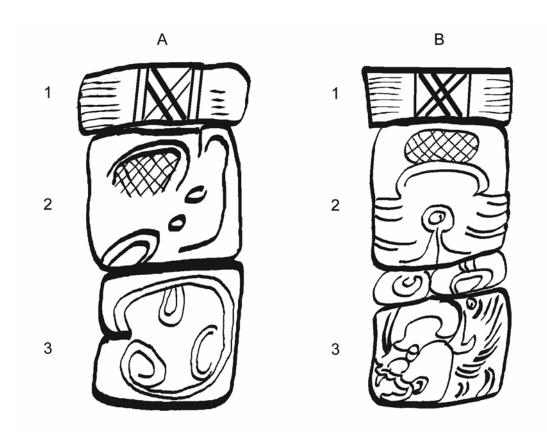


Figure 23 Drawing of pseudo-glyphs carved on cylinder vase K30123 from Altar de Sacrificios.



Figure 24 Line drawing of tripod plate MNAE 6982 that covered the face of Burial 128, Altar de Sacrificios (after Adams 1971:Figure 91).

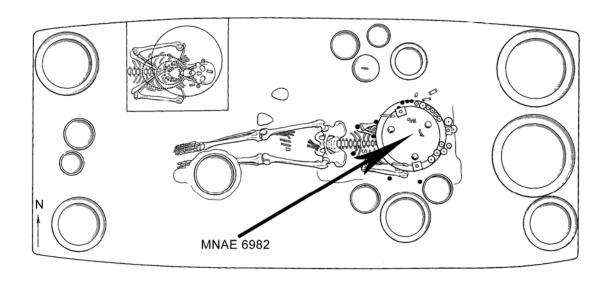


Figure 25 Plan drawing of Burial 128, Altar de Sacrificios, showing location of MNAE 6982 decorated with pseudo-glyphs (after Smith 1972:141, Figure 49a).

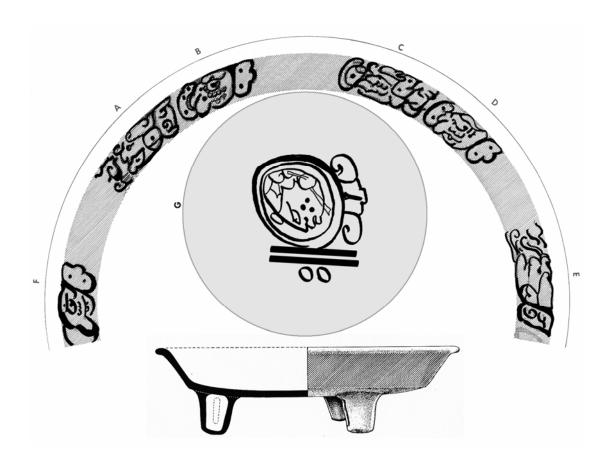


Figure 26 Line drawing of tripod plate MNAE 9187 found in southwest corner of Burial 128, Altar de Sacrificios (after Adams 1971:Figure 89; revised by author based on examination of plate). Adams (1971:67) reported that tripod plate Altar No. 58-132, recovered from the southeast corner, bore similar decoration.

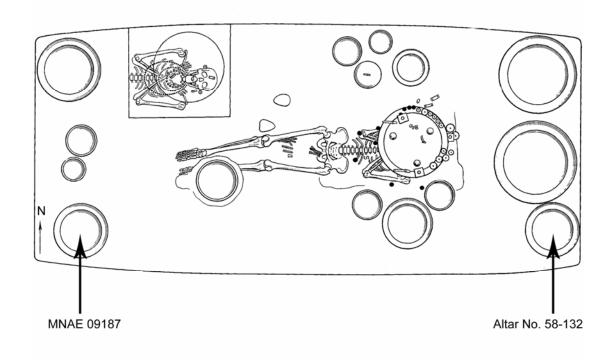


Figure 27 Plan drawing of Burial 128, Altar de Sacrificios, showing locations of MNAE 9187 and Altar No. 58-132, both decorated with pseudoglyphs (after Smith 1972:141, Figure 49a).



Figure 28 Line drawing of Altar No. 58-131, a tripod plate found along east wall of crypt, Burial 128, Altar de Sacrificios (after Adams 1971: Figure 90). Tripod plate Altar No. 58-130, described in the site report as of similar size and decoration, was recovered from the northeast corner.

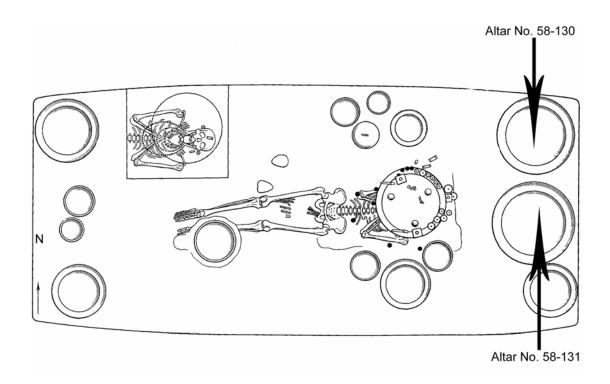
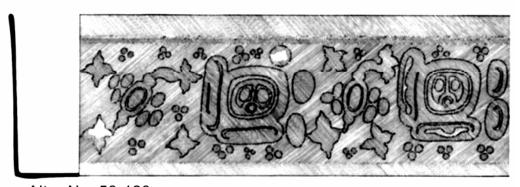


Figure 29 Plan drawing of Burial 128, Altar de Sacrificios, showing location of tripod plates Altar Nos. 58-131 and 58-130, decorated with pseudo-glyphs (after Smith 1972:141, Figure 49a).



Altar No. 58-135



Altar No. 58-123

Figure 30 Drawing of cylinder vases with legitimate hieroglyphic text, Altar No. 58-135 (after Adams 1971:Figures 77-80) and Altar No. 58-123 (after Adams 1971:Figure 88), from Burial 128, Altar de Sacrificios.

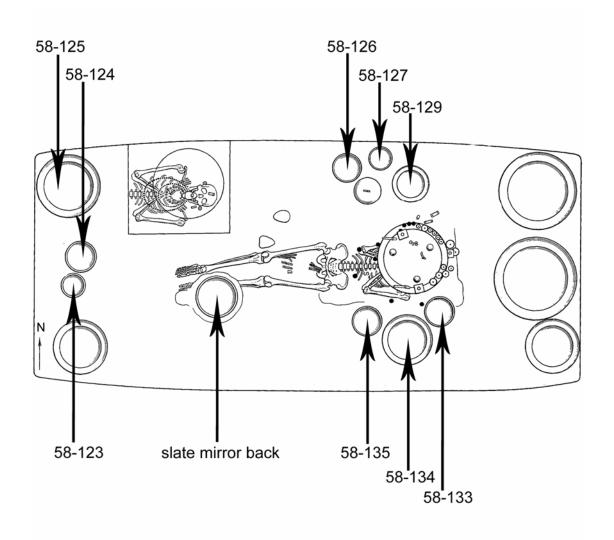


Figure 31 Plan drawing of Burial 128, Altar de Sacrificios, showing location of ceramics not decorated with pseudo-glyphs (designations are Altar Field Numbers; after Smith 172:141, Figure 49a).



Altar No. 58-124 (Adams 1971:Figure 85a)



Altar No. 58-126 (Adams 1971:Figure 81)



Altar No. 58-129 (Adams 1971:Figure 83)



Altar No. 58-127 (Adams 1971:Figure 84)



Altar No. 58-133 (Adams 1971:Figure 82)

Figure 32 Drawing of polychrome vessels without inscription interred with Burial 128, Altar de Sacrificios (Adams 1971).



Figure 33 Photograph of MNAE 6997, a round-side bowl fragment excavated from Altar de Sacrificios.

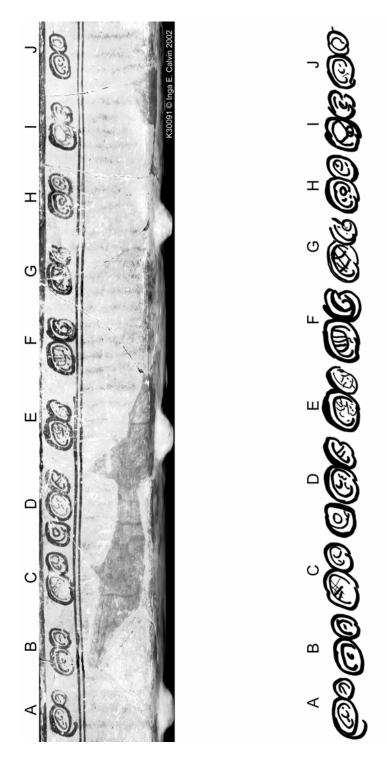


Figure 34 Photograph and drawing of pseudo-glyphs of K30091, a straight-sided bowl with three nubbin feet from Altar de Sacrificios.

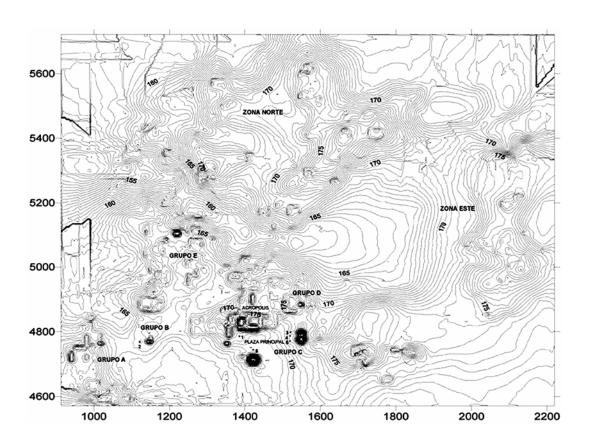


Figure 35 Topographic map of Motul de San José (after Foias 2003).

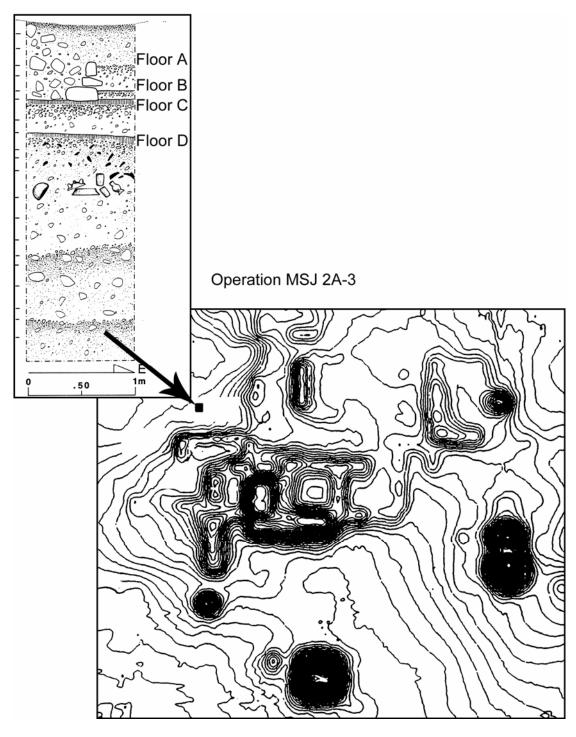


Figure 36 Map showing location of Motul de San Jose Operation 2A-3, a 1-x-1 m unit, and detail profile of north wall (after Foias 1998:23-24, Figure 3.1 and Figure 3.2).



Figure 37 Photograph of MSJ 2A-3-12-1 Vessel 03, a tripod plate with pseudo-glyphs from Operation MSJ 2A-3, Motul de San José.



Figure 38 Drawing of pseudo-glyphs painted on plate MSJ 2A-3-12-1, Vessel 3, from Operation 2A-3, Motul de San José.



Figure 39 Photograph of MSJ 2A-3-12-1 Vessel 5, a cylinder vase fragment with pseudo-glyphs, from Motul de San José.

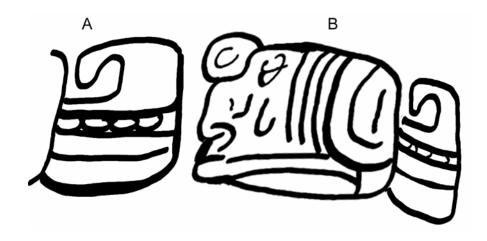


Figure 40 Drawing of rim text of cylinder vase MSJ 2A-3-12-1 Vessel 5, from Motul de San José.



Figure 41 Photograph of MSJ 2A-3-12-1 Vessel 6, a cylinder vase fragment from Operation MSJ 2A-3, Level 12, Motul de San José.

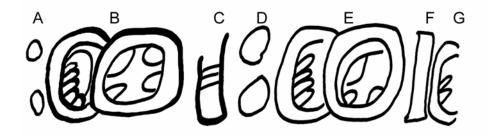


Figure 42 Drawing of pseudo-glyphs on MSF 2A-3-12-1 Vessel 6, from Operation MSJ 2A-3, Motul de San José.

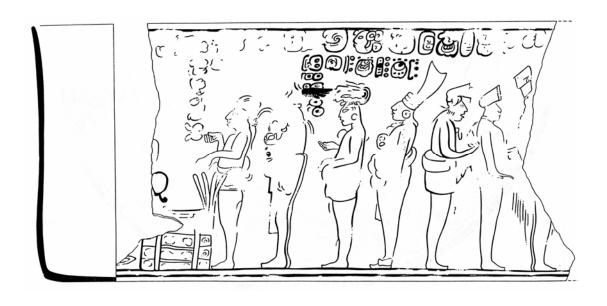


Figure 43 Drawing of unnumbered cylinder vessel with illegible blocks excavated from Operation MSJ 2A-3-12-1, Motul de San José (Foias et al. 1998:25, Figure 3.3)

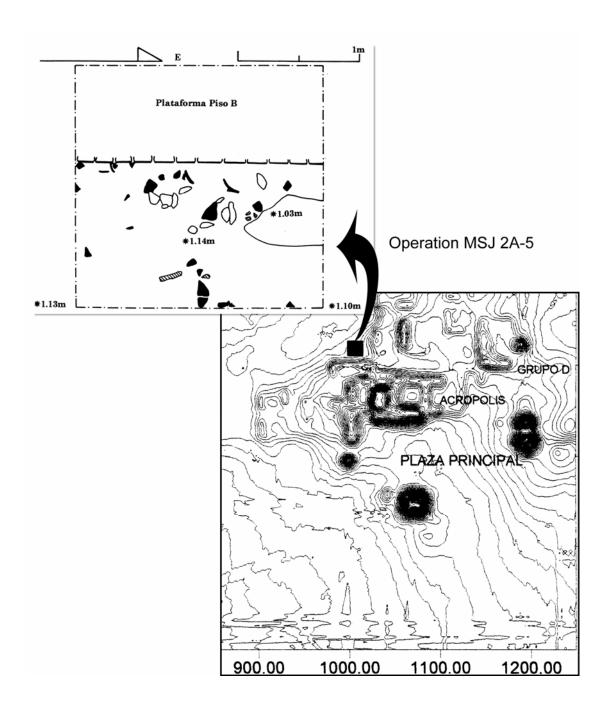


Figure 44 Map showing location of Motul de San José Operation MSJ 2A-5 with plan drawing showing location of Platform Floor B and, at east wall, the rock covering Burial #3 (after Castellanos 2000:60, Figure 5.1 and Guffey et al. 2000:73, Figure 6.2).



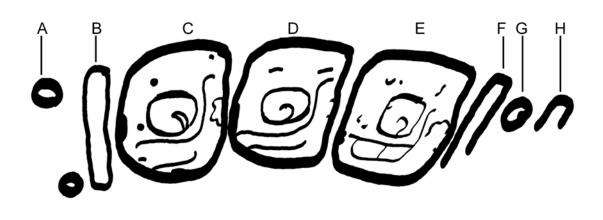


Figure 45 Photograph and drawing of pseudo-glyphs from MSJ 2A-5-6-18, a flaring-side plate fragment from Operation MSJ 2A-5, Motul de San José.



Figure 46 Photograph of K30176, a globular bowl recovered from Operation MSJ 2A-5-6-18, Motul de San José.

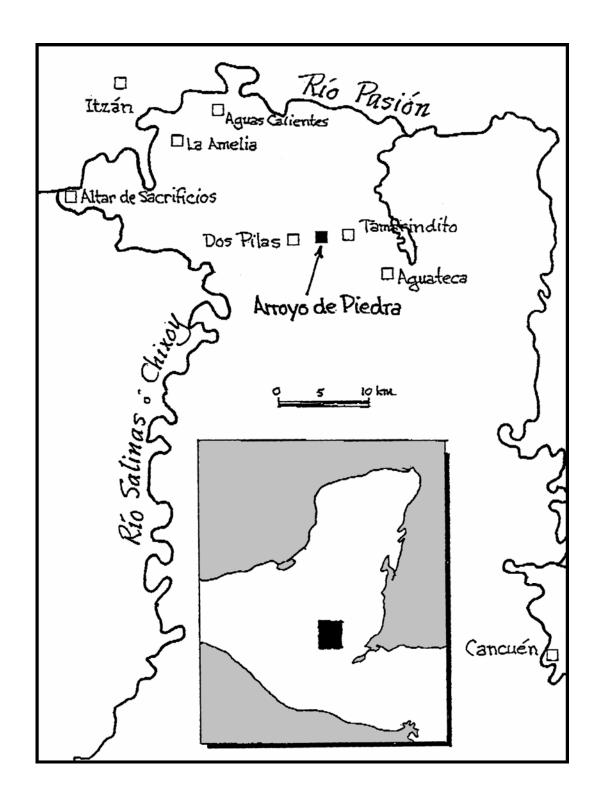


Figure 47 Map showing location of Petexbatun sites (after Stuart 1990:354, Figure 18.1).

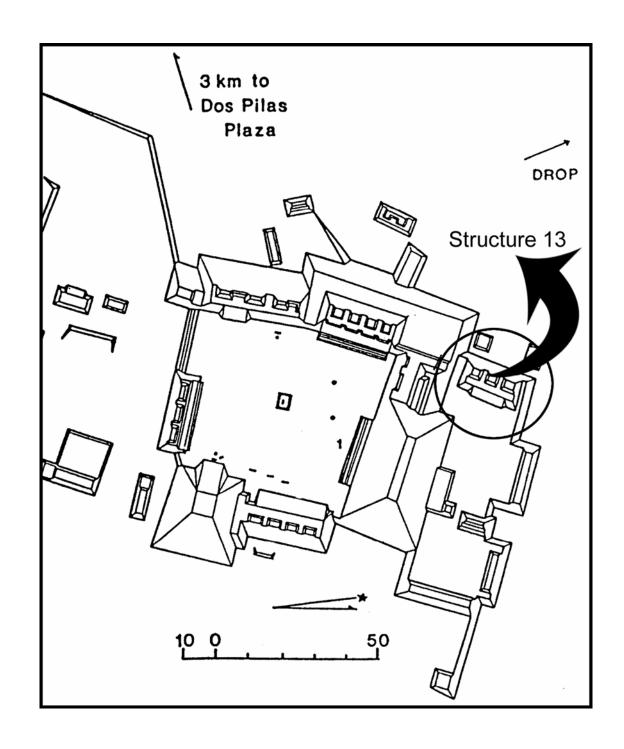


Figure 48 Map of Arroyo de Piedra showing location of Structure 13, North Plaza (after Escobedo 1994:16-2, Figure 16.1).

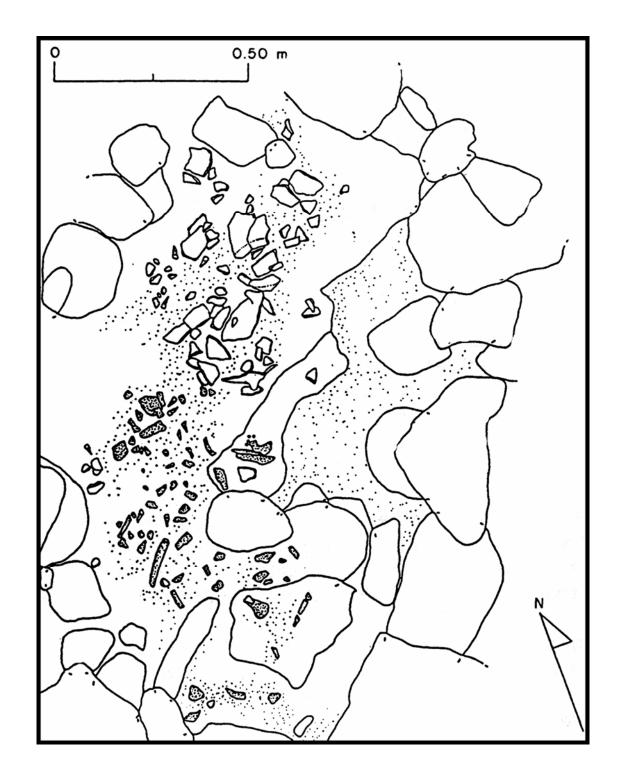


Figure 49 Plan drawing of cist Burial 4, Structure 13 midden, Arroyo de Piedra (after Urquizú 1994:18-6, Figure 18.2).

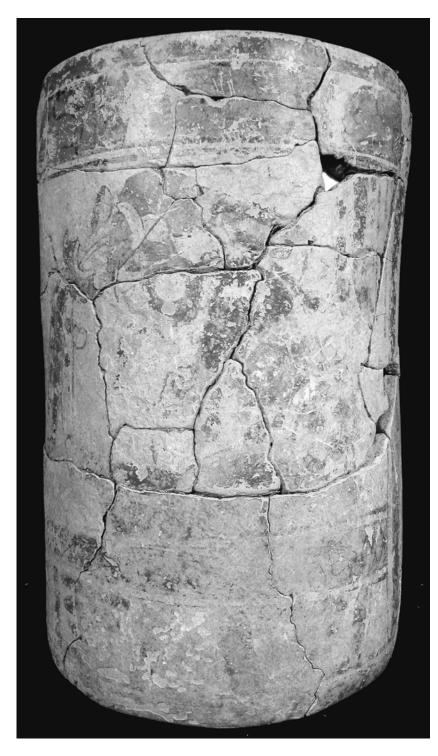


Figure 50 Photograph of IDAEH 17-07-05-10, a cylinder vase with pseudo-glyphs from Arroyo de Piedra, Burial 4, Structure 13 midden.

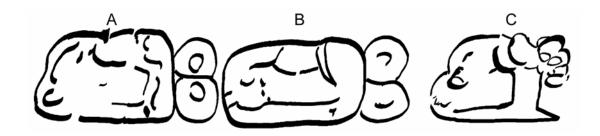


Figure 51 Drawing of three extant pseudo-glyphs from rim of cylinder vase IDAEH 17-07-05-10, from Arroyo de Piedra.

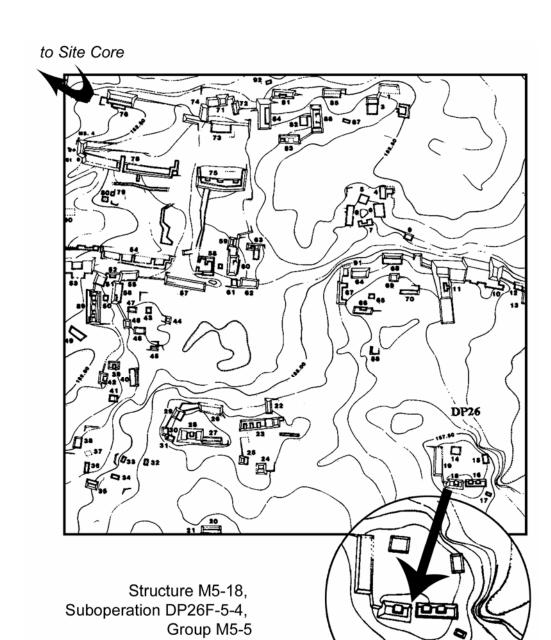


Figure 52 Map of Dos Pilas (after Inomata 1989:27, Figure 3.4) with detail showing location of Burial 25, Suboperation DP26F-5-4, Structure M-18, Group M5-5 (after Emery et al. 1991:170, Figure 11.1).



Figure 53 Photograph and drawing of pseudo-glyphs of IDAEH 17-07-02-14, a tripod plate recovered from Burial 25, Operation DP26F5-4, Structure M-18, Group M5-5, Dos Pilas.

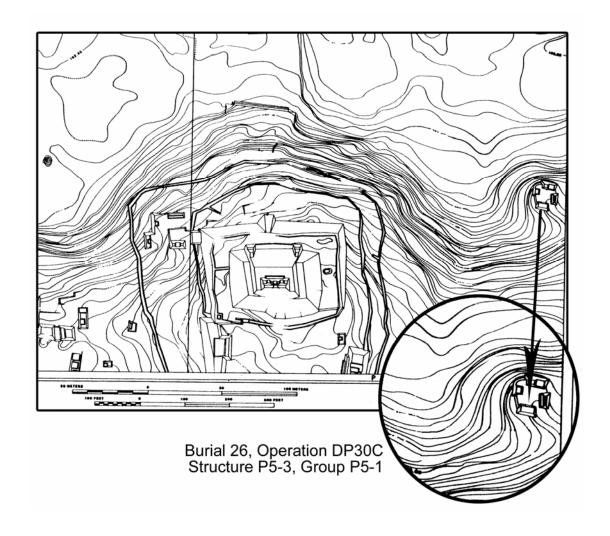


Figure 54 Map showing Group P5-1 from which IDAEH 17-07-20 was recovered as part of Burial 26, Operation DP30C-1-3, Structure P5-3 (after Escobedo 1991:255, Figure 15.1).

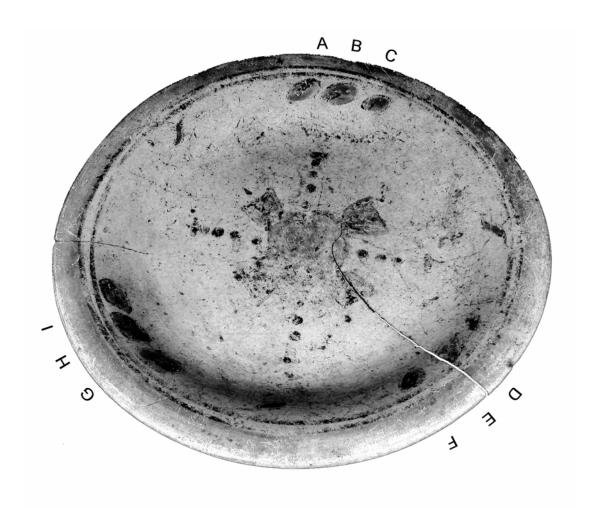




Figure 55 Photograph and drawing of pseudo-glyphs of IDAEH 17-07-02-20, a tripod plate recovered from Operation DP30C 1-3, Structure P5-3, Group P5-1, Dos Pilas.

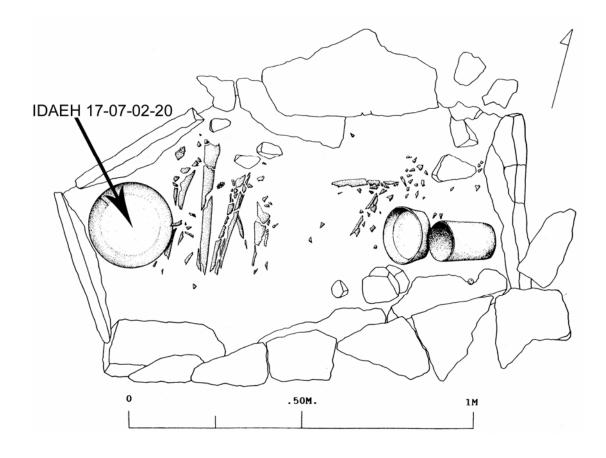
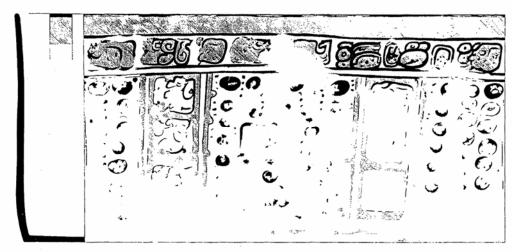


Figure 56 Plan drawing of Burial 26, Structure P5-3, Dos Pilas, showing location of pseudo-glyph bearing plate IDAEH 17-07-02-20 (after Escobedo 1991:280, Figure 15-15).



Dos Pilas No. 603135 (Foias 1996:1097, Figure C.12b)



Dos Pilas No. 603136 (Foias 1996:1097, Figure C.12c)

Figure 57 Bowl Dos Pilas No. 603135 and cylinder vase Dos Pilas No. 603136, with possible Dedicatory Formula and vertical column of pseudoglyphs, recovered from Dos Pilas Burial 26, DP30C-1-3, Structure P5-3.

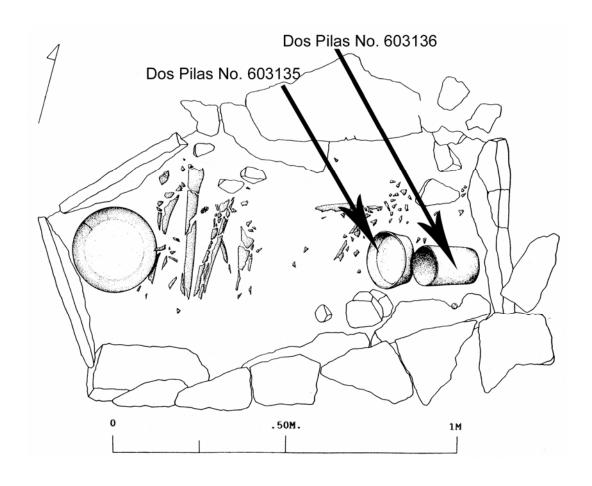


Figure 58 Plan drawing of Dos Pilas Burial 26, Structure P5-3, showing location of vessels associated with IDAEH 17-07-02-20 (after Escobedo 1991:280, Figure 15-15).

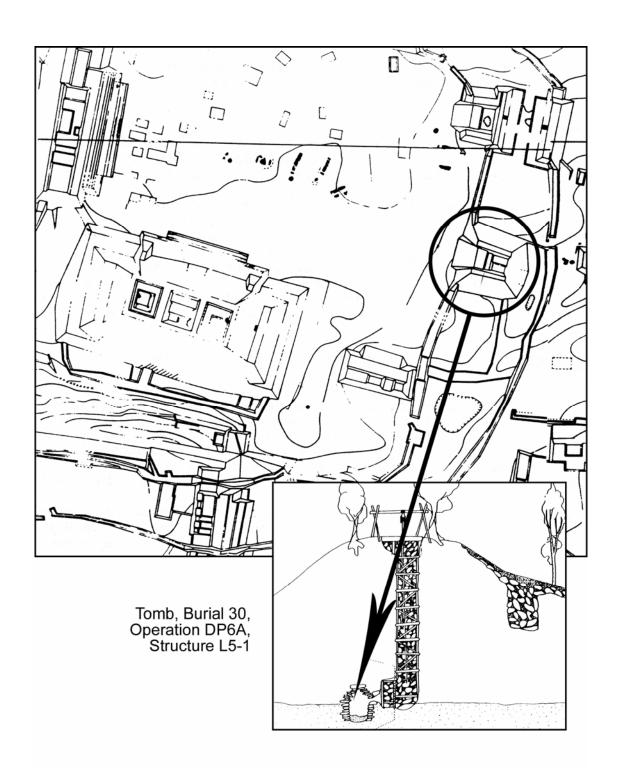


Figure 59 Map showing Structure L5-1 with detail profile drawing of Operation DP6A-23-4, Burial 30 (map after Demarest et al. 1991:38, Figure 4.1; detail after Demarest et al. 1991:46, Figure 4.7).



Figure 60 Photograph of K30185, a cylinder vase with pseudo-glyphs from Burial 30, Structure L5-1, Operation DP6A-32-4, Dos Pilas.

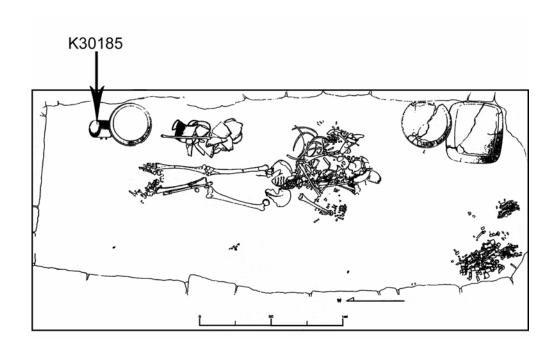


Figure 61 Plan map of Burial 30, Structure L5-1, Operation DP6A-32-4, Dos Pilas, showing location of pseudo-glyph bearing K30185 (after Demarest et al. 1991:54, Figure 4.12).

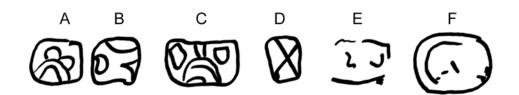


Figure 62 Drawing of pseudo-glyphs still visible on cylinder vase K30185, excavated from Dos Pilas Burial 30, Structure L5-1.

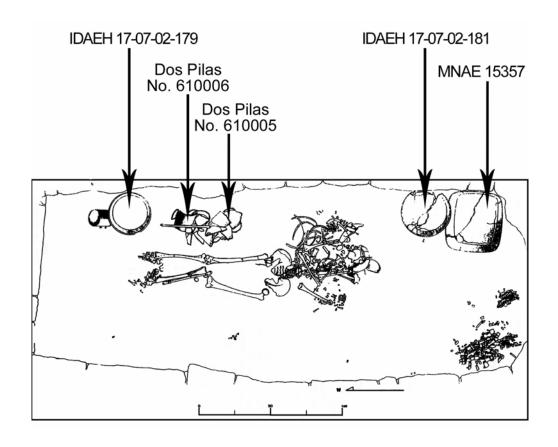


Figure 63 Plan map of Burial 30, Structure L5-1, Operation DP6A-32-4, Dos Pilas, showing location of ceramics not decorated with pseudo-glyphs (after Demarest, et al. 1991:54, Figure 4.12).



Figure 64 Photograph of IDAEH 17-07-02-179, a tripod plate/dish (with enhanced glyphs) from Burial 30, Structure L5-1, Operation DP6A-32-4, Dos Pilas.

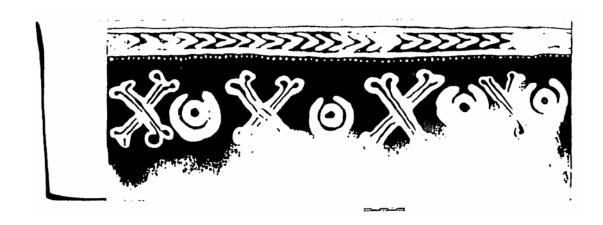
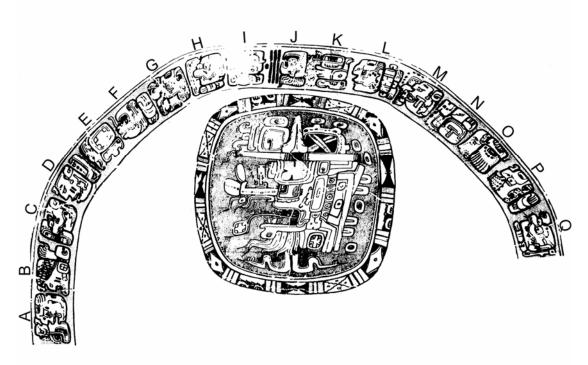
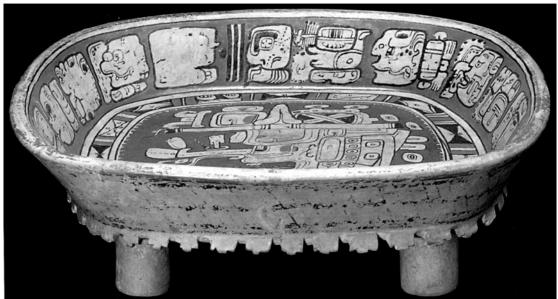


Figure 65 Drawing of Dos Pilas No. 610006, a straight-sided bowl, recovered from Burial 30, Dos Pilas (after Foias 1996:1091, Figure C.6).



Figure 66 Drawing of IDAEH 17-07-02-181, a tripod plate with possible Dedicatory Formula, from Burial 30, Dos Pilas (drawing by S. Houston in Foias 1996:1087, Figure C.2a).





Photograph of MNAE 15357, a Palmar Orange Polychrome tripod plate recovered from Burial 30, Structure L5-1, Operation DP6A, Dos Pilas. Glyph N describes the owner or patron of this vessel as an *ajaw* from the *Ik*' site, Motul de San José (after Demarest et al. 1991:64, Figure 4.18).

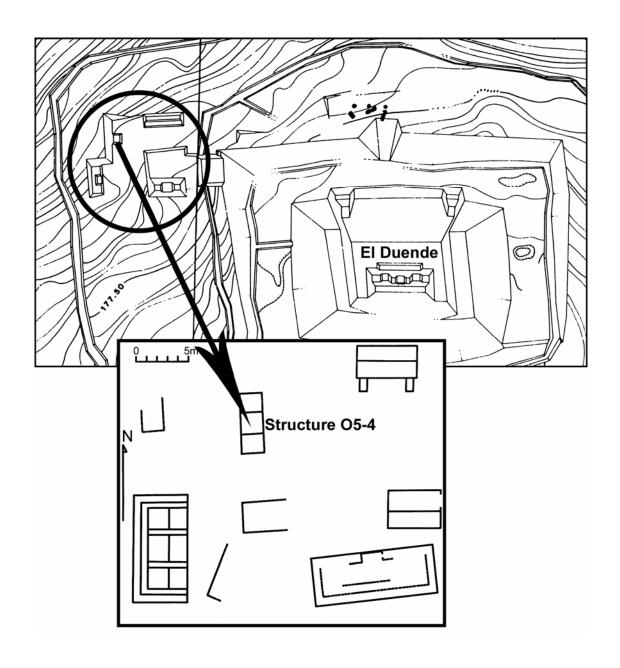


Figure 68 Map of Dos Pilas showing relationship of Group O5-2 to El Duende (after Palka and Moscoso 1992:134, Figure 12.1) and detail of Structure O5-4 where Burial 51 was located (after Palka and Moscoso 1992:137, Figure 12.4).



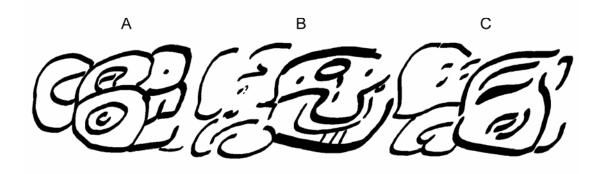


Figure 69 Photograph and drawing of pseudo-glyphs of IDAEH 17-07-02-239, a cylinder vase fragment from Burial 51, Operation DP37D-1-7, Structure O5-4, Dos Pilas.

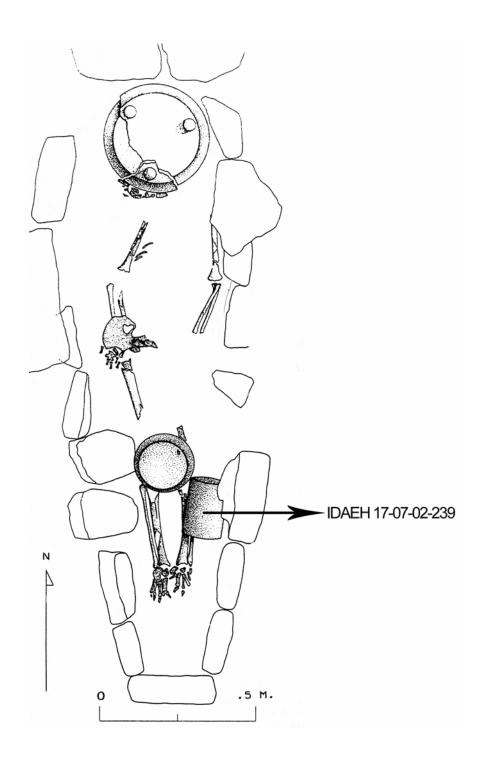


Figure 70 Plan map of Burial 51, Operation DP37D-1-7, Structure O5-4, Dos Pilas showing location of IDAEH 17-07-02-239 (after Palka 1992:159, Figure 12.18).

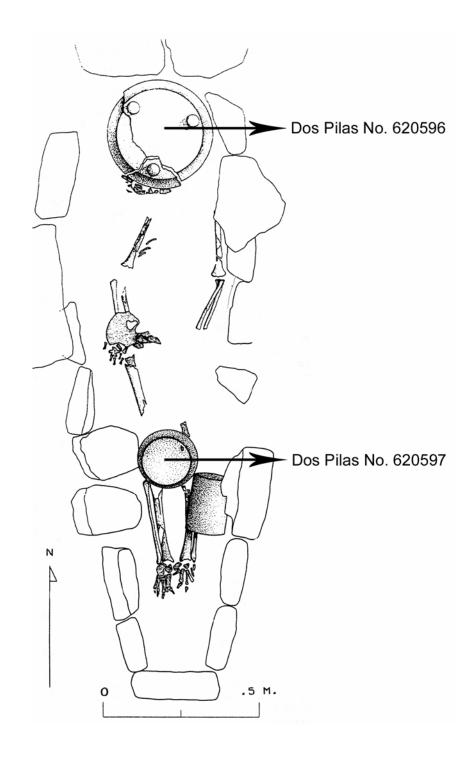


Figure 71 Plan of Dos Pilas Burial 51, Operation DP37D-1-7, Structure O5-4 showing location of pottery not decorated with pseudo-glyphs (after Palka 1992:159, Figure 12.18).



Figure 72 Line drawing of Dos Pilas No. 620596, a tripod plate with Dedicatory Formula, from Burial 51, Dos Pilas (after Palka 1995:309, Figure 66).

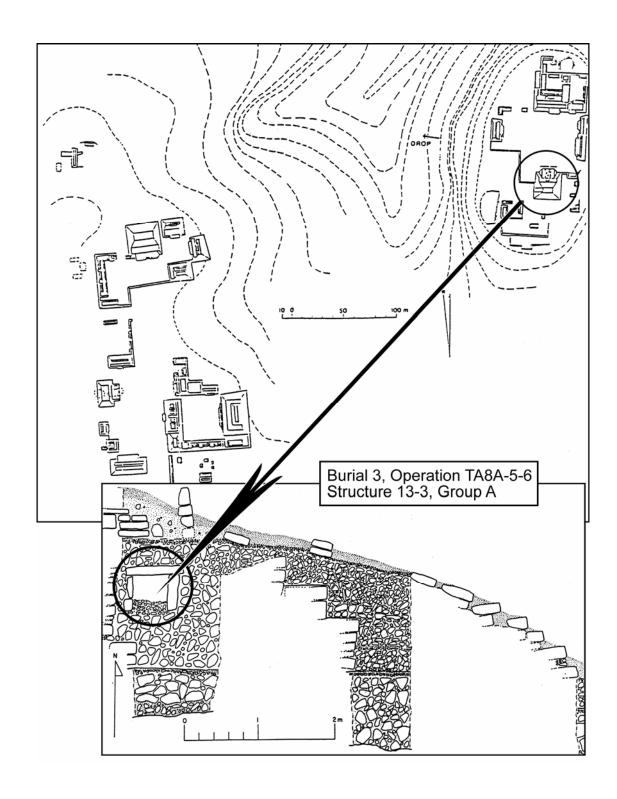


Figure 73 Map showing location of Structure 13-3, Group A, and profile map illustrating location of Burial 3, Operation TA8A-5-6 in Tamarindito.

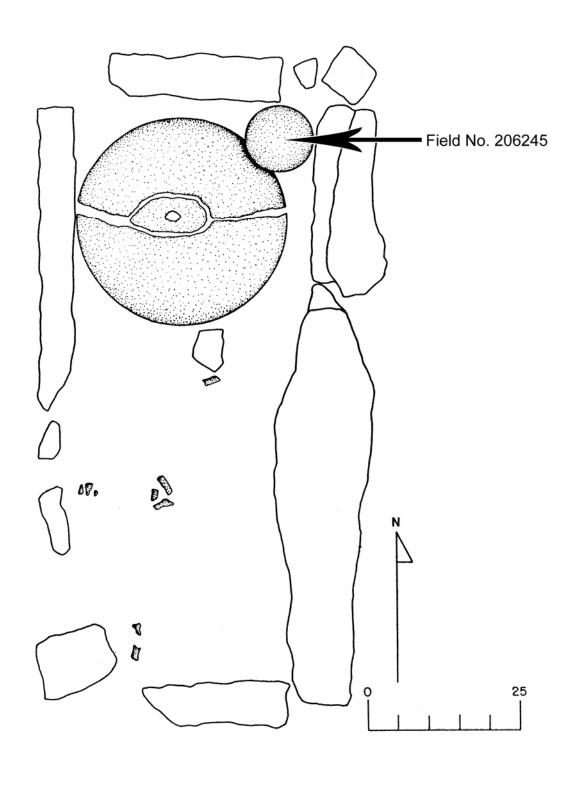


Figure 74 Plan of Tamarindito Burial 3, Operation TA8A-5-6, in Structure 13-3, Group A, showing location of cylinder vase Field No. 206245.

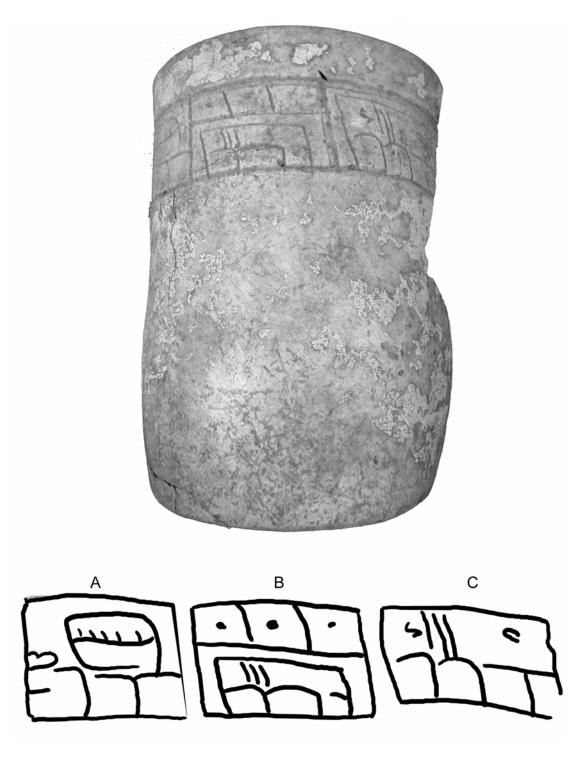


Figure 75 Photograph and drawing of pseudo-glyphs on cylinder vase Field No. 206245 from Burial 3, Operation TA8A-5-6, in Structure 13-3, Group A, Tamarindito.

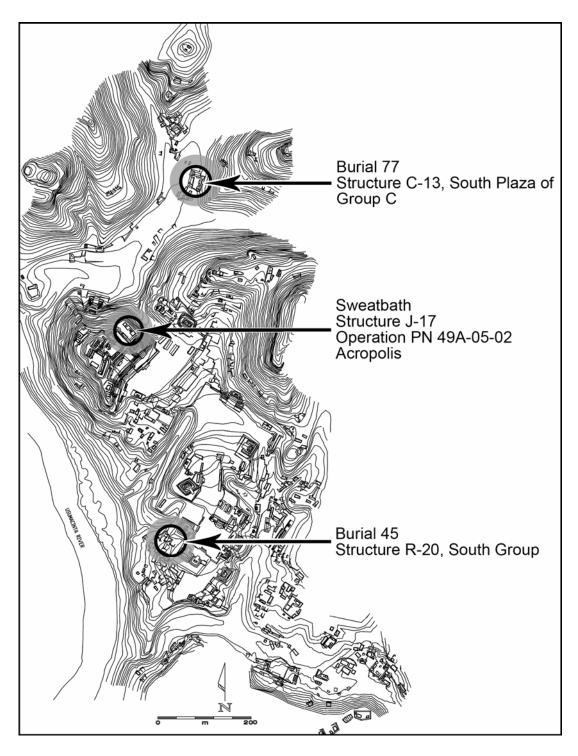


Figure 76 Map of Piedras Negras showing locations from which whole vessels decorated with pseudo-glyphs were recovered (after digitized map courtesy of Proyecto Arqueológico Piedras Negras).

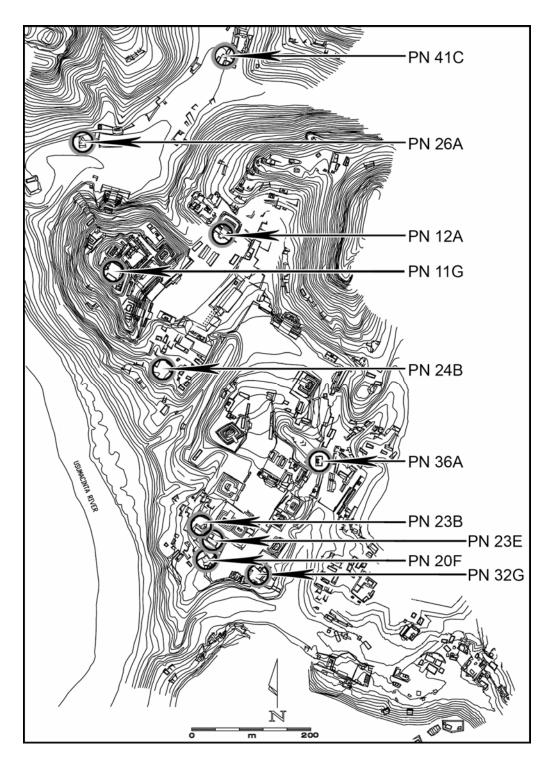


Figure 77 Map of Piedras Negras showing operations from which sherds decorated with pseudo-glyphs were recovered (after digitized map courtesy of Proyecto Arqueológico Piedras Negras).

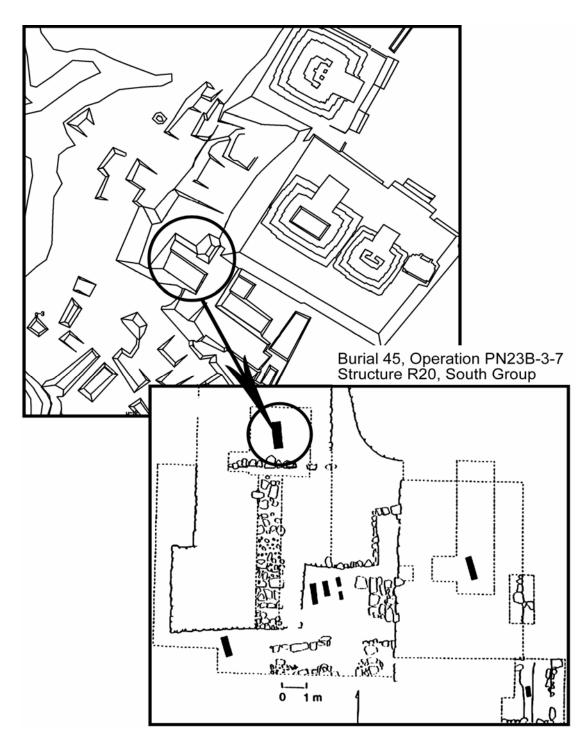


Figure 78 Map showing location of Structure R-20, South Group (after digitized map courtesy of Proyecto Arqueológico Piedras Negras); detail showing location of Piedras Negras Burial 45 Operation PN 23B-3-7 (after Houston et al. 1998:Figure 4).

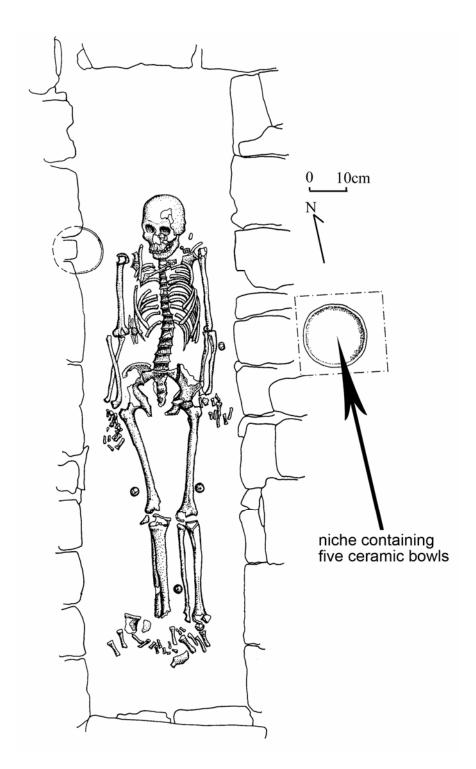


Figure 79 Plan drawing of Burial 45, Piedras Negras, showing niche from which five ceramic bowls were excavated (after Nelson 2005:392, Figure B31).

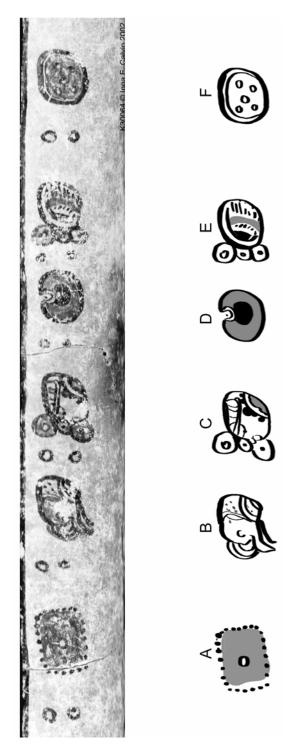


Figure 80 Photograph of round-sided bowl K30064 excavated from Piedras Negras Burial 45, Operation PN23B-3-7 and detail of pseudo-glyphs encircling vessel body.

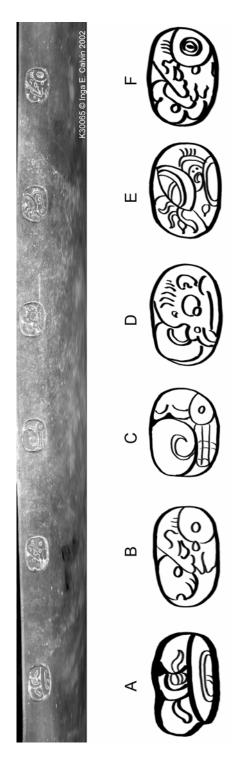


Figure 81 Photograph of round-sided bowl K30065 from Piedras Negras Burial 45, Operation PN23B-3-7 and drawing of pseudo-glyphs encircling rim of vessel.

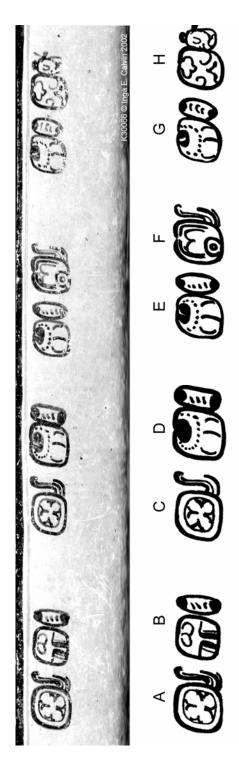


Figure 82 Photograph of round-sided bowl K30066 from Piedras Negras Burial 45, Operation PN23B-3-7 and drawing of pseudo-glyphs encircling rim of vessel.

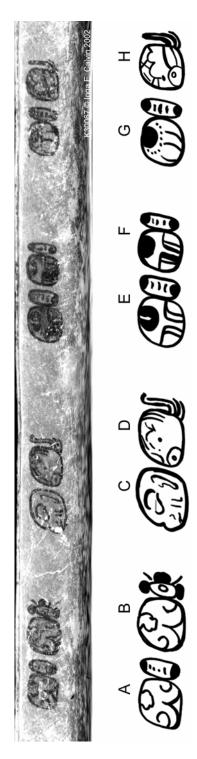


Figure 83 Photograph of round-sided bowl K30067 from Piedras Negras Burial 45, Operation PN23B-3-7 and drawing of pseudo-glyphs encircling rim of vessel.

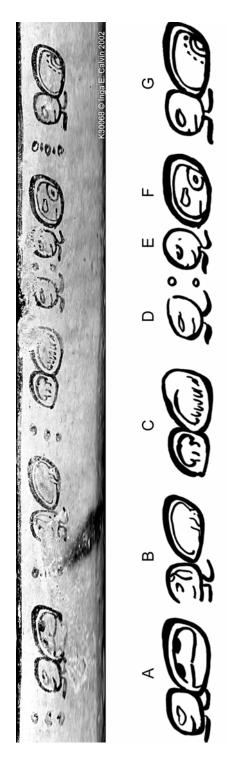


Figure 84 Photograph of round-sided bowl K30068 from Burial 45, Operation PN23B-3-7, Piedras Negras, and drawing of pseudo-glyphs encircling the rim.

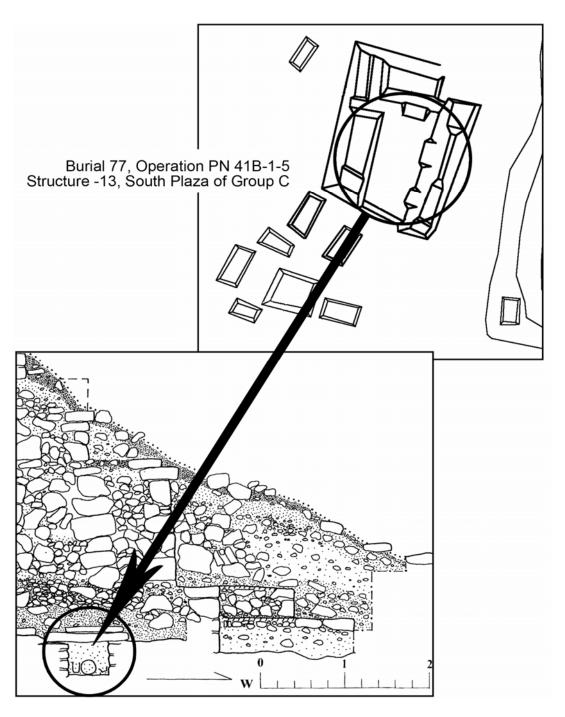


Figure 85 Map showing location of Structure C-13, South Plaza of Group C, Piedras Negras (after digitized map courtesy of Proyecto Arqueológico Piedras Negras) and profile drawing of Structure C-13 with location of Burial 77, Operation PN 41B-1-5 (after Gillot et al. 1999:163, Figure 1).

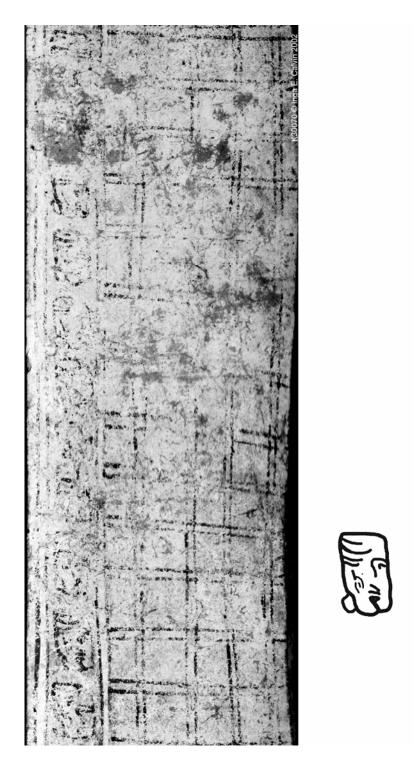


Figure 86 Photograph and drawing of pseudo-glyph repeated around rim of cylinder vase K30070 from Burial 77, Operation PN 41B-1-5, Structure C-13, Piedras Negras.

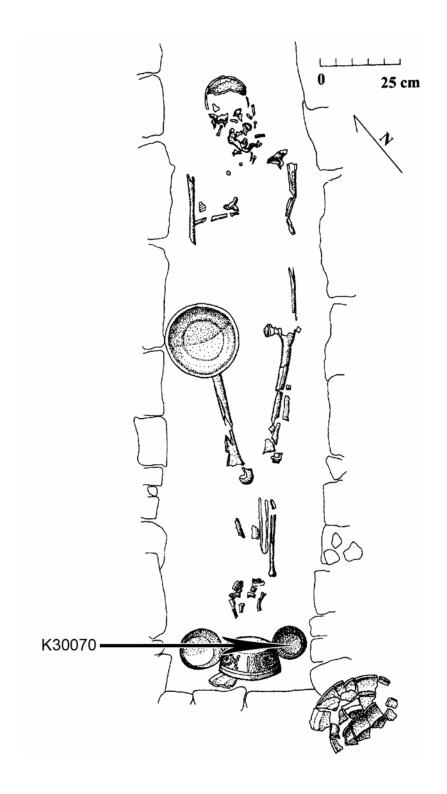


Figure 87 Plan of Piedras Negras Burial 77, Structure C-13, showing location of cylinder vase K30070 (after Gillot et al. 1999:168, Figure 6).

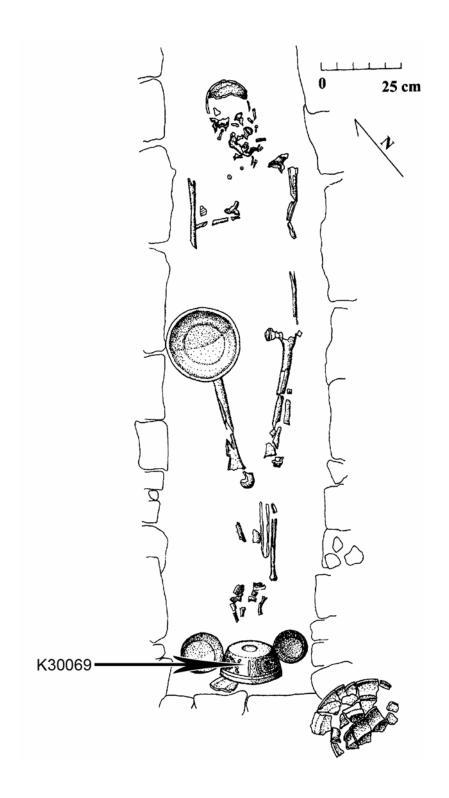


Figure 88 Plan of Piedras Negras Burial 77, Structure C-13, showing location of bowl K30069 (after Gillot et al. 1999:168, Figure 6).



Figure 89 Photograph of round-sided bowl K30069 excavated from Burial 77, Operation PN 41B-1-5, Structure C-13, Piedras Negras.

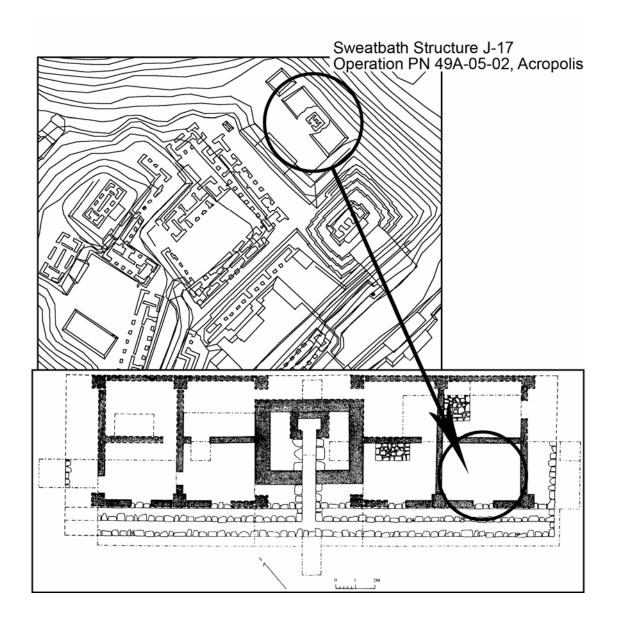


Figure 90 Map showing location of Piedras Negras Sweatbath Structure J-17, Acropolis (after digitized map courtesy of Proyecto Arqueológico Piedras Negras) and plan of Structure J-17, Operation PN 49A-05-02 (after Child and Child 1999:274, Figure 1).

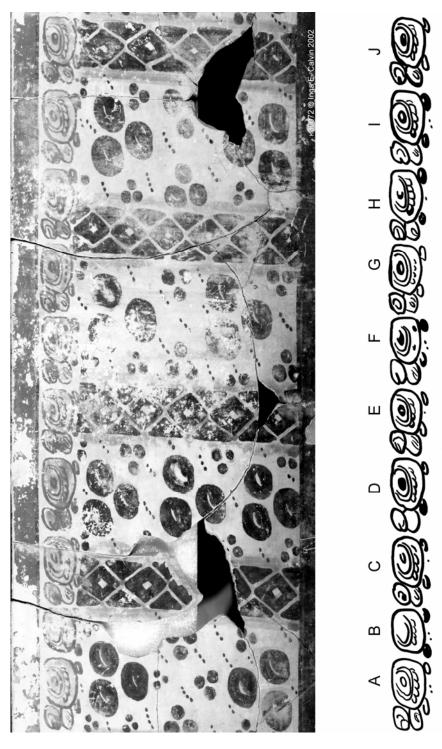


Figure 91 Photograph and drawing of pseudo-glyphs of cylinder vase K30072, recovered from Sweatbath Structure J-17, Operation PN 49A-05-02, in the Acropolis of Piedras Negras.

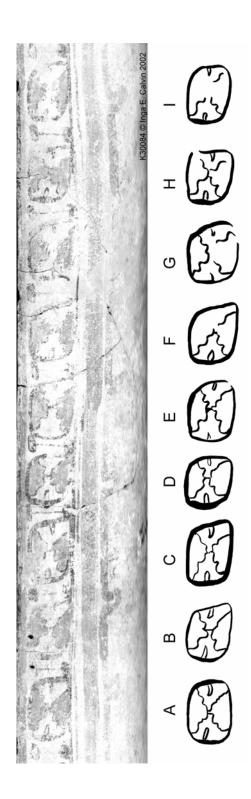


Figure 92 Photograph and drawing of pseudo-glyphs on round-sided bowl K30084 from Poptún.

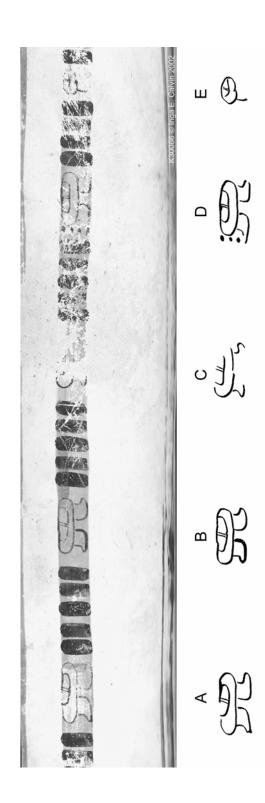


Figure 93 Photograph and drawing of pseudo-glyphs on round-sided bowl K30086 from Poptún.



Figure 94 Photograph and drawing of pseudo-glyphs of round-sided bowl K30096 from Poptún.

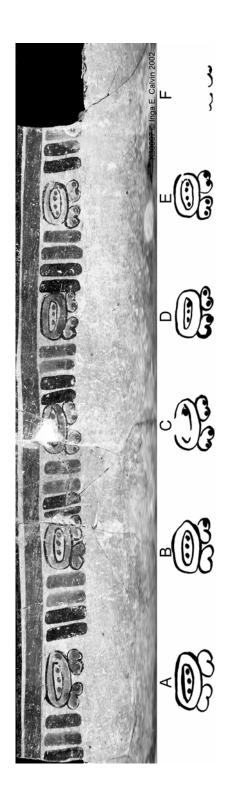


Figure 95 Photograph and drawing of pseudo-glyphs of round-sided bowl K30097 from Poptún.

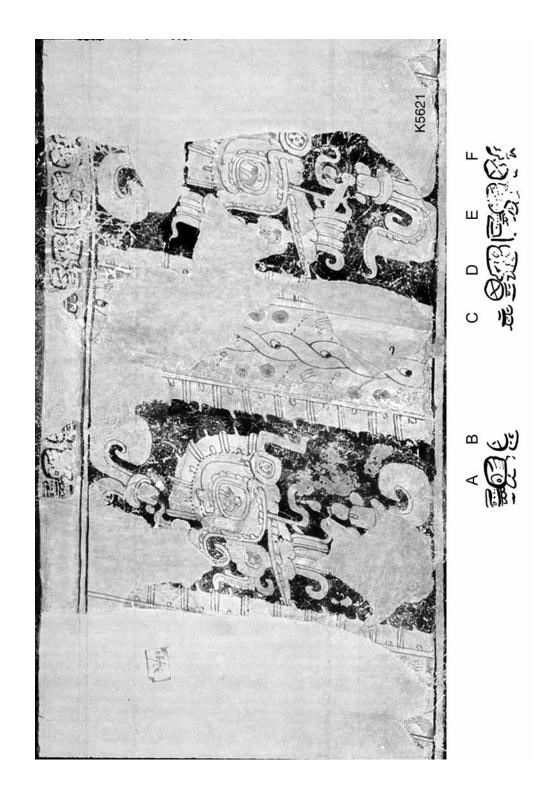


Figure 96 Photograph and drawing of pseudo-glyphs of cylinder vase K5621 from Rio Azul (photograph © Justin Kerr K5621).

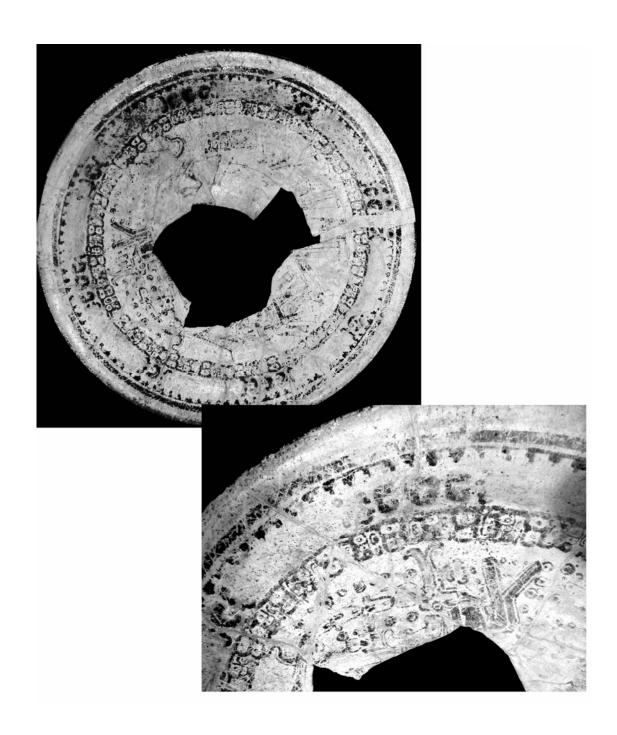


Figure 97 Photograph of plate Rio Azul Number 421 and detail of pseudo-glyphs.



Figure 98 Photograph and detail of pseudo-glyphs from unprovenienced plate IDAEH 17-01-01-1399 at the Museo Morley, Tikal, that resemble the pseudo-glyphs on Rio Azul Number 421.

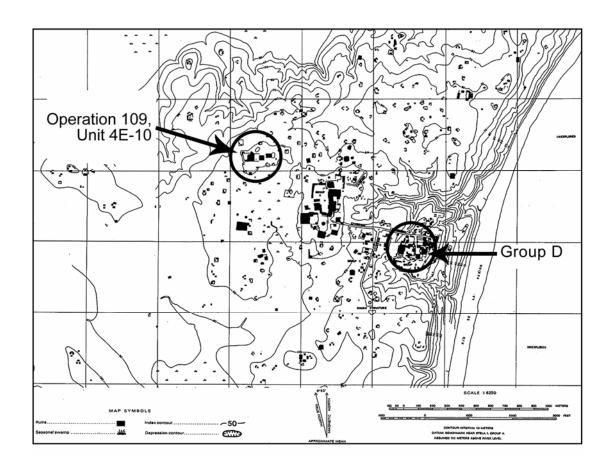


Figure 99 Site map of Seibal showing locations whence pseudo-glyph decorated ceramics were excavated (after Willey 1990:191, Figure 7).

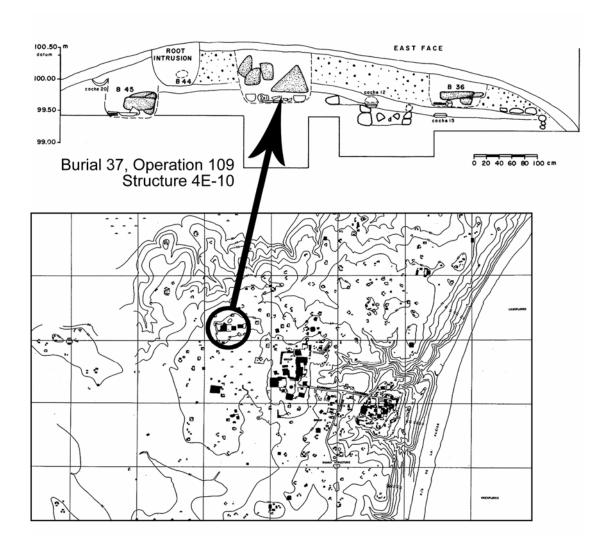


Figure 100 Map showing location of Structure 4E-10, Pendiente Quadrangle, Grid Square 4E, Seibal (after Willey 1990:191, Figure 7) and detail showing Burial 37 within north to south profile of Structure 4E-10 (after Tourtellot 1988:151, Figure 156).

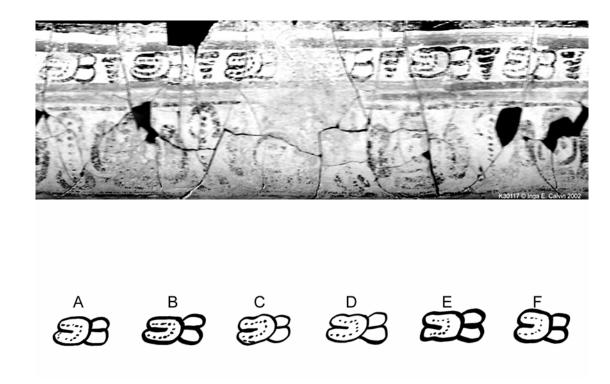


Figure 101 Photograph and drawing of pseudo-glyphs of K30117, a round-side bowl from Burial 37, Operation 109, Structure 4E-10, Seibal.

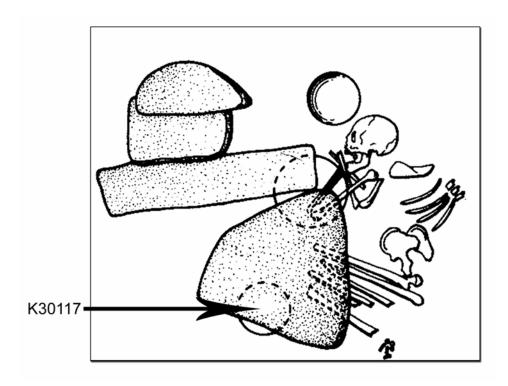


Figure 102 Plan drawing illustrating location of pseudo-glyph bearing bowl K30117 in Burial 37, Operation 109, Seibal (after Tourtellot 1988:152, Figure 157).

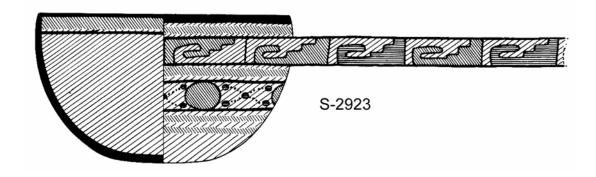


Figure 103 Round-side bowl S-2923, excavated with K30117 in Burial 37, Structure 4E-10, Seibal (after Sabloff 1975:140, Figure 252).

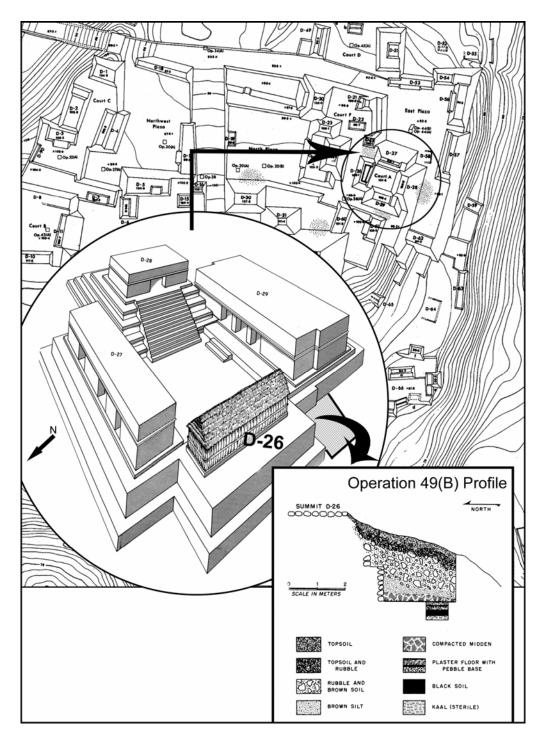


Figure 104 Map showing location of Seibal Operation 49(B) (after Smith 177, Map 3). Detail inset rendering of Structure D-26, Court A, D-group (after Smith 177, Figure 146) and profile drawing of midden excavation (Sabloff 1975:12, Figure 6b).

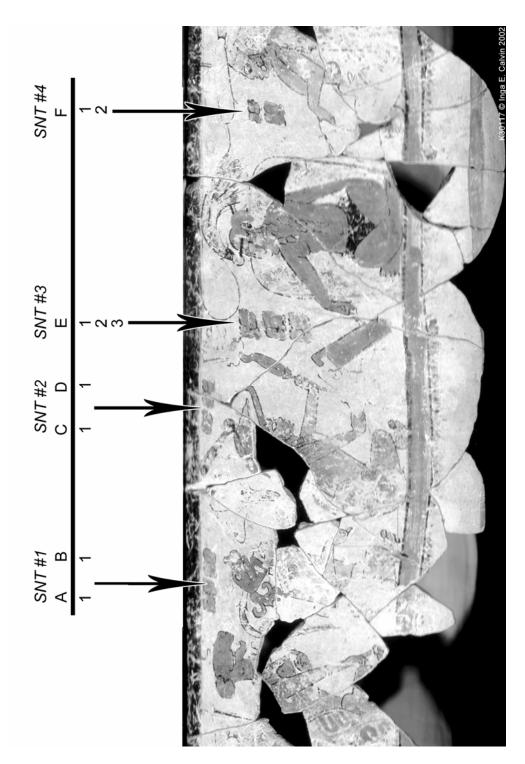


Figure 105 Photograph of K30118, the top portion of a barrel-shaped vase with pseudo-glyphs, from Operation 49(B), Court A, Group D, Seibal.

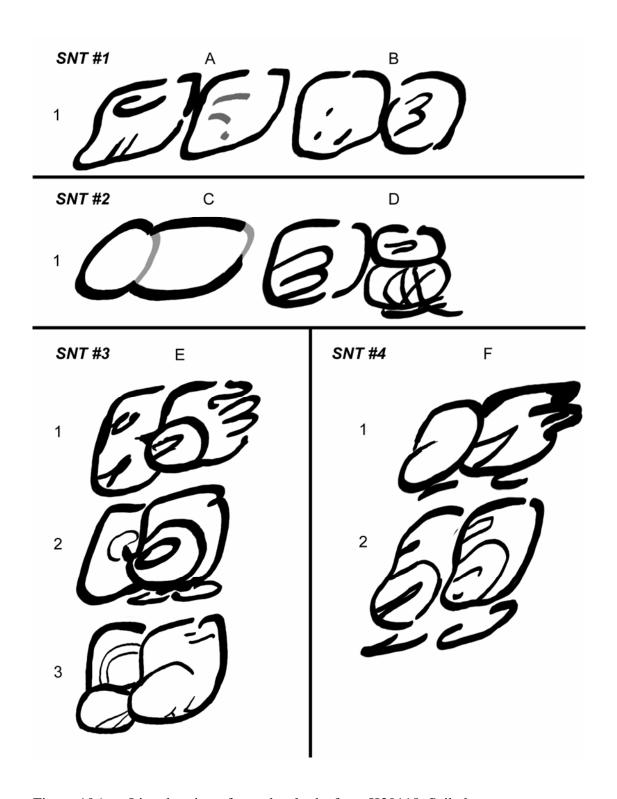


Figure 106 Line drawing of pseudo-glyphs from K30118, Seibal.

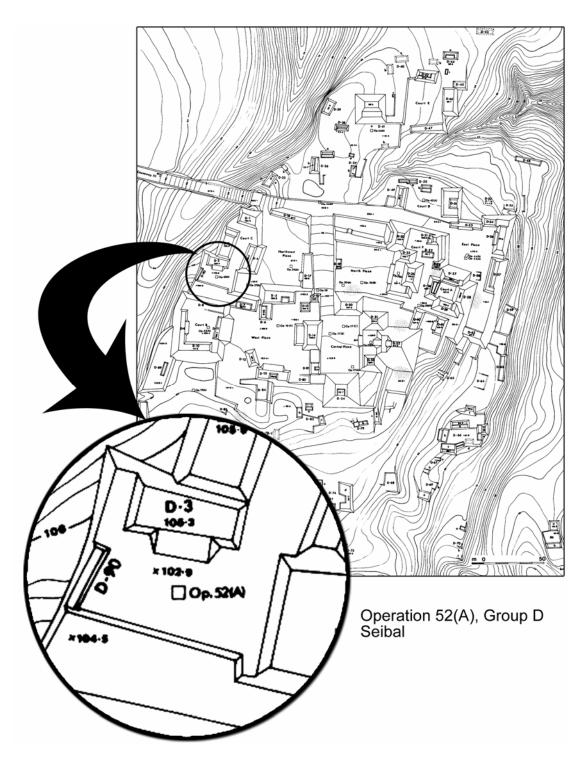


Figure 107 Map showing Seibal Operation 52(A), a 2-x-2-m excavation unit, located in residential court south of Structure D-3, Court C (after Smith 1982:176, Map 3).

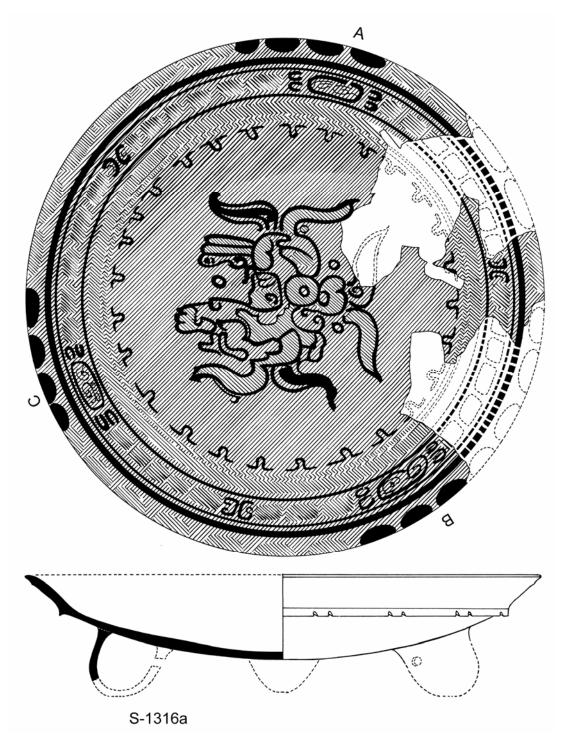


Figure 108 Drawing of Seibal-1316a, a tripod plate with bulbous feet, recovered from Burial 19, Operation 52(A), Structure D-3, Seibal (after Sabloff 1975:138, Figure 248).

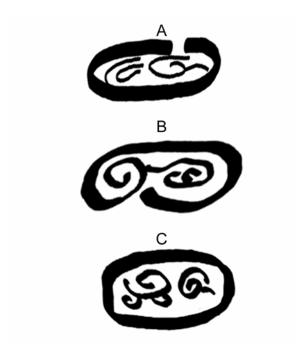


Figure 109 Line drawing of pseudo-glyphs from Seibal 1316a (after Sabloff 1975:138, Figure 248).

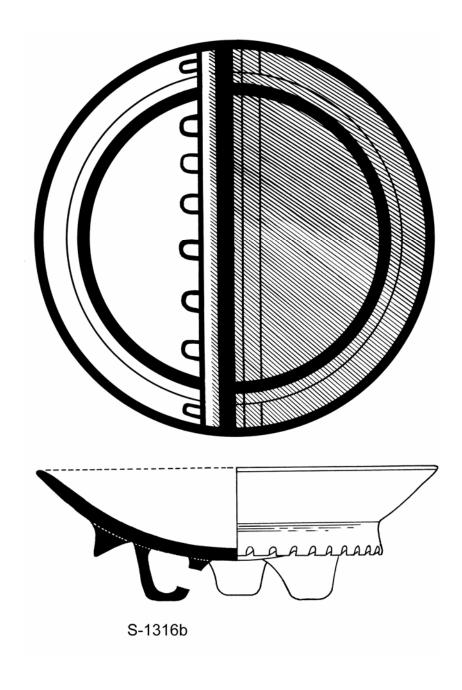


Figure 110 Seibal S-1316b, a tripod bowl, recovered from Burial 19, Seibal (after Sabloff 1975:137, Figure 247).

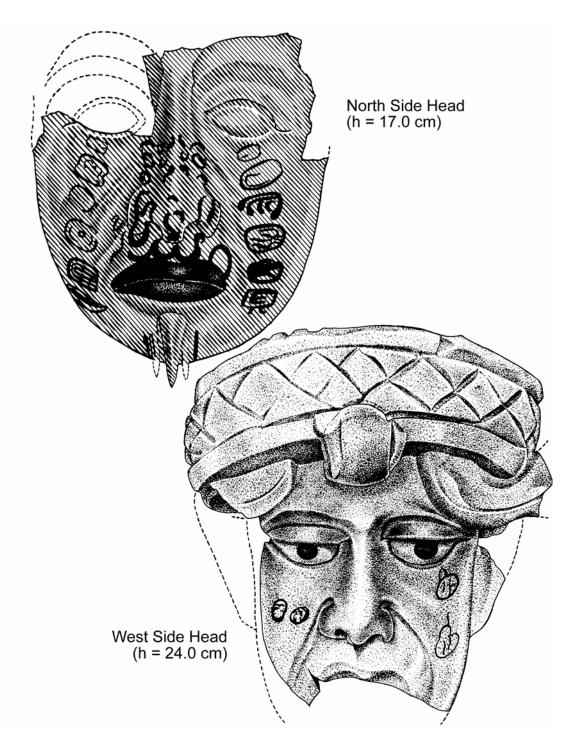


Figure 111 Drawing of stucco heads with pseudo-glyphs painted on cheeks from of Structure A-3, Seibal, north side (Willey 1982:31 & 34, Figure 47C) and west side (Willey 1982:31 & 35, Figure 47D).

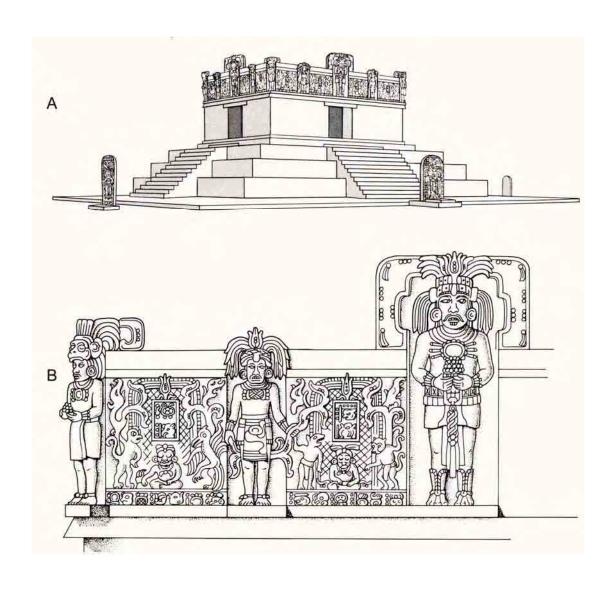


Figure 112 Rendering of Structure A-3 façade: (A) view looking southwest (by A. Tulloch in Smith 1982:16, Figure 15); (B) detail of stucco frieze (A. Tulloch and W. Powell from T. Proskouriakoff in Smith 1982:16).

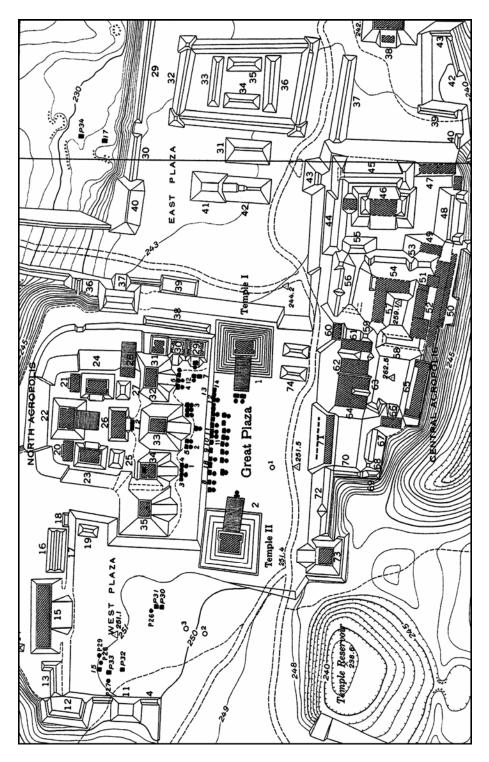


Figure 113 Map of Tikal site core (from Carr and Hazard 1961:Great Plaza Quadrangle).

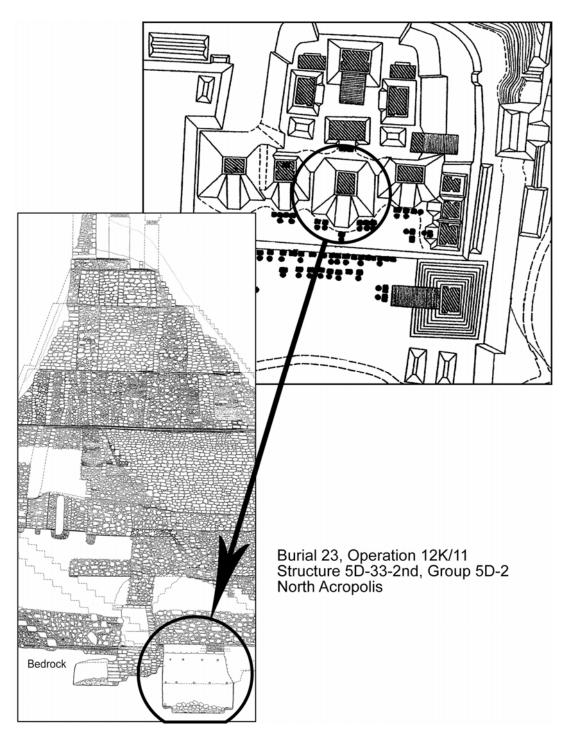


Figure 114 Map showing location of Tikal Structure 33 within North Acropolis (after Carr and Hazard 1961:Great Plaza Quadrangle) with profile drawing of N-S section showing placement of Burial 23 Operation 5D, Structure 5D-33-2nd (after Coe 1990:Figure 9b).

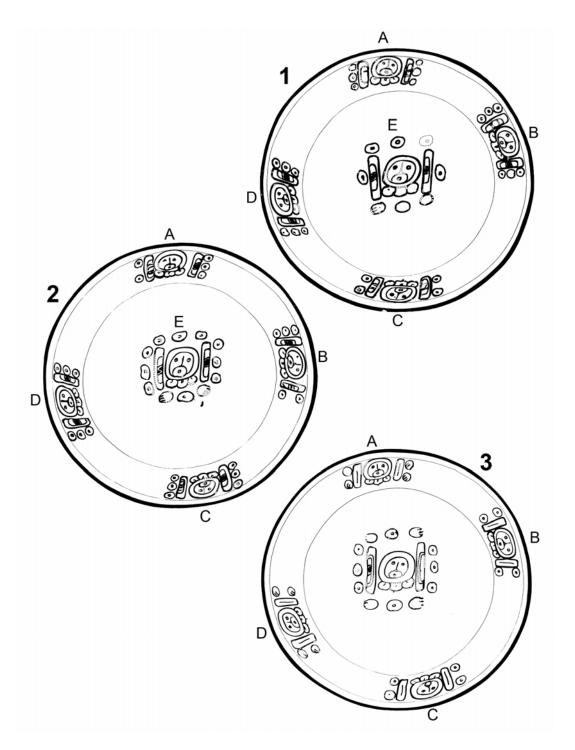


Figure 115 Drawings of pseudo-glyph bearing Jama Red Polychrome tripod plates recovered from Burial 23, Structure 5D-33-2nd, Tikal: (1) Culbert 1993:Figure 39a; (2) Culbert 1993:Figure 39b; (3) Culbert 1993:Figure 40a.

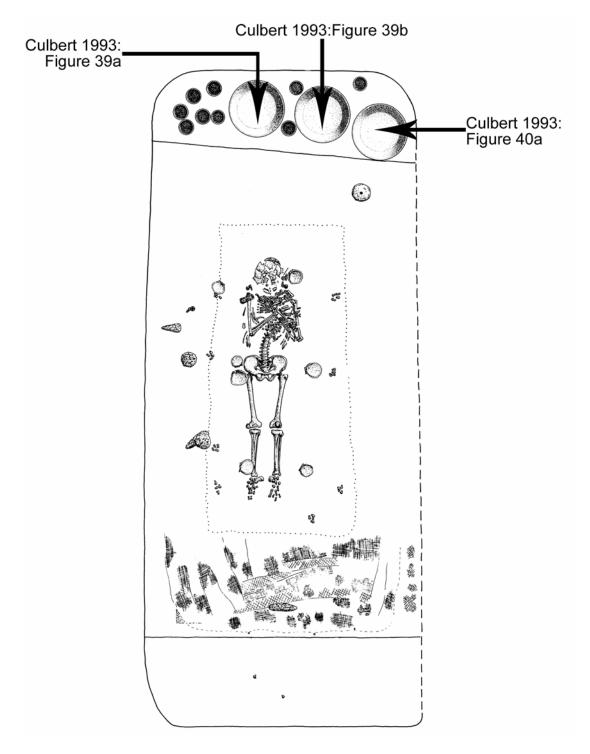


Figure 116 Plan drawing of Burial 23, Tikal, showing location of tripod plates decorated with pseudo-glyphs: Culbert 1993:Figure 39a, Culbert 1993:Figure 39b, Culbert 1993:Figure 40a (drawing after Coe 1990:Figure 176).

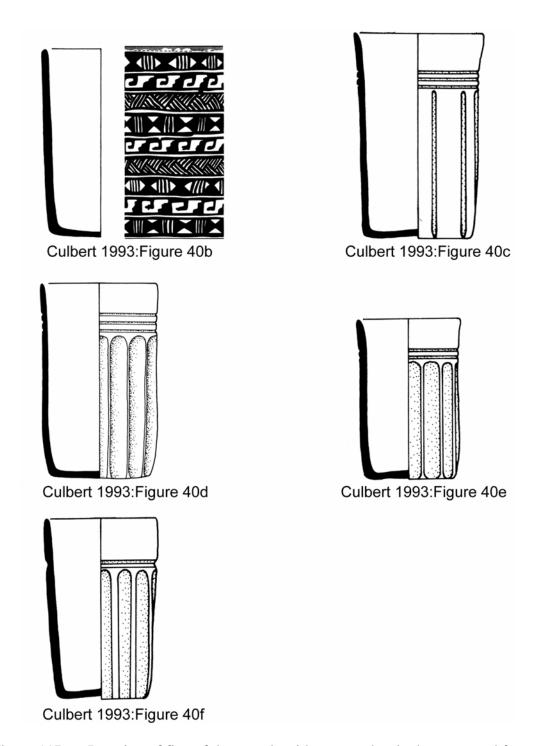


Figure 117 Drawing of five of the vessels without pseudo-glyphs recovered from Burial 23, Structure 5D-33-2nd, North Acropolis, Tikal (after Culbert 1993:Figure 40a-f). The remaining four cylinders (Culbert 1993:41a1-4) were illustrated with only wall profiles.

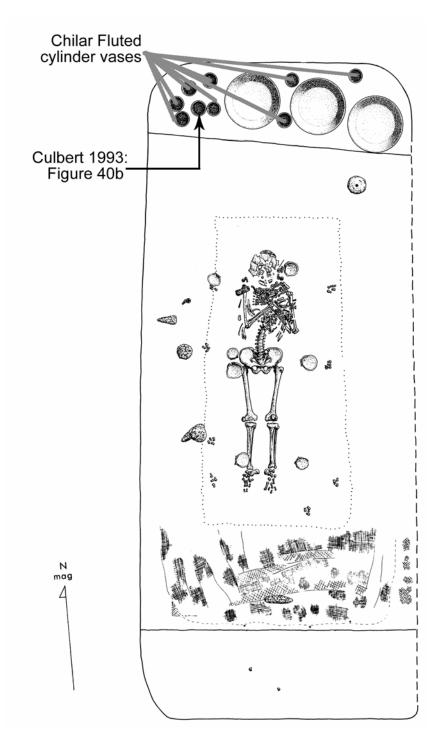


Figure 118 Plan drawing of Burial 23, Tikal, showing location of undecorated Chilar Fluted cylinder vases and Culbert 1993:40b, a Saxche Orange Polychrome vessel (after Coe 1990:Figure 176).

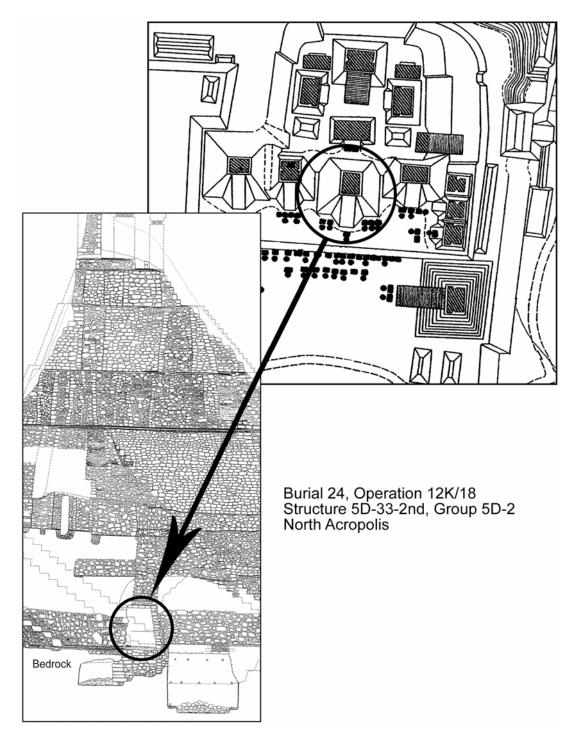


Figure 119 Map showing location of Tikal Structure 33 within North Acropolis (after Carr and Hazard 1961:Great Plaza Quadrangle) with profile drawing of N-S section showing placement of Burial 23 Operation 5D, Structure 5D-33-2nd (after Coe 1990:Figure 9b).

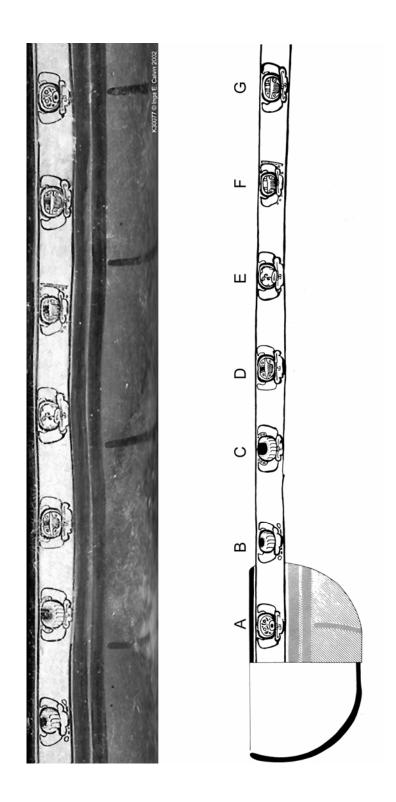


Figure 120 Photograph and drawing of pseudo-glyphs of K30077, a Sibal Buff round-sided bowl, from Burial 24, Structure 5D-33-1st, Tikal.

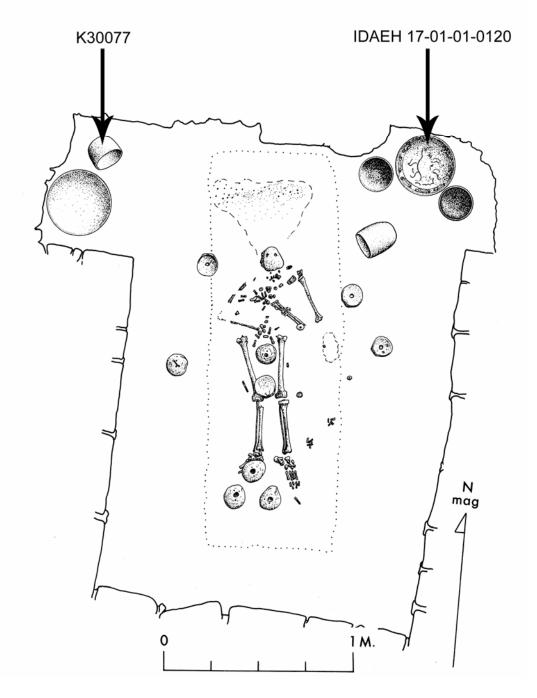


Figure 121 Plan drawing of Burial 24, Structure 5D-33-1st, Tikal, showing location of vessels with pseudo-glyphs: K30077 and IDAEH 17-01-01-121 (after Coe 1990:Figure 177).



Figure 122 Drawing of IDAEH 17-01-01-121, a dish with ring base and embellished with pseudo-glyphs from Burial 24, Structure 5D-33-2nd, Tikal (after Culbert 1993:42a).

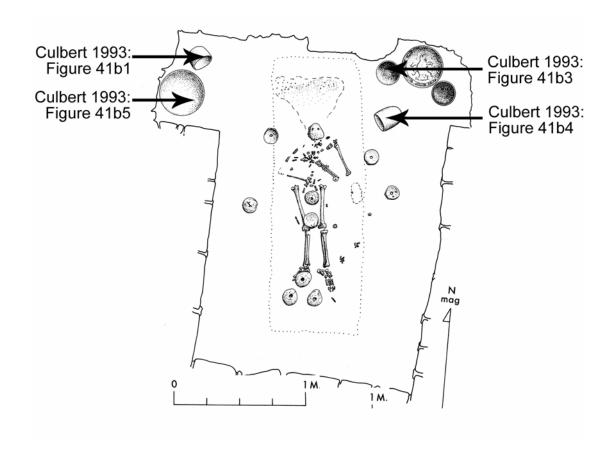


Figure 123 Plan drawing of Tikal Burial 24 showing location of undecorated vessels interred with K30077 and IDAEH 17-01-01-121 (after Coe 1990:Figure 177).

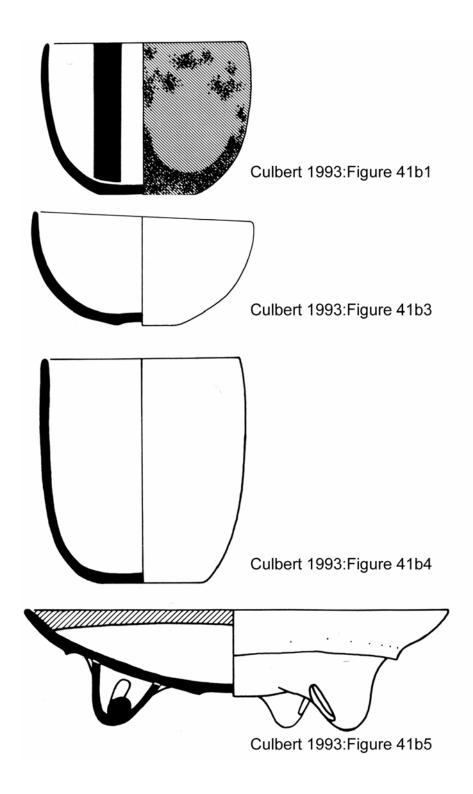


Figure 124 Drawing of ceramics without inscription from Burial 24, Structure 5D-33-1st, Tikal (Culbert 1993).

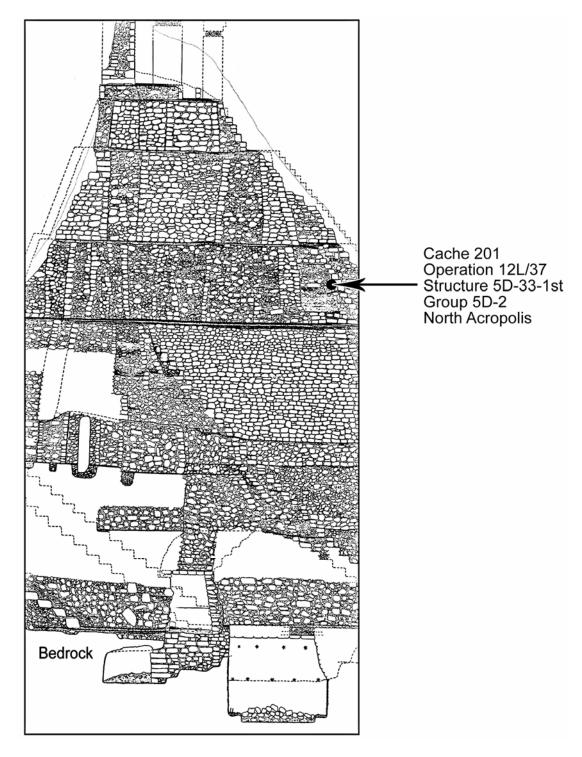


Figure 125 Profile drawing of N-S section of Structure 5D-33-1st, Group 5D-2, North Acropolis, Tikal, showing location of Cache 201 (after Coe 1990:Figure 9b).

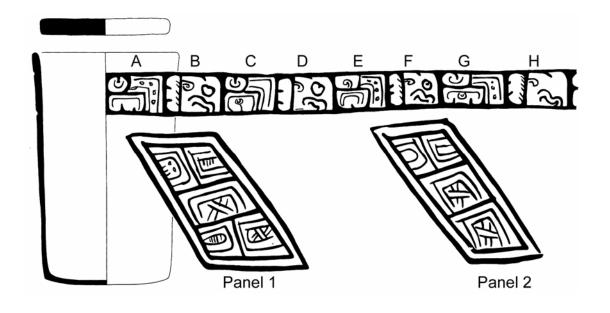


Figure 126 Drawing of cylinder vase Culbert 1993:Figure 114g decorated with pseudo-glyphs recovered as Cache 201 from Tikal Structure 5D-33-1st (glyph nomenclature after Culbert 1993:Figure 114g).

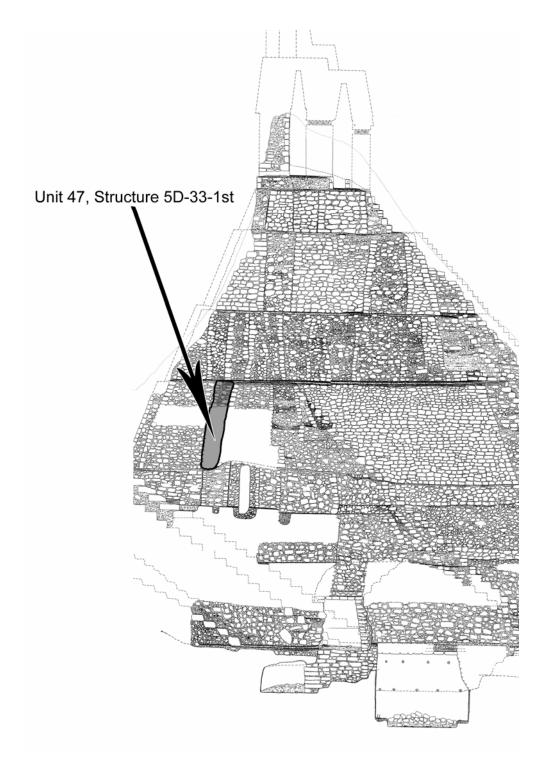


Figure 127 Profile drawing of N-S section of Tikal Structure 5D-33-1st, Group 5D-2, North Acropolis, showing location of Unit 47 fill (after Coe 1993:Figure 9b).

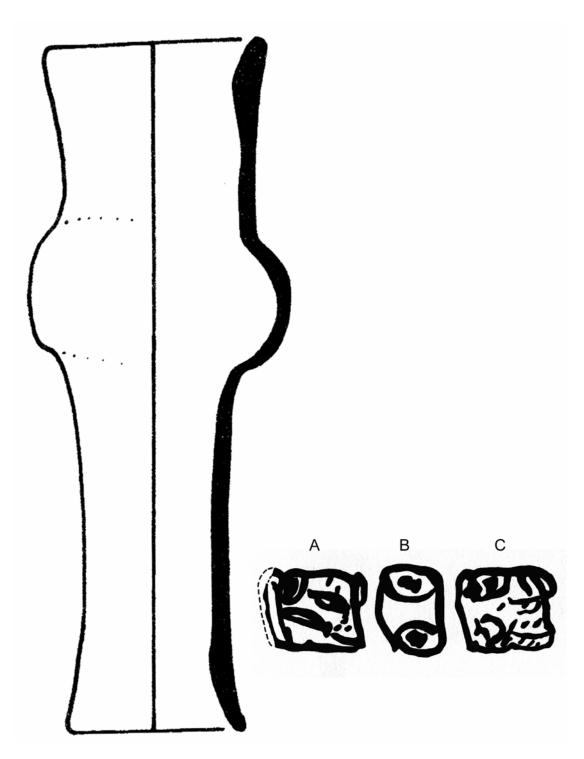


Figure 128 Drawing of Tikal Variety C ceramic drum Moholy-Nagy 2003: Figure 145e and pseudo-glyphs painted on middle bulge (after Moholy-Nagy:2003:Figure 145d, e).

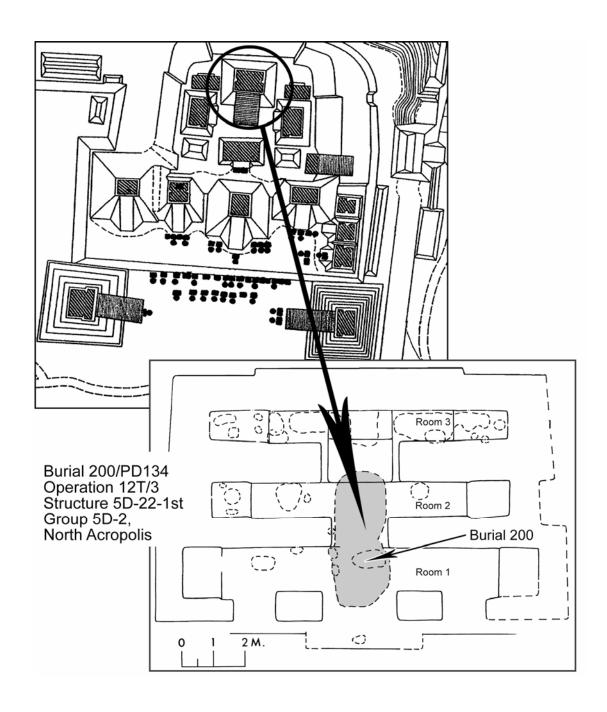


Figure 129 Map showing location of Tikal Structure 5D-22, Group 5D-2, North Acropolis (after Carr and Hazard 1961:Great Plaza Quadrangle) and detail showing location of Burial 200/Problematic Deposit 134.

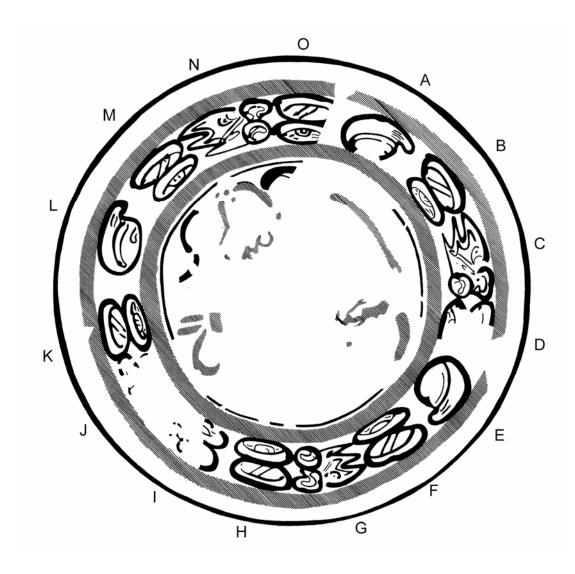


Figure 130 Drawing of lateral-flange tripod plate Culbert 1993:Figure 147a decorated with pseudo-glyphs, from Tikal Burial 200/Problematic Deposit 134 (glyph nomenclature after Culbert 1993:Figure 147a).

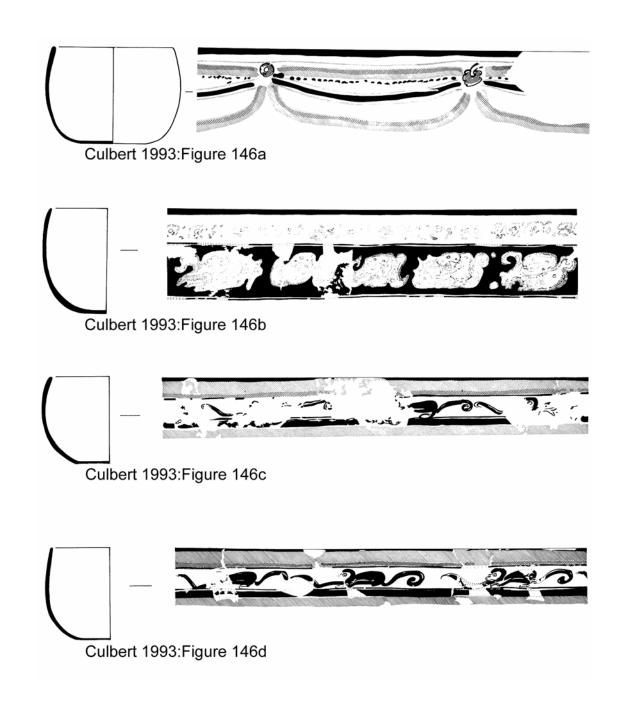


Figure 131 Four cylinder bowls that likely comprised part of the original Tikal Burial 200 grave goods (after Culbert 1993:Figure 146).

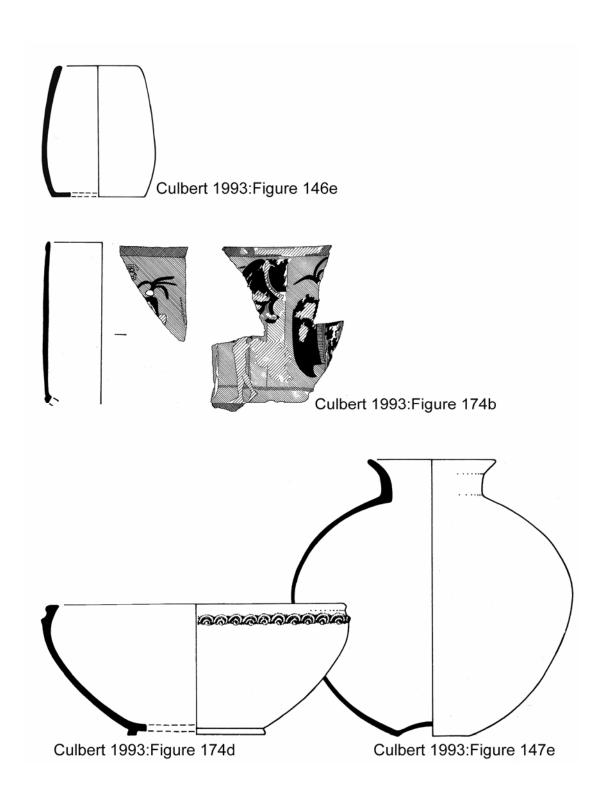


Figure 132 Four ceramic vessels without hieroglyphic text that likely derived from the original Tikal Burial 200 (after Culbert 1993).

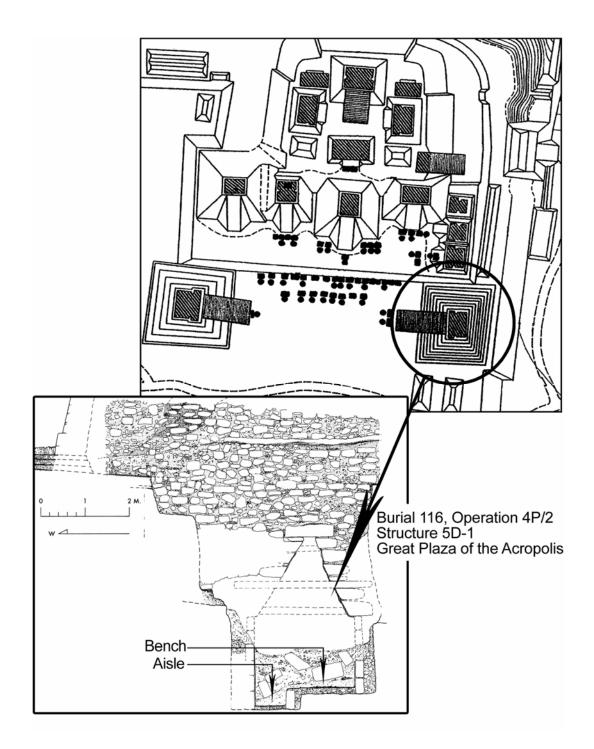


Figure 133 Map showing location of Structure 5D-1 (Temple I) located on the east side of the Great Plaza, Tikal (after Carr and Hazard 1961:Great Plaza Quadrangle), and detail showing E-W profile drawing of Burial 116 (after Coe 1990:Figure 259).

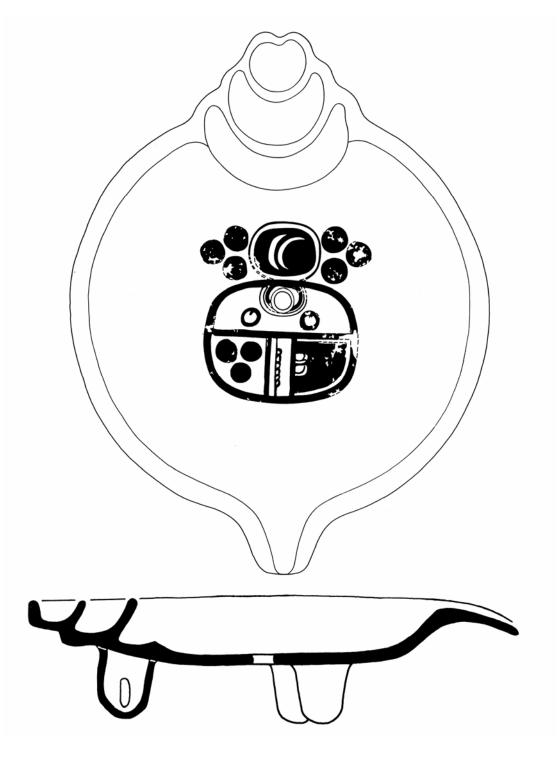


Figure 134 Drawing of K6580, a bowl formed in the shape of a cut shell and bearing an undeciphered glyphic collocation, from Tikal Burial 116 (after Culbert 1993:Figure 65a).

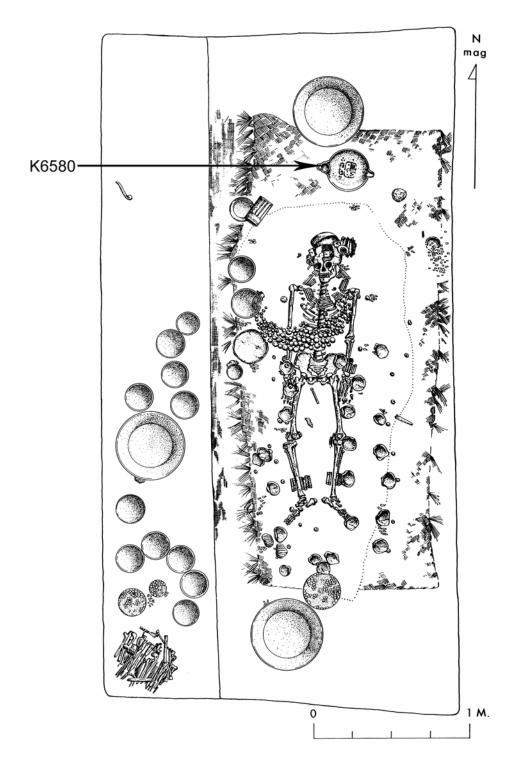


Figure 135 Map of Tikal Burial 116 showing the location of K6580, placed to the north of the body on the elevated bedrock bench (after Coe 1990: Figure 177).

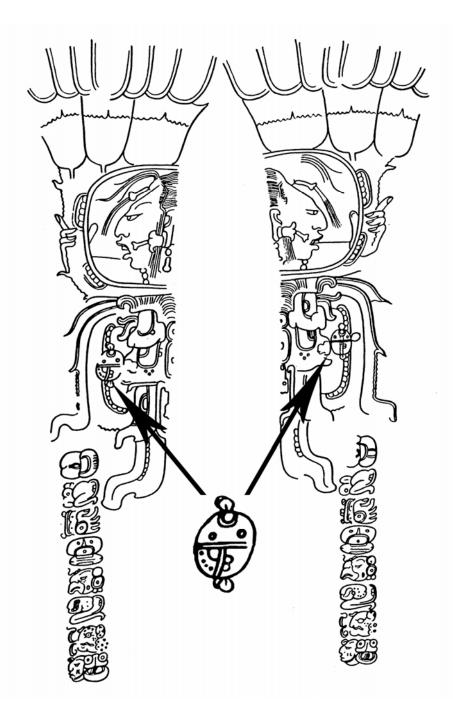


Figure 136 Drawing of Tikal carved bones 4P-113(10) & (4)/2 (63-5-78 / MT 55A & MT 55B) showing the nose ornament of a supernatural entity (after unpublished miscellaneous texts from Tikal, University of Philadelphia).

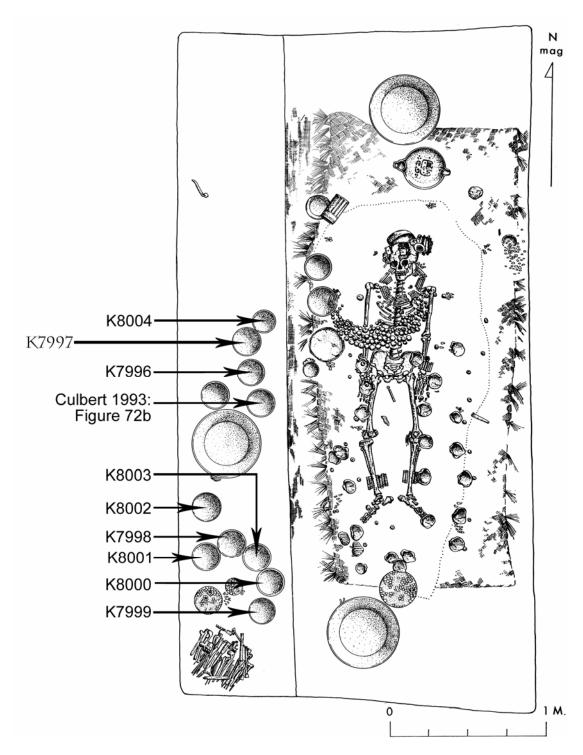


Figure 137 Map of Burial 116, Structure 5D-1, Tikal, showing the alley from which the set of nine cylinder vases with pseudo-glyphs and K7997 with real glyphs were recovered (after Coe 1970:Figure 177).



Figure 138 Photograph and drawing of pseudo-glyphs of cylinder vase K7996 from Burial 116, Structure 5D-1, Tikal (photograph © Justin Kerr K7996).

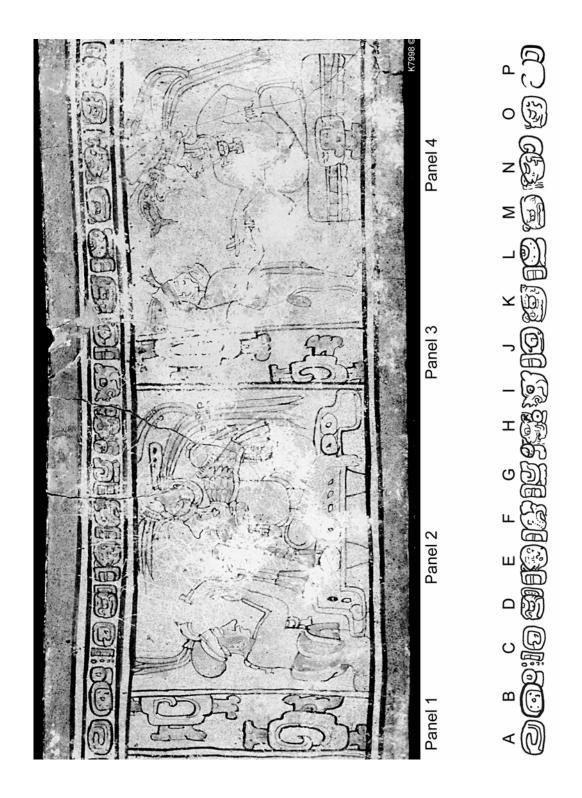


Figure 139 Photograph and drawing of pseudo-glyphs of K7998 from Burial 116, Structure 5D-1, Tikal (photograph © Justin Kerr K7998).

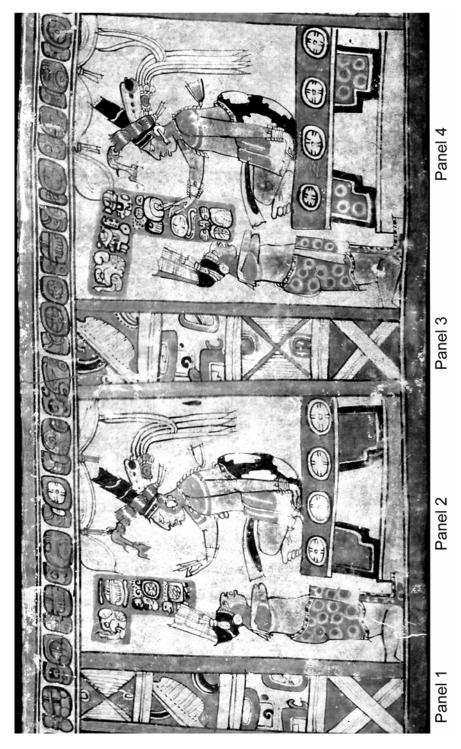


Figure 140 Photograph of cylinder vase K7999 with pseudo-glyph rim text, from Burial 116, Structure 5D-1, Tikal (nomenclature from Culbert 1993:69, photograph © Justin Kerr K7999).

Panel 2



Panel 4

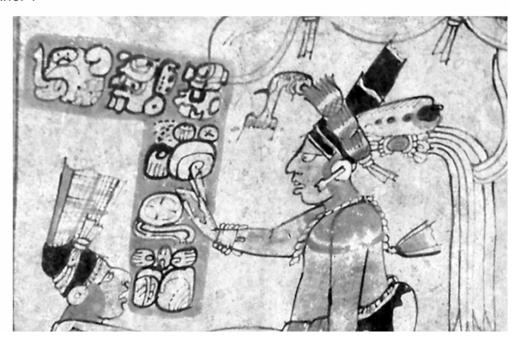


Figure 141 Detail of Secondary Non-Repeat Text from vertical panels of K7999 inscribed with legible hieroglyphic texts that identifies the individuals seated on the benches (panel identification from Culbert 1993:Figure 69; details from photograph © Justin Kerr K7999).



Figure 142 Drawing of pseudo-glyph rim band from K7999 from Tikal Burial 116, with glyph identification from Culbert (1993:Figure 72a; drawn from photograph © Justin Kerr K7999).



Figure 143 Photograph of K8000 with pseudo-glyphs, recovered from Burial 116, Structure 5D-1, Tikal (photograph © Justin Kerr K8000).

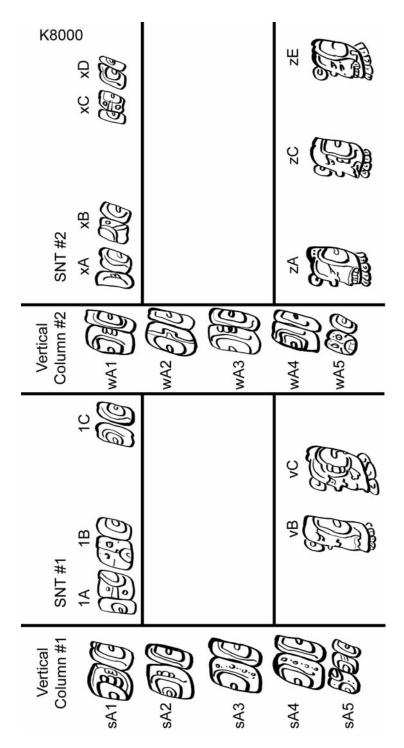


Figure 144 Drawing of rim and body pseudo-glyphs from K8000 with glyph identification from Culbert (1993:Figure 71; after photograph © Justin Kerr K8000).

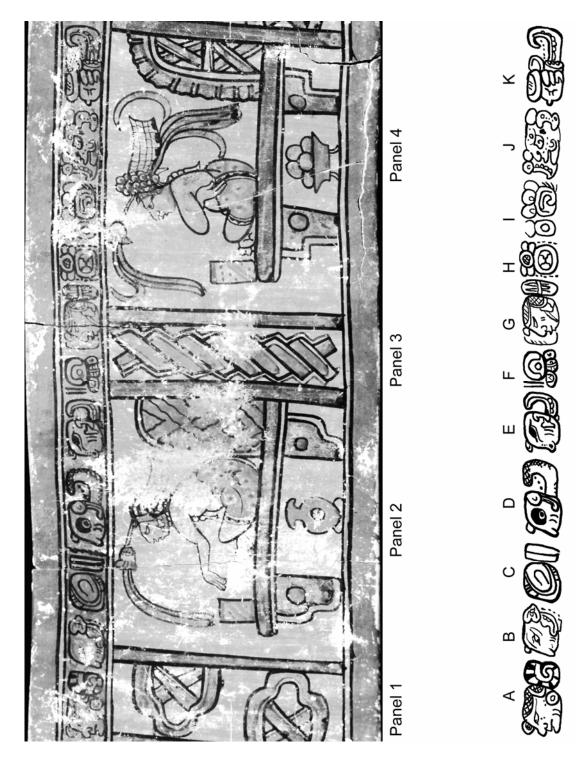


Figure 145 Photograph and drawing of pseudo-glyphs of K8001 from Burial 116, Structure 5D-1, Tikal (nomenclature from Culbert 1993:Figure 75a, photograph © Justin Kerr K8001).

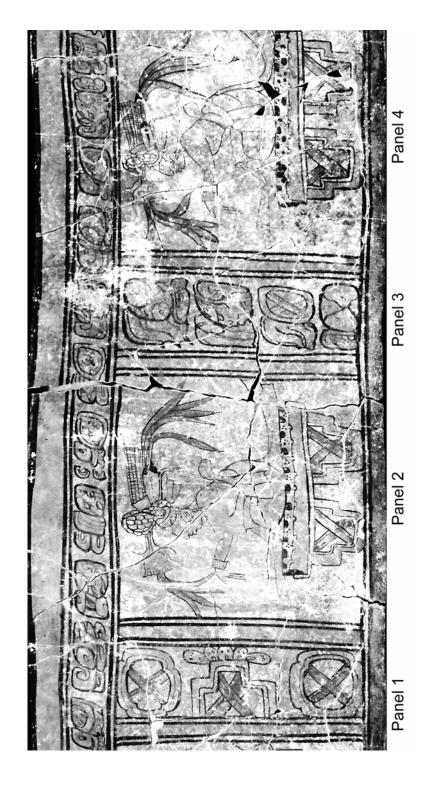


Figure 146 Photograph of K8002 with pseudo-glyphs, recovered from Burial 116, Structure 5D-1, Tikal (photograph © Justin Kerr K8002).

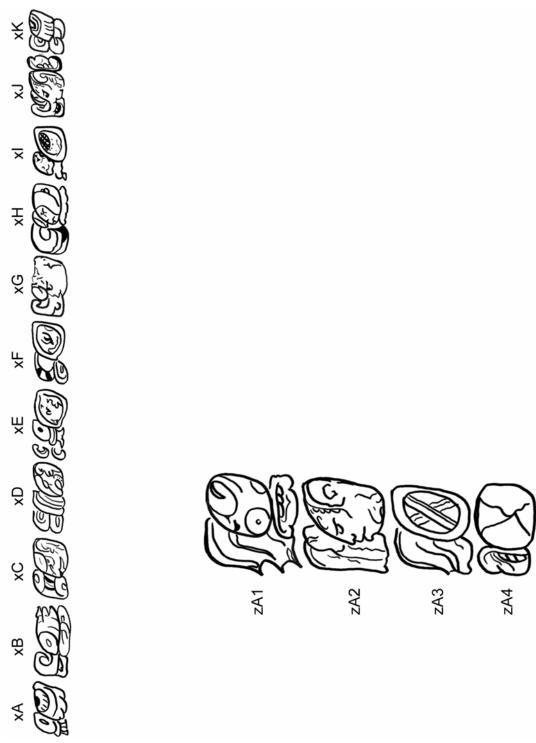


Figure 147 Drawing of pseudo-glyphs from rim band and body of K8002 with nomenclature from Culbert (1993:Figure 73; after photograph © Justin Kerr K8002).

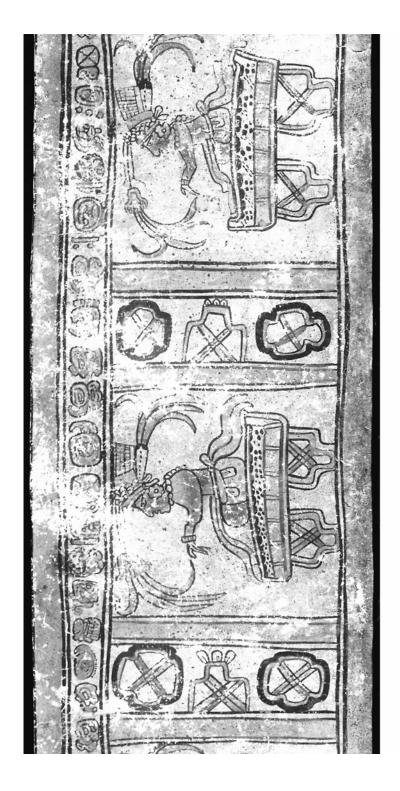


Figure 148 Photograph and drawing of pseudo-glyphs of K8003 from Burial 116, Structure 5D-1, Tikal (photograph © Justin Kerr K8003).

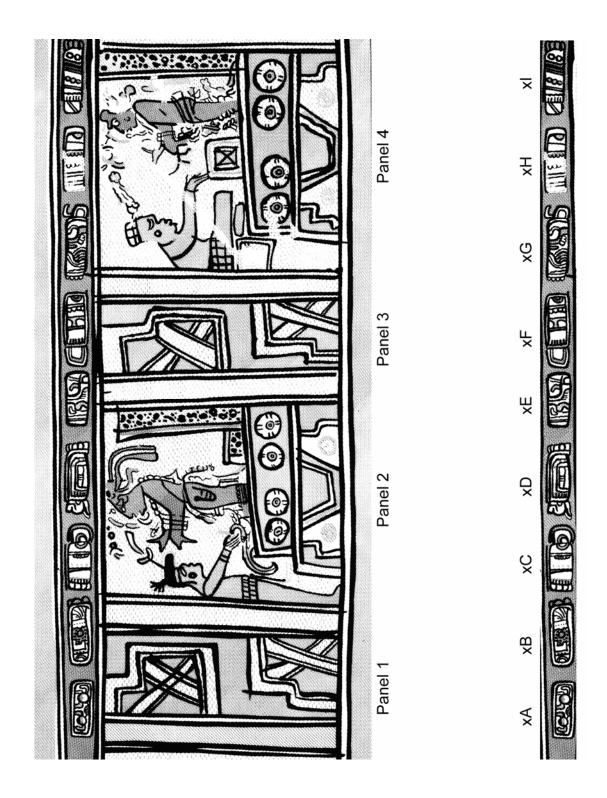


Figure 149 Drawing of Culbert 1993:72b with pseudo-glyphs from rim, excavated from Burial 116, Structure 5D-1, Tikal (after Culbert 1993:72b).

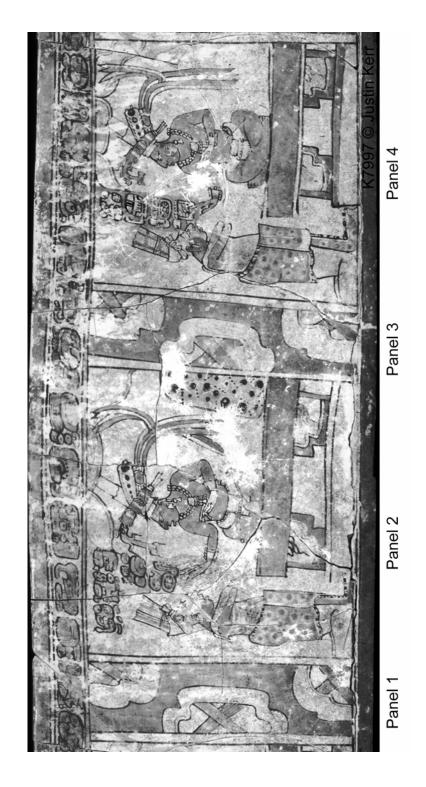


Figure 150 Photograph of K7997 with Dedicatory Formula, recovered from Burial 116, Structure 5D-1, Tikal (nomenclature from Culbert 1993:70b, photograph © Justin Kerr K7997).

SNT from K7997





Panel 2

Panel 4

SNT from K7999





Panel 4

Panel 2

Figure 151 Comparison of Supplementary Non-Repeat Text from K7997 and K7999 (nomenclature from Culbert 1993, photographs © Justin Kerr K7997 & K7999).



Figure 152 Drawing of Dedicatory Formula from K7997, from Tikal Burial 116 (glyph identification from Culbert 1993:70b, from photograph © Justin Kerr K7997).

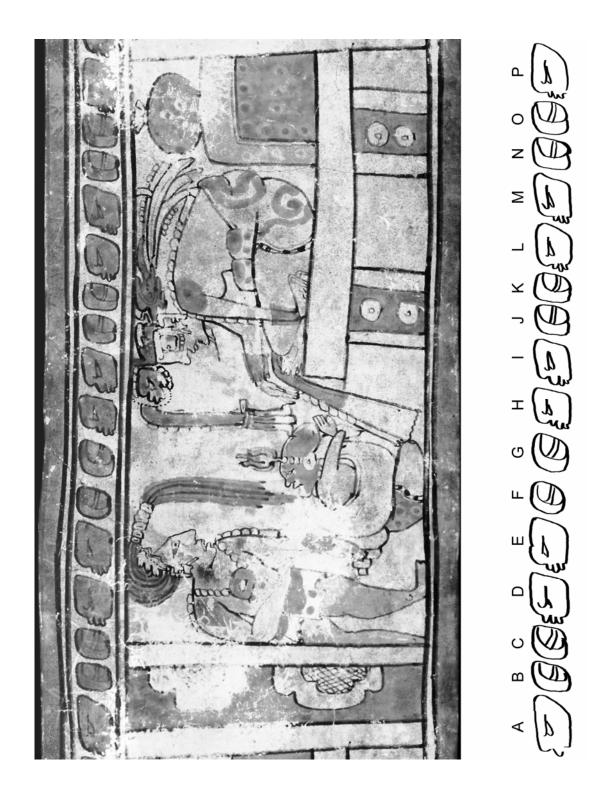


Figure 153 Photograph and drawing of pseudo-glyphs of K8004 from Burial 116, Structure 5D-1, Tikal (photograph © Justin Kerr K8004).

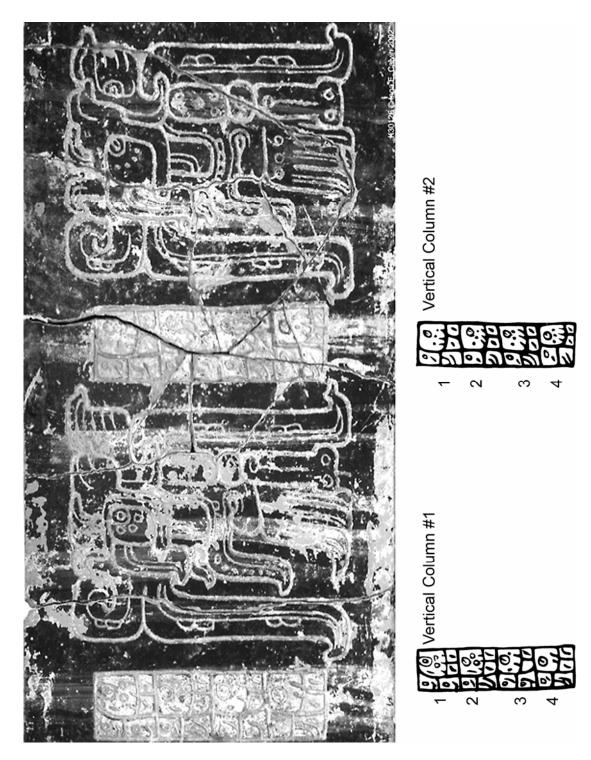


Figure 154 Photograph and drawing of pseudo-glyphs carved in vertical columns of K30126 from Burial 116, Structure 5D-1, Tikal (after Culbert 1993:Figure 68b).

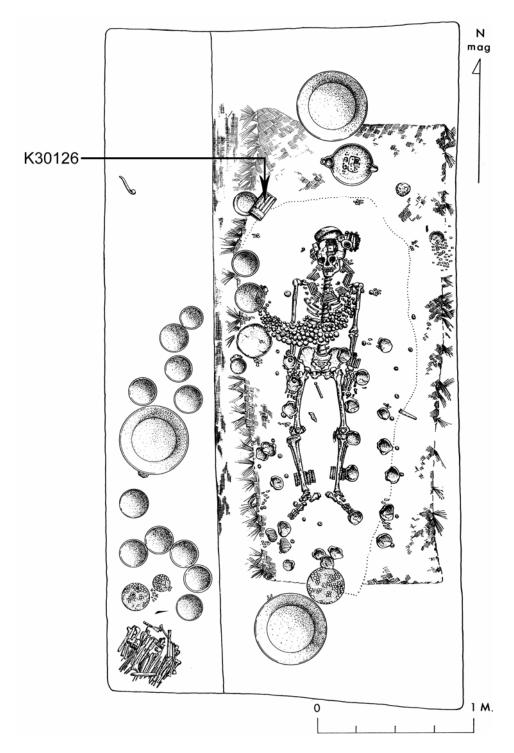


Figure 155 Map of Burial 116, Structure 5D-1, Tikal, showing the location from which pseudo-glyph bearing K30126 was recovered atop the elevated bedrock bench (after Coe 1970:Figure 177).

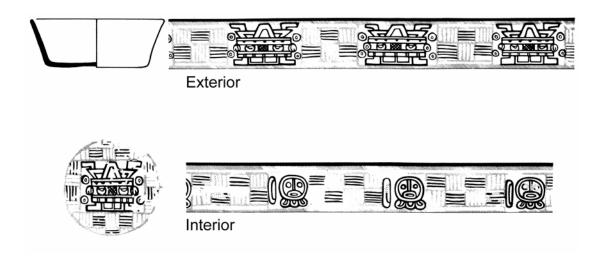


Figure 156 Drawing of Culbert 1993:Figure 64c2 painted with repeated 5 *Ajaw* glyphs on vessel interior from Tikal Burial 116 (after Culbert 1993:Figure 64c2).

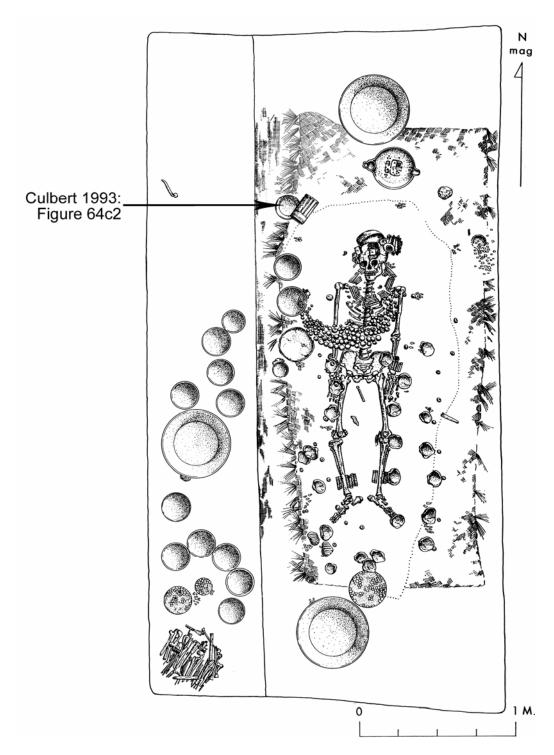


Figure 157 Map of Tikal Burial 116 showing the location of flaring-side bowl Culbert 1993:Figure 64c2 atop the elevated bedrock bench (after Coe 1990:Figure 177).

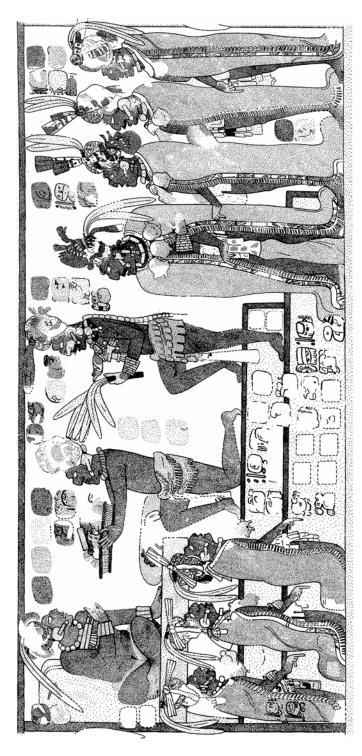


Figure 158 Drawing of Culbert 1993:Figure 68a reconstructed from stuccoed fragments to show full presentation scene, from Burial 116, Tikal (Culbert 1993:68a).

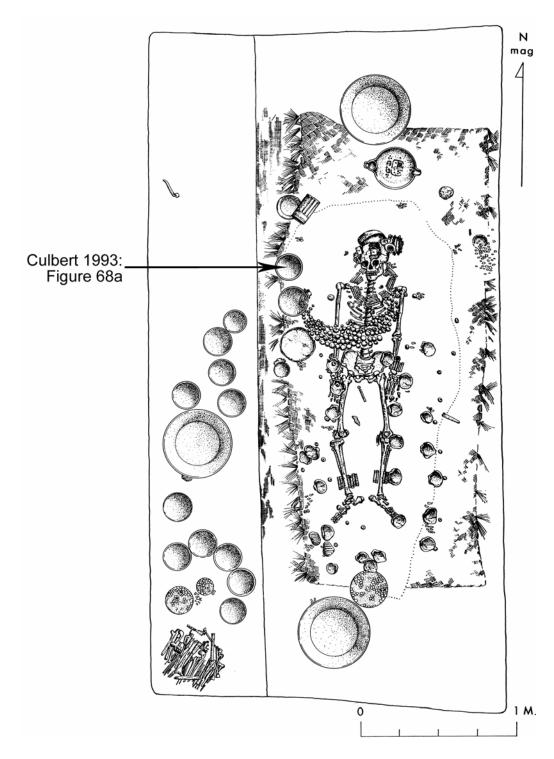


Figure 159 Map of Tikal Burial 116 showing the location of stucco-covered cylinder Culbert 1993:Figure 68a atop the elevated bedrock bench (after Coe 1990:Figure 177).

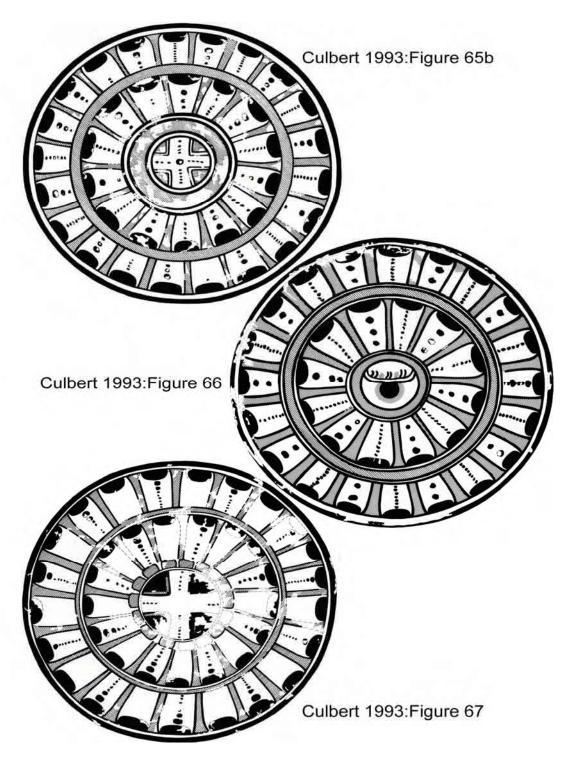


Figure 160 Three tripod plates decorated with radiating Moan Bird feathers motif recovered from Tikal Burial 116 (after Culbert 1993).

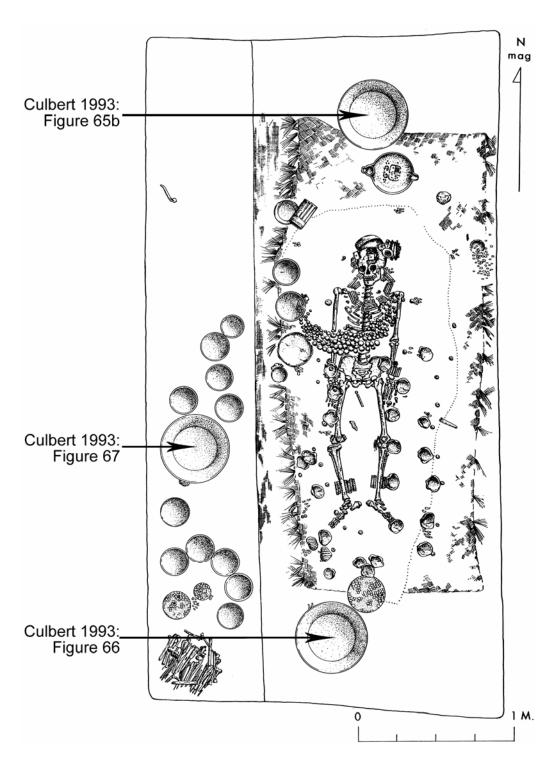


Figure 161 Map of Tikal Burial 116 showing the location of tripod plates Culbert 1993:Figure 65a, Culbert 1993:Figure 66, and Culbert 1993:Figure 67 (after Coe 1990:Figure 177).



Figure 162 Drawing of bowl Culbert 1993:Figure 64c3 recovered from Burial 116, Structure 5D-1, Tikal (after Culbert 1993:Figure 64c3).

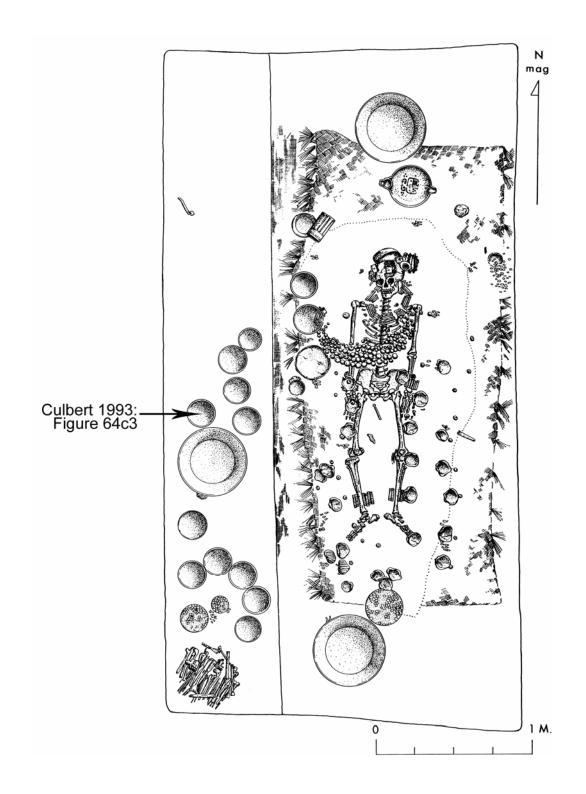


Figure 163 Map of Tikal Burial 116 showing the location of bowl Culbert 1993:Figure 6c3 (after Coe 1990:Figure 177).

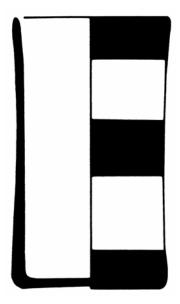


Figure 164 Drawing of cylinder vase Culbert 1993:Figure 64c1 decorated with broad, horizontal bands from Tikal Burial 116 (Culbert 1993:Figure 64c1).

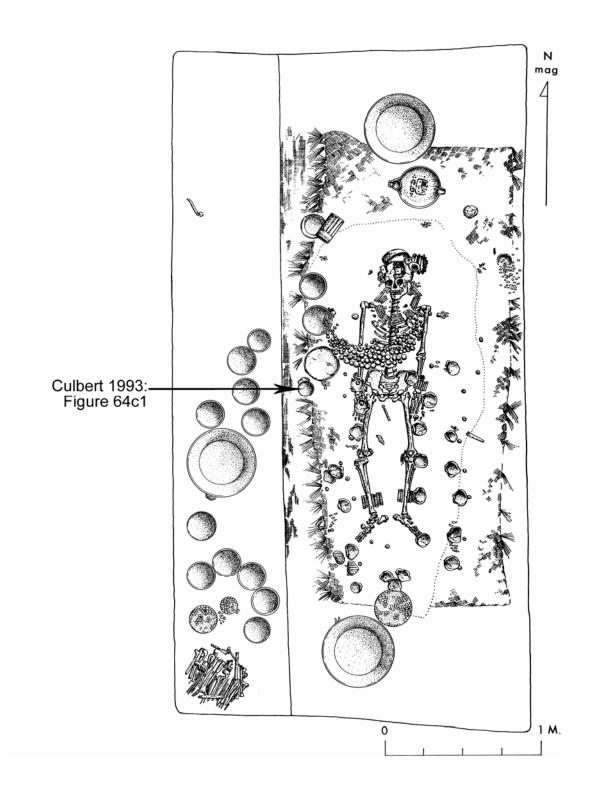


Figure 165 Map of Tikal Burial 116 showing the location of cylinder vase Culbert 1993:Figure 64C1 (after Coe 1990:Figure 177).

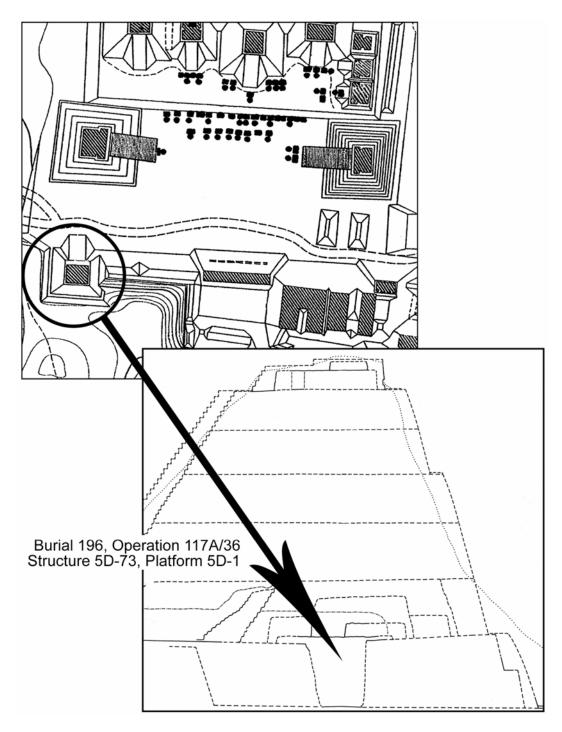


Figure 166 Map showing location of Structure 5D-73 located on the southwest corner of the Great Plaza, Tikal (after Carr and Hazzard 1961:Great Plaza Quadrangle), and detail showing N-S profile to identify Burial 196 (after Coe 1990:Figure 277d).

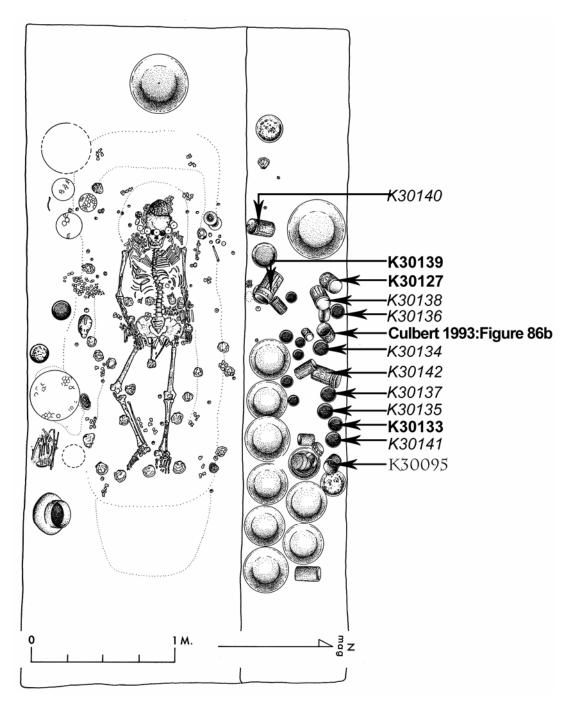


Figure 167 Map showing location of vessels forming set of 13 Stuccoed over Kanalcan Gouged-incised cylinder vases decorated with similar icons, from Burial 196, Structure 5D-73, Tikal (after Coe 1990:Figure 282). **Bold text** = vases with pseudo-glyphs; *Italics* = vases with decorative rim band; K30095 = vase with Dedicatory Formula.

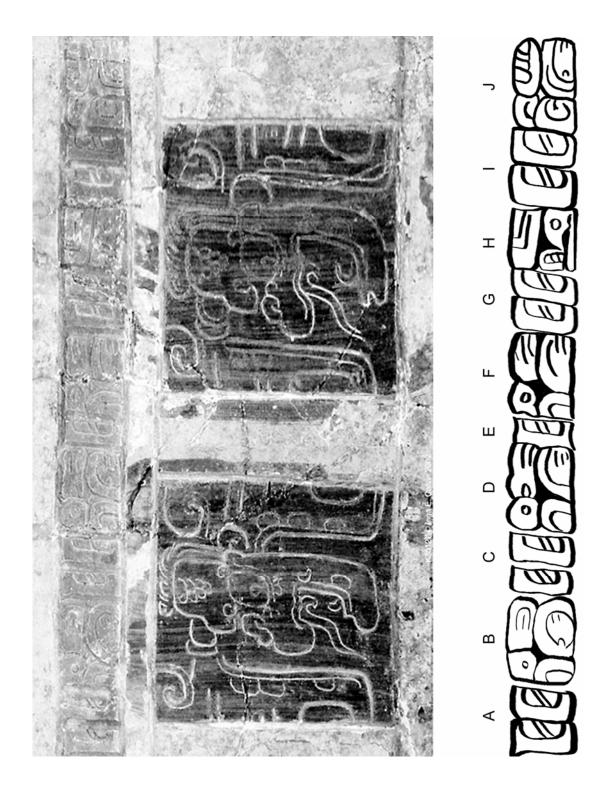


Figure 168 Photograph and drawing of pseudo-glyphs of cylinder vase K30127 from Burial 196, Structure 5D-73, Tikal.

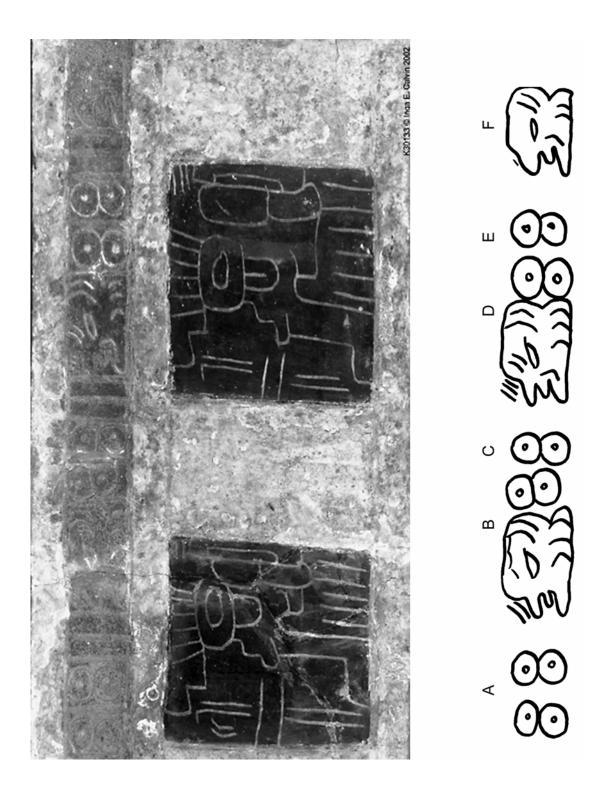


Figure 169 Photograph and drawing of pseudo-glyphs of cylinder vase K30133 from Burial 196, Structure 5D-73, Tikal.

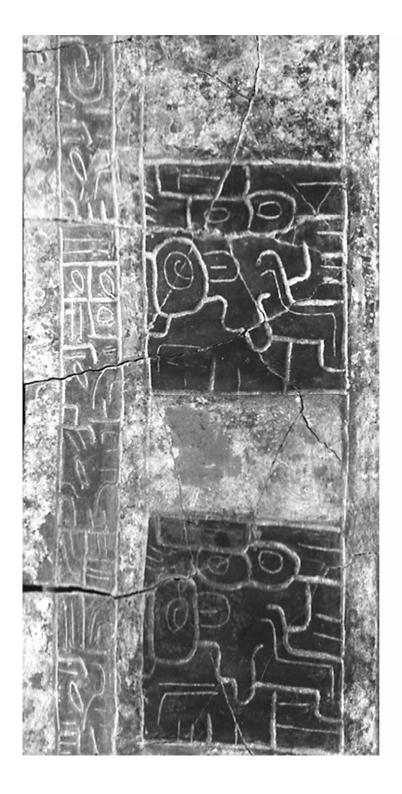




Figure 170 Photograph and drawing of pseudo-glyphs of cylinder vase K30139 from Burial 196, Structure 5D-73, Tikal.

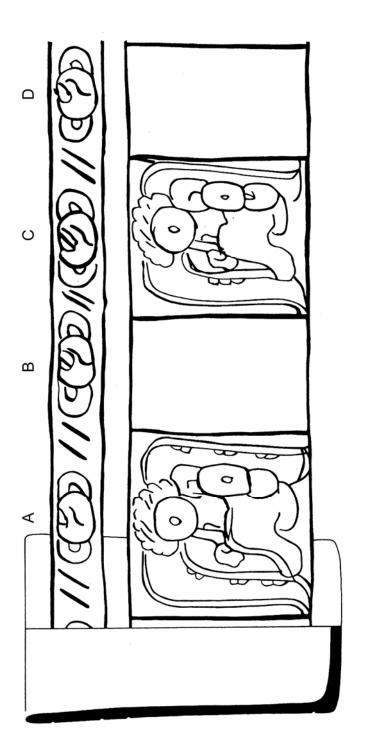


Figure 171 Drawing of cylinder vase Culbert 1993:86b with pseudo-glyphs, recovered from Burial 196, Structure 5D-73, Tikal (after Culbert 1993:86b).

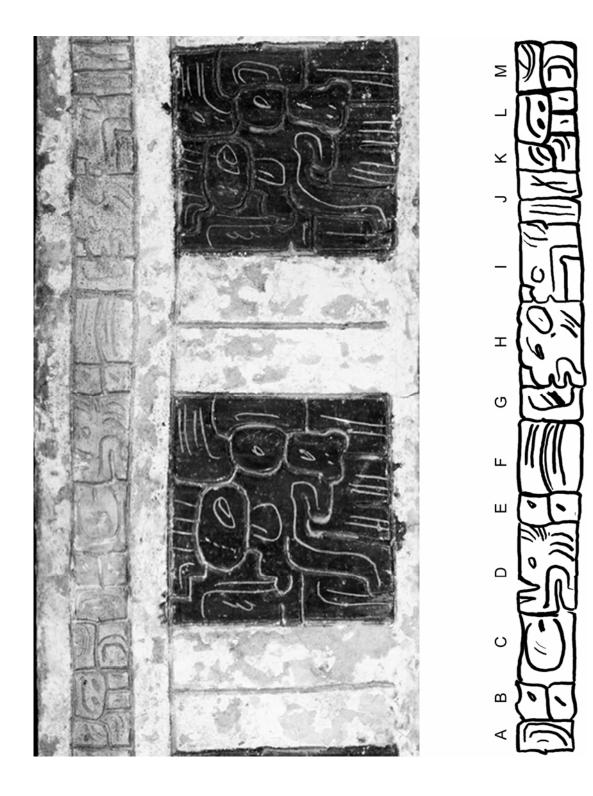


Figure 172 Photograph and drawing of Dedicatory Formula encircling rim of K30095 from Burial 196, Structure 5D-73, Tikal.



Figure 173 Photograph of cylinder vase K30136 with decorative rim band, recovered from Burial 196, Structure 5D-73, Tikal.

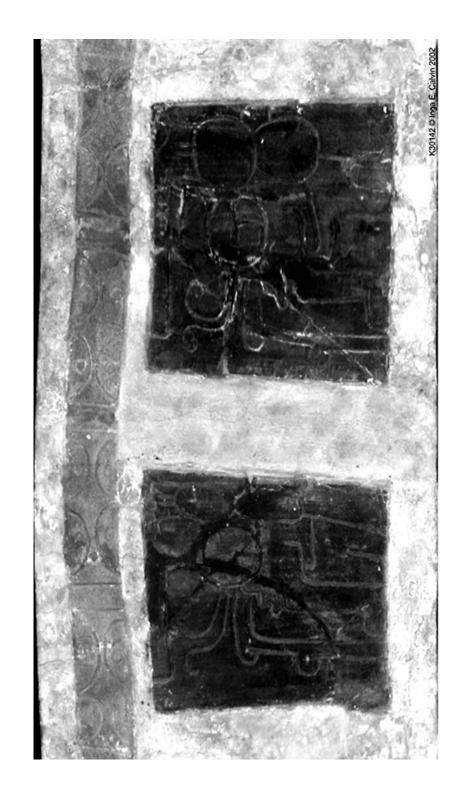


Figure 174 Photograph of cylinder vase K30140 with decorative rim band, recovered from Burial 196, Structure 5D-73, Tikal.

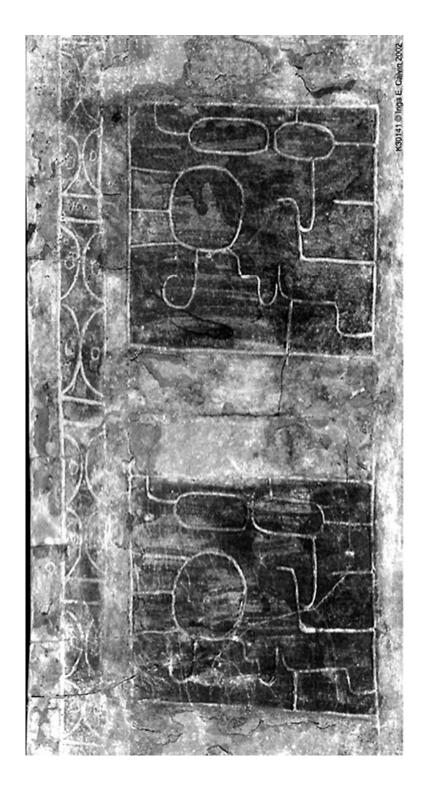


Figure 175 Photograph of cylinder vase K30141 with decorative rim band, recovered from Burial 196, Structure 5D-73, Tikal.

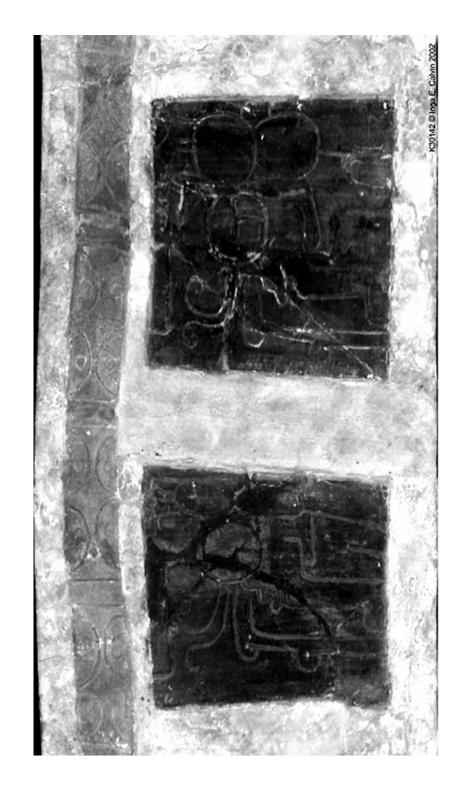


Figure 176 Photograph of cylinder vase K30142 with decorative rim band, recovered from Burial 196, Structure 5D-73, Tikal.

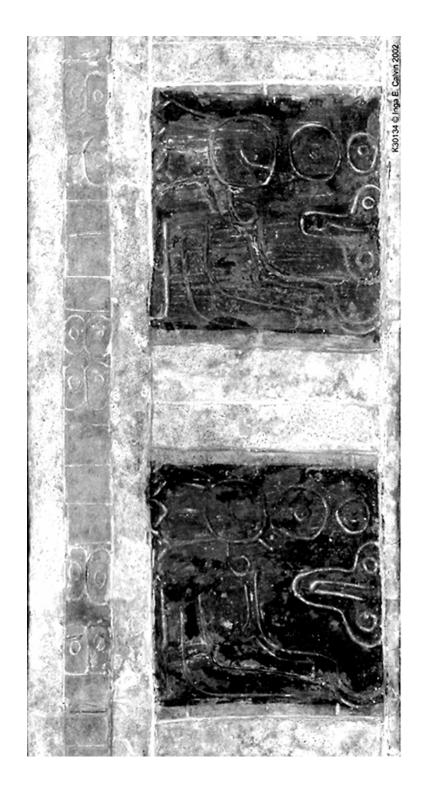


Figure 177 Photograph of cylinder vase K30134 with decorative rim band, recovered from Burial 196, Structure 5D-73, Tikal.

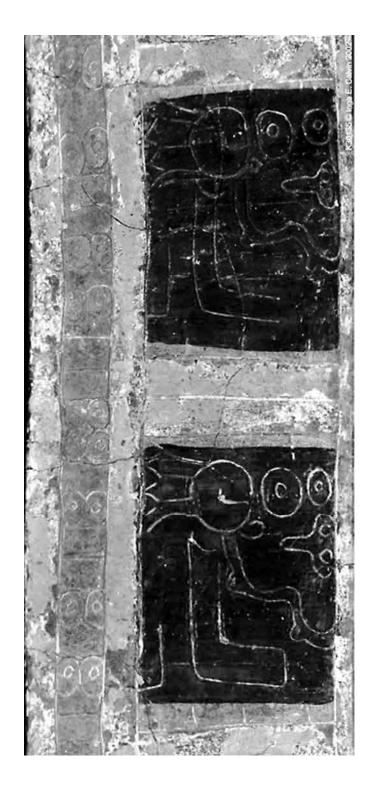


Figure 178 Photograph of cylinder vase K30135 with decorative rim band, recovered from Burial 196, Structure 5D-73, Tikal.



Figure 179 Photograph of cylinder vase K30137 with decorative rim band, recovered from Burial 196, Structure 5D-73, Tikal.

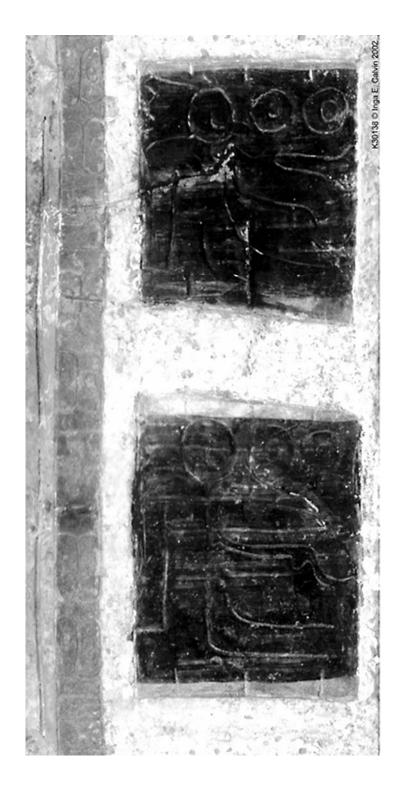


Figure 180 Photograph of cylinder vase K30138 with decorative rim band, recovered from Burial 196, Structure 5D-73, Tikal.

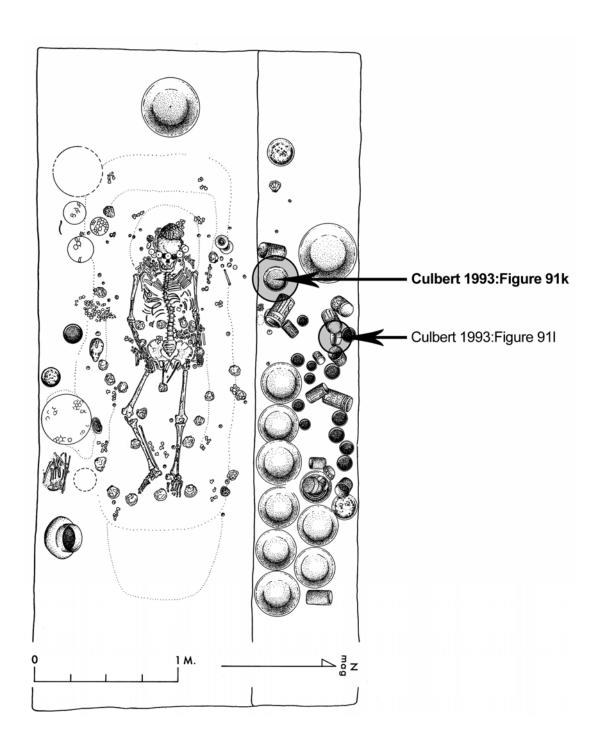


Figure 181 Map of Tikal Burial 196 showing location from which Culbert 1993:Figure 91k (with pseudo-glyphs) and a second bowl, both decorated with Muan feather motif, were recovered (after Coe 1990:Figure 282).

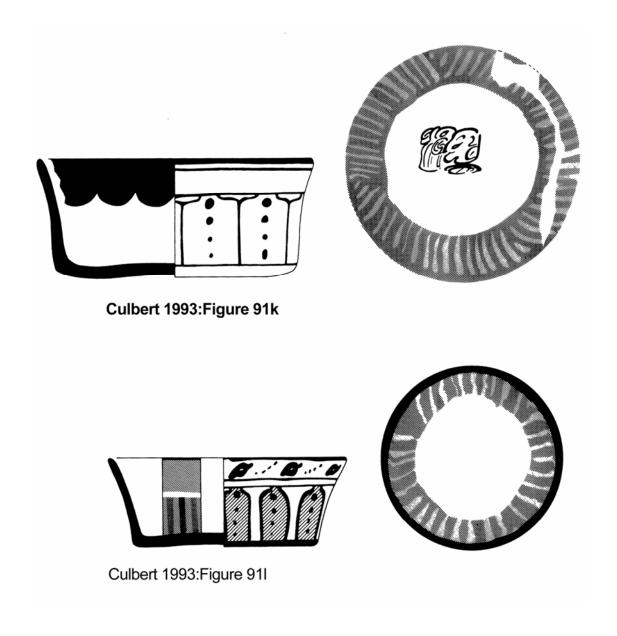


Figure 182 Drawing of bowls painted with Muan Bird feathers motif on exterior, recovered from Burial 196, Tikal (Culbert 1993:Figure 91k and Culbert 1993:Figure 91l). Culbert 1993:Figure 91k decorated with pseudo-glyph on bottom exterior of bowl.



Figure 183 Photograph of K8008 with Dedicatory Formula naming *Yik'in Chan K'awiil* (Ruler B) as owner of the cylinder, recovered from Burial 196, Tikal (photograph © Justin Kerr K8008).

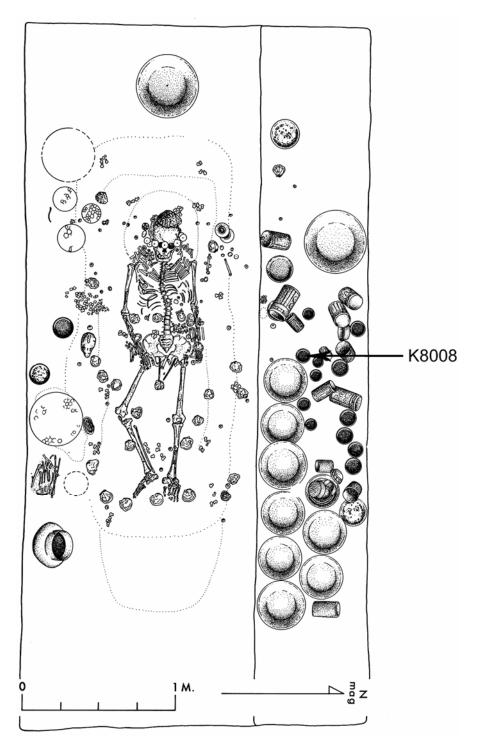


Figure 184 Map showing location from which K8008 was recovered as part of Burial 196, Tikal (after Coe 1990:Figure 282).

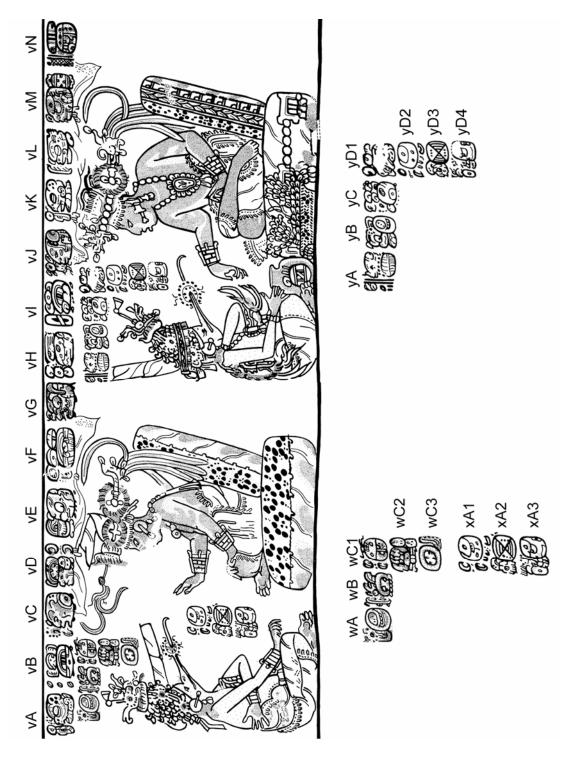


Figure 185 Drawing of K8008 showing nomenclature used to identify hieroglyphic text (after Culbert 1993:Figure 84).



Figure 186 Photograph of cylinder K2698 with SNT identifying the three individuals, recovered from Burial 196, Tikal (photograph © Justin Kerr K2698).

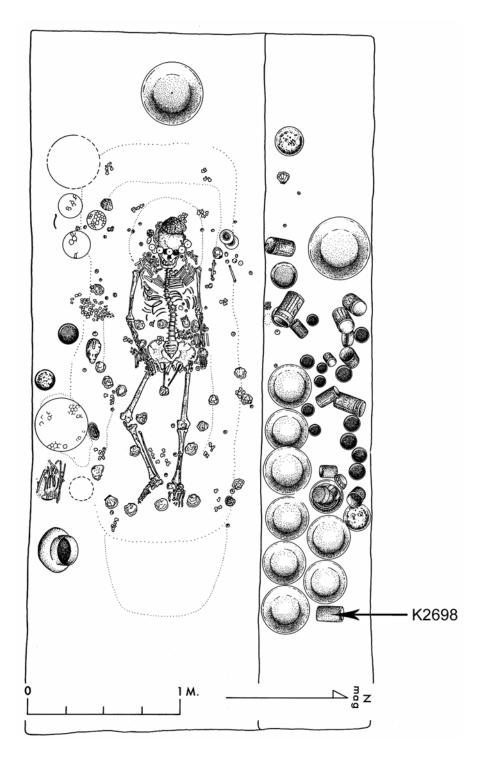


Figure 187 Map showing location of K2698 with legitimate SNT, recovered from Burial 196, Tikal (after Coe 1990:Figure 282).

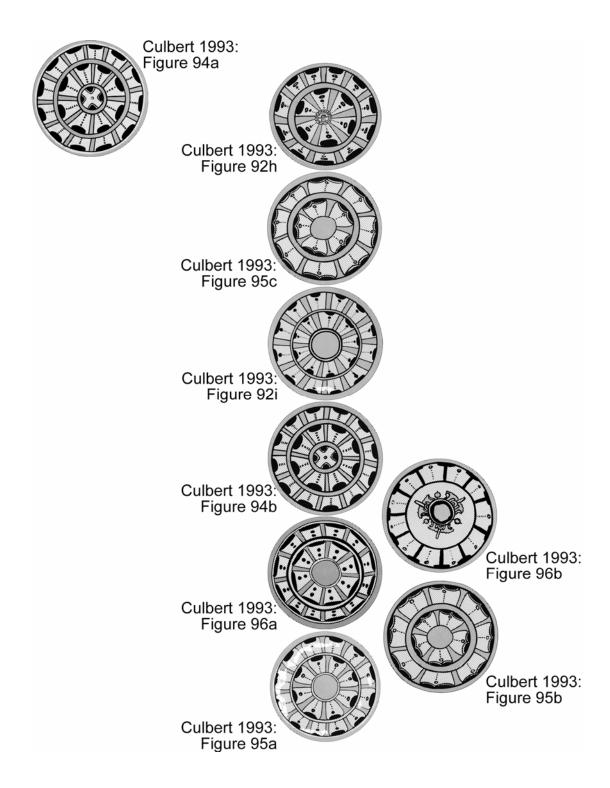
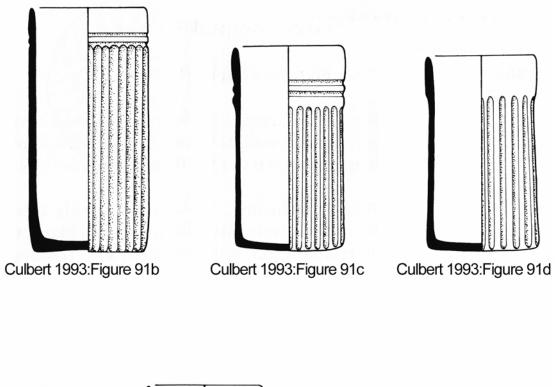


Figure 188 Reconstructed placement of a set of nine tripod plates decorated with Muan bird feathers from Burial 196, Tikal.



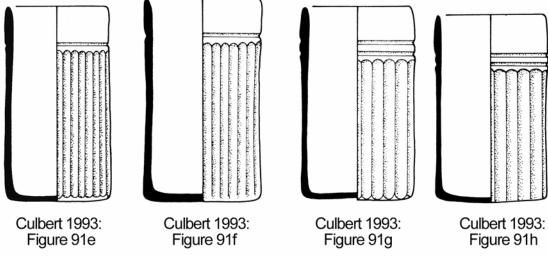


Figure 189 Drawing of ceramic set of seven Chilar Fluted cylinder from Burial 196, Tikal (after Culbert 1993:Figure 91b-i).

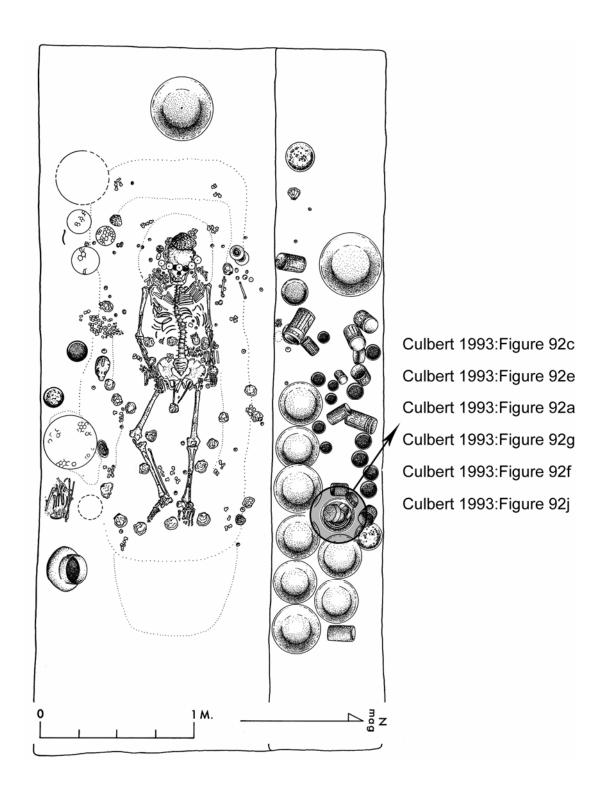


Figure 190 Map showing location of stacked vessels from Burial 196, Tikal (after Coe 1990:Figure 282).

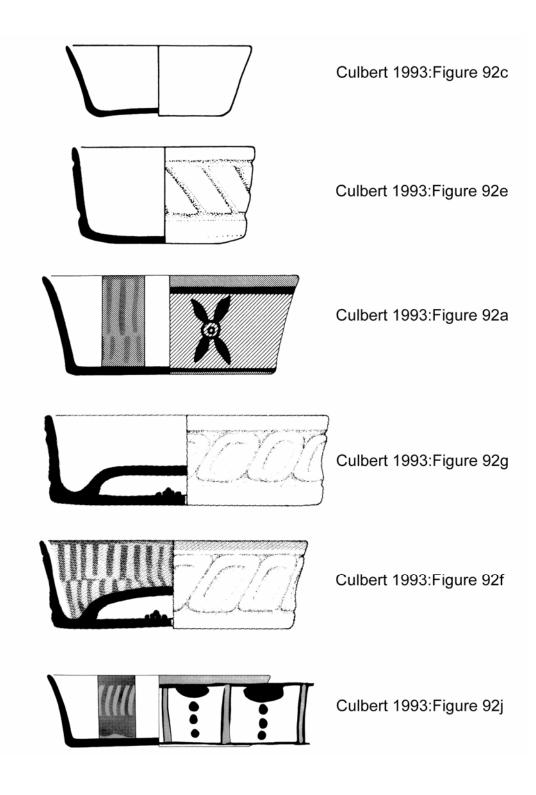


Figure 191 Drawing of six stacked vessels from Burial 196, Tikal (position based on order specified in Hellmuth 1967:133-137).



Figure 192 Photograph of cylinder vase K8006 recovered from Burial 196, Tikal.

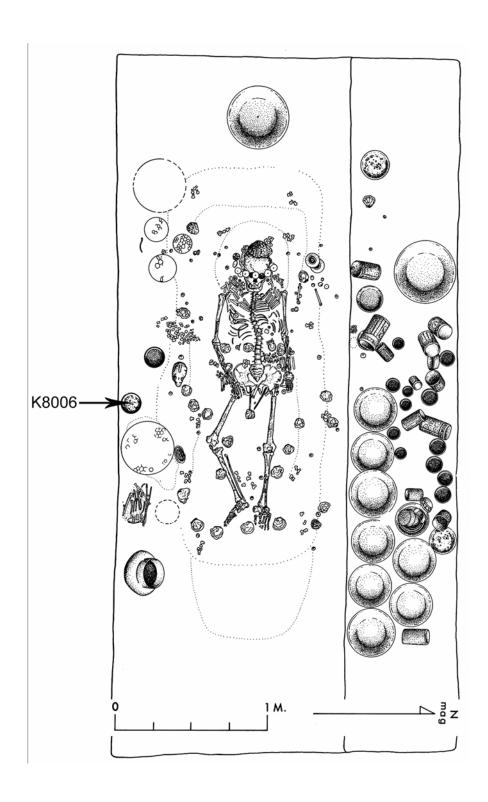


Figure 193 Map showing location of cylinder K8006 recovered from Burial 196, Tikal (after Coe 1990:Figure 282).

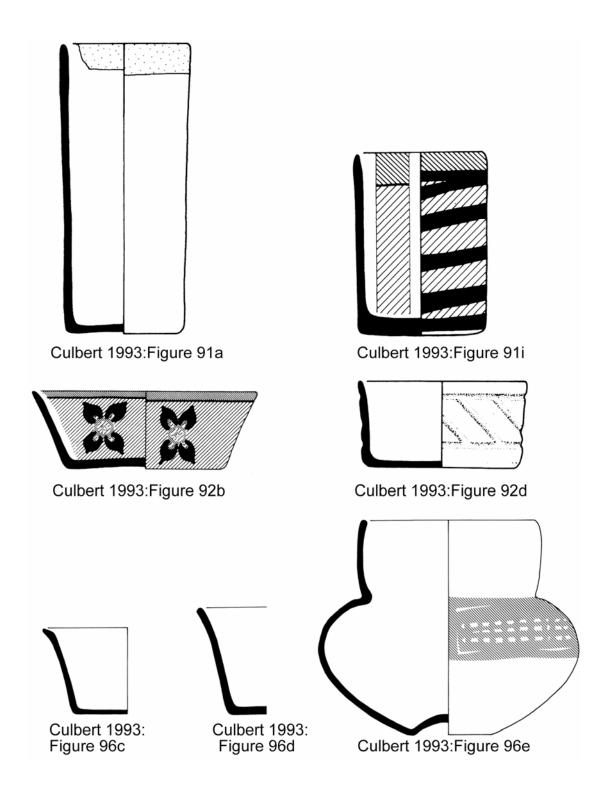


Figure 194 Drawing of vessels without figural or textual decoration included in Burial 196, Tikal (from Culbert 1993).

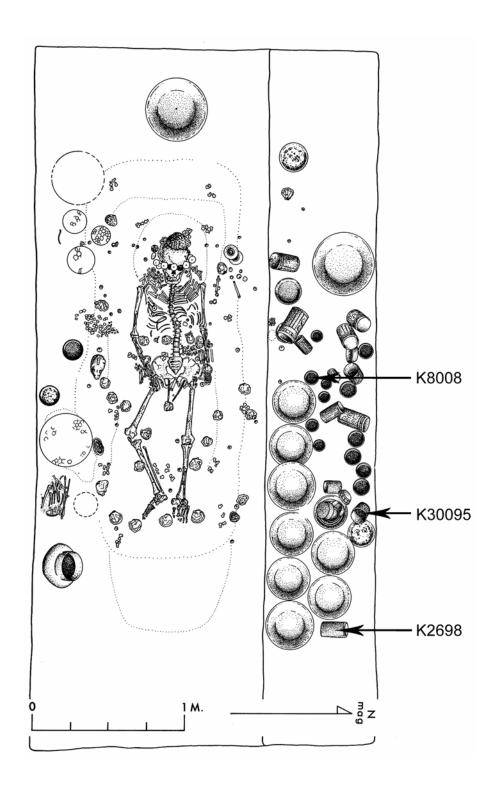


Figure 195 Map showing location of three vessels with legitimate hieroglyphic text recovered from Burial 196, Tikal (after Coe 1990:Figure 282).

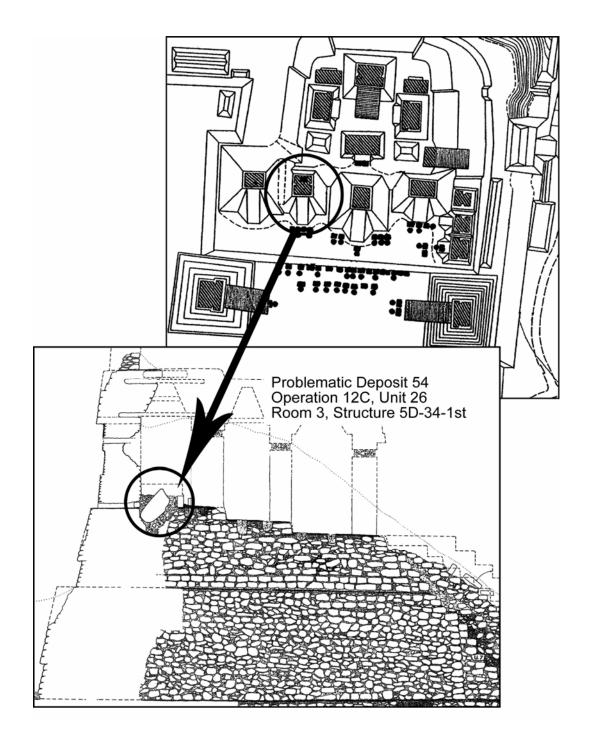


Figure 196 Map showing location of Structure 5D-34-1st within Tikal North Acropolis (after Carr and Hazard 1961:Great Plaza Quadrangle) and detail of profile map for Structure 5D-34-1st showing location of Problematic Deposit 54, Operation 12C, Unit 26, in Room 3 (after Coe 1990:Figure 154).

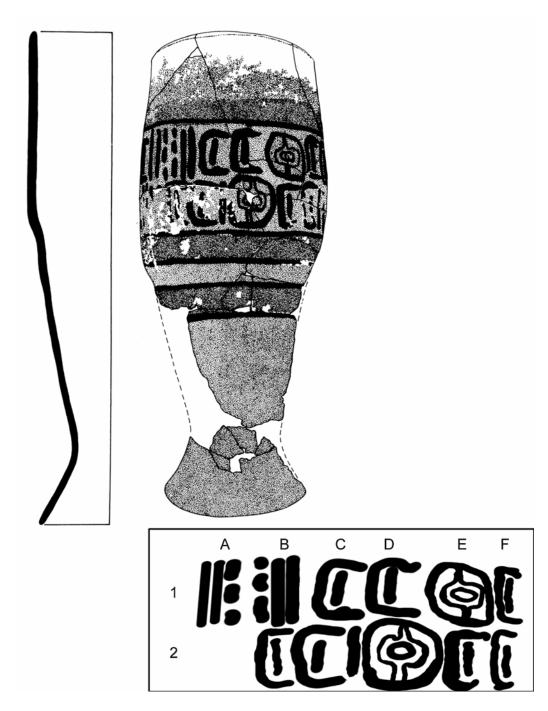


Figure 197 Drawing of pottery drum Moholy-Nagy 2003:Figure 144a decorated with pseudo-glyphs, recovered from Problematic Deposit 54, Operation 12C, Unit 12C, Room 3, Structure 5D-34-1st, Tikal (Moholy-Nagy 2003:Figure 144a) and detail drawing of pseudo-glyphs.

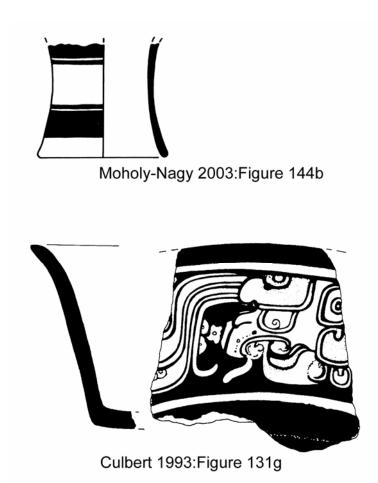


Figure 198 Drawing of other ceramic fragments recovered from the west side of Tikal Problematic Deposit 54, Operation 12C, Unit 12C, Room 3, Structure 5D-34-1st (Moholy-Nagy 2003:Figure 144b and Culbert 1993:Figure 131g).

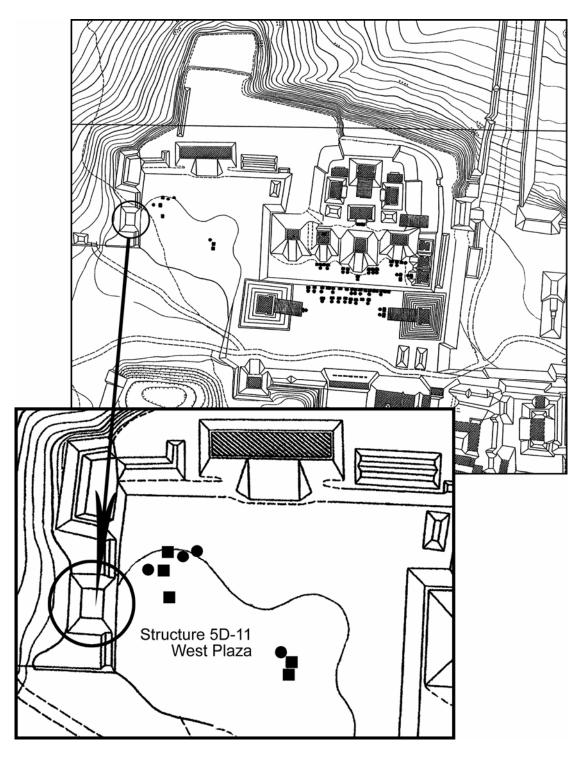


Figure 199 Map showing location of Structure 5D-11 on the west side of the West Plaza, Tikal (after Carr and Hazard 1961:Great Plaza Quadrangle).



Figure 200 Photograph of tripod plate IDAEH 17-01-01-137 recovered from Burial 77, Structure 5D-11, Tikal.



Figure 201 Drawing of pseudo-glyphs from tripod plate IDAEH 17-01-01-137 recovered from Burial 77, Structure 5D-11, Tikal.

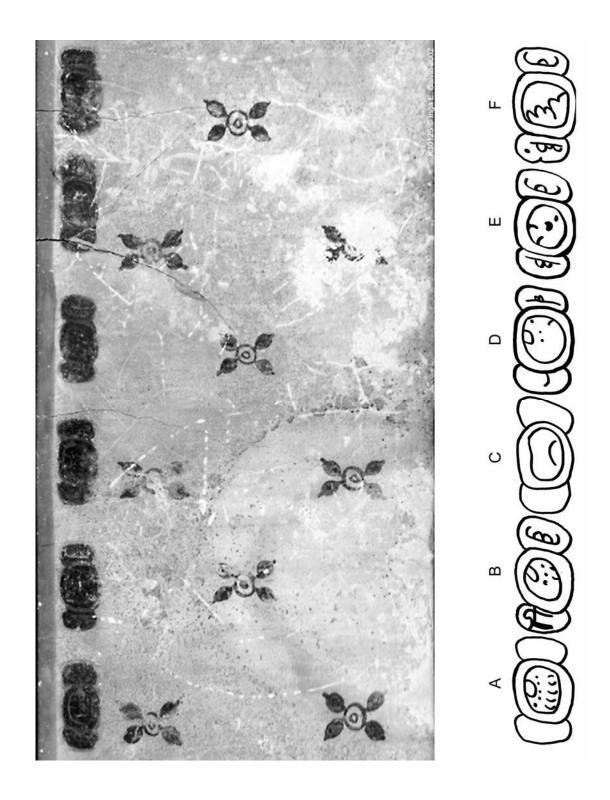


Figure 202 Photograph and drawing of pseudo-glyphs of cylinder vase K30125 from Burial 77, Structure 5D-11, Tikal.

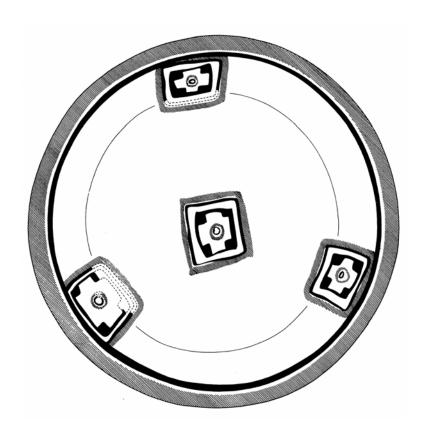
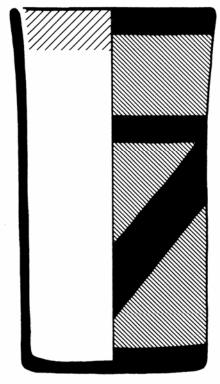
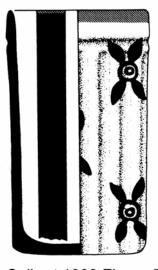


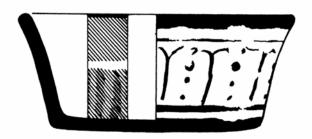
Figure 203 Drawing of tripod plate Culbert 1993: Figure 58a from Burial 77, Structure 5D-11, Tikal (Culbert 1993:Figure 58a).



Culbert 1993:Figure 57c1



Culbert 1993:Figure 57c3



Culbert 1993:Figure 58c

Figure 204 Drawing of vessels without inscription recovered from Burial 77, Structure 5D-11, Tikal (from Culbert 1993:Figure 57c1, Culbert 1993:Figure 57c3 and Culbert 1993:Figure 58c).

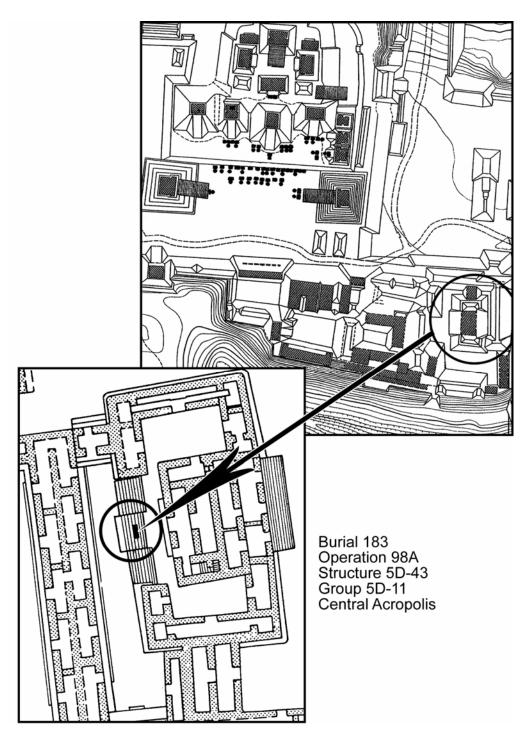


Figure 205 Map showing location of Tikal Structure 5D-48, Group 5D-11 in the Central Acropolis (after Carr and Hazard 1961) and detail showing Burial 183, Operation 98A, in Structure 5D-43 (after unpublished map provided by Peter Harrison 2005).

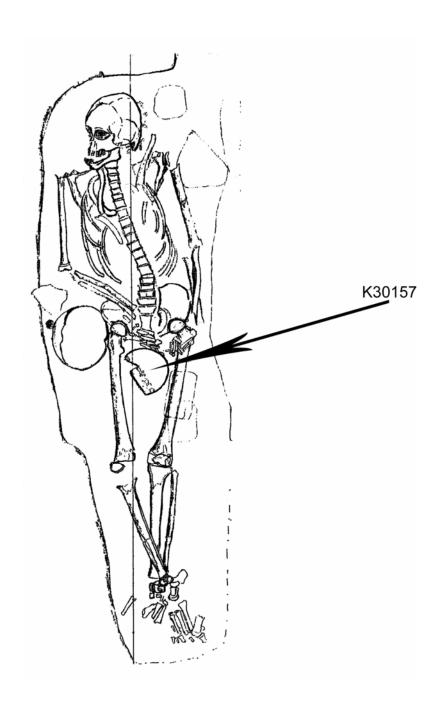


Figure 206 Plan drawing showing location of K30157 decorated with pseudo-glyphs within Burial 183, Operation 98A, Structure 5D-48, Group 5D-11, Central Acropolis, Tikal (after unpublished drawing provided by Peter Harrison 2005).

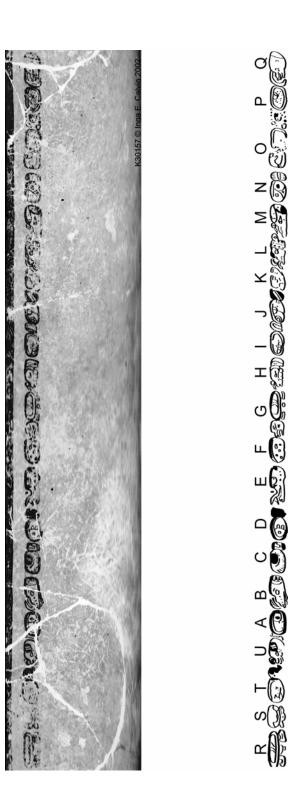


Figure 207 Photograph and drawing of pseudo-glyphs of K30157 from Burial 183, Structure 5D46, Group 5D-11, Tikal.

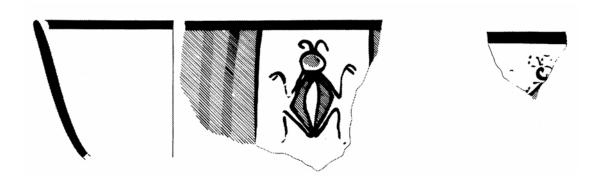


Figure 208 Drawing of bowl fragments Culbert 1993:49a1 recovered from Tikal Burial 183, Structure 5D-46, Group 5D-11 (from Culbert 1993:49a1).

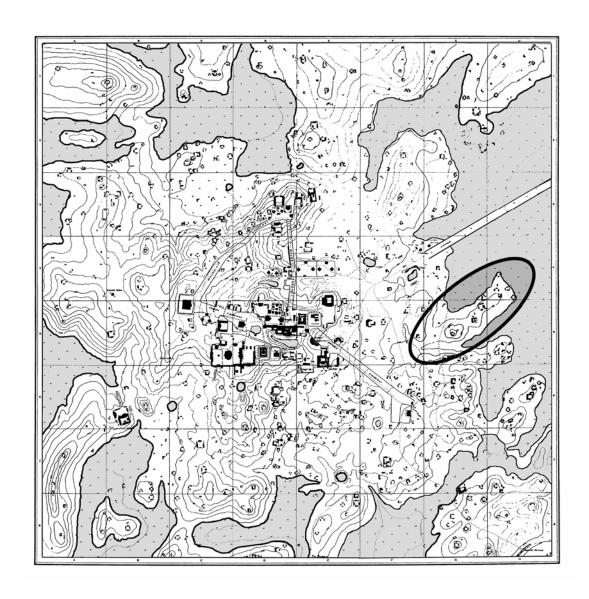


Figure 209 Map showing Tikal peninsula area on eastern margins of the Bajo Santa Fé investigated by Becker (1971), containing non-royal residences identified as Plaza Plan 2 (map after Carr and Hazard 1961).

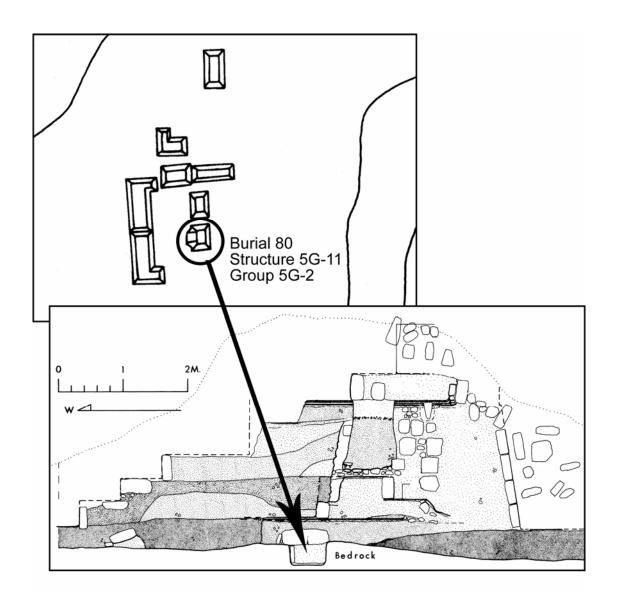


Figure 210 Map showing Tikal Plaza Group 5G-2, Structure 5G-11 (after Becker 1999:Figure 1) and profile drawing of Structure 5G-11, Section A-A' detailing location of Burial 80 (after Becker 1999:Figure 73).

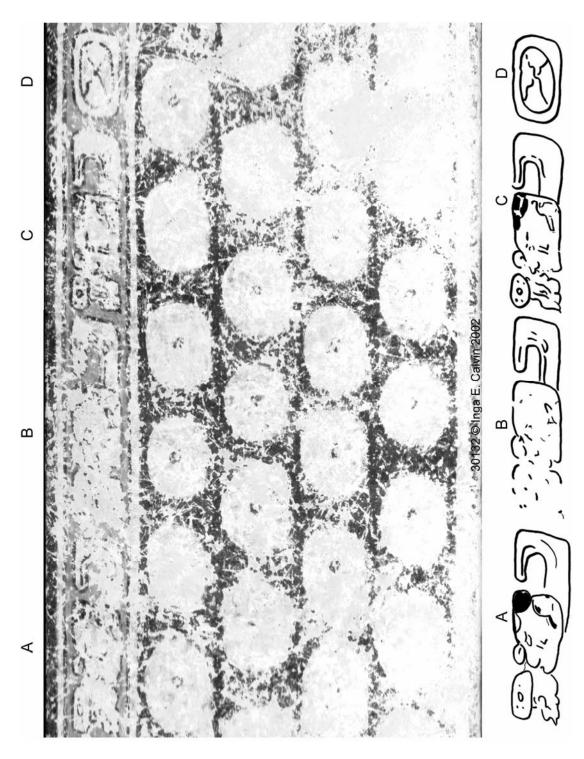


Figure 211 Photograph and drawing of pseudo-glyphs of K30132, a cylinder vase with pseudo-glyphic text from Burial 80, under Structure 5G-11-3rd and Platform 5G-2, Group 5G-2, Tikal.

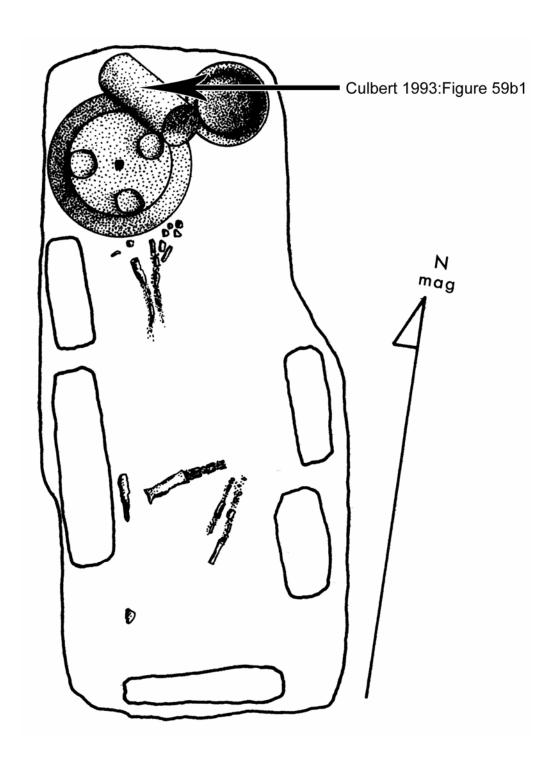


Figure 212 Plan drawing showing location of K30132 in Burial 80, Structure 11, Group 5G-2, Tikal (after Becker 1999:Figure 91d).

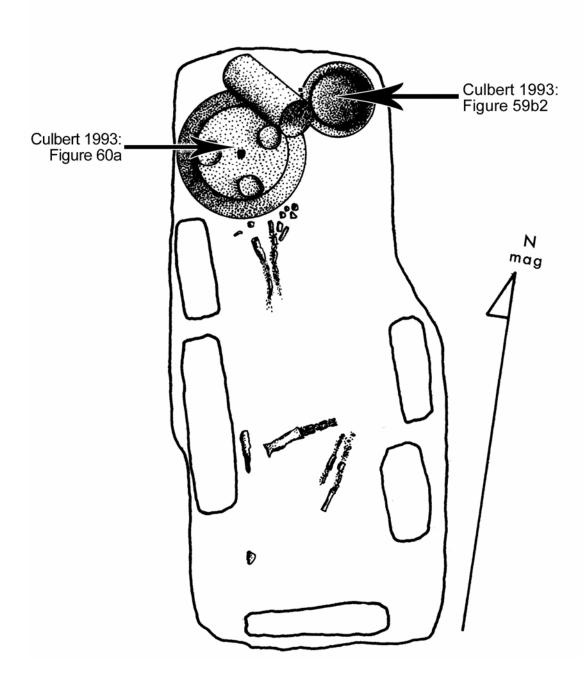


Figure 213 Plan drawing showing location of vessels without pseudo-glyphs from Burial 80, Structure 11, Group 5G-2, Tikal (after Becker 1999: Figure 91d).

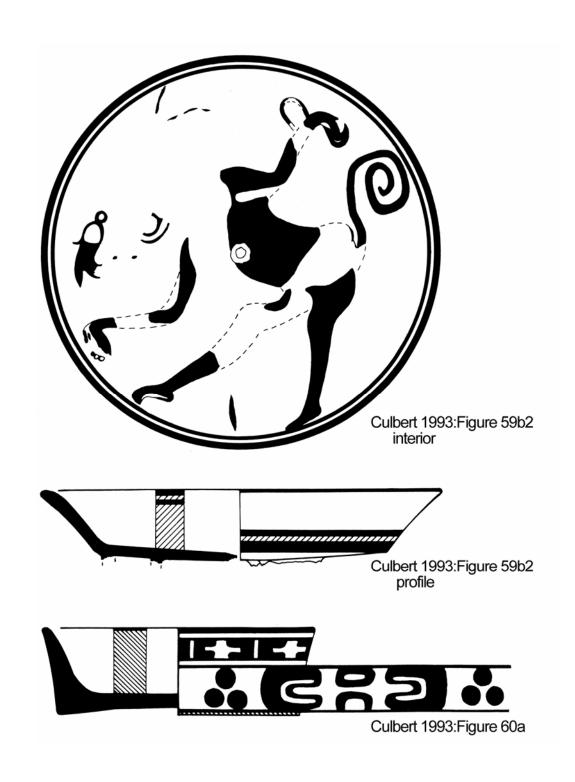


Figure 214 Line drawings of vessels without pseudo-glyphs recovered from Burial 80, Structure 5G-11-3rd, Tikal (after Culbert 1993).

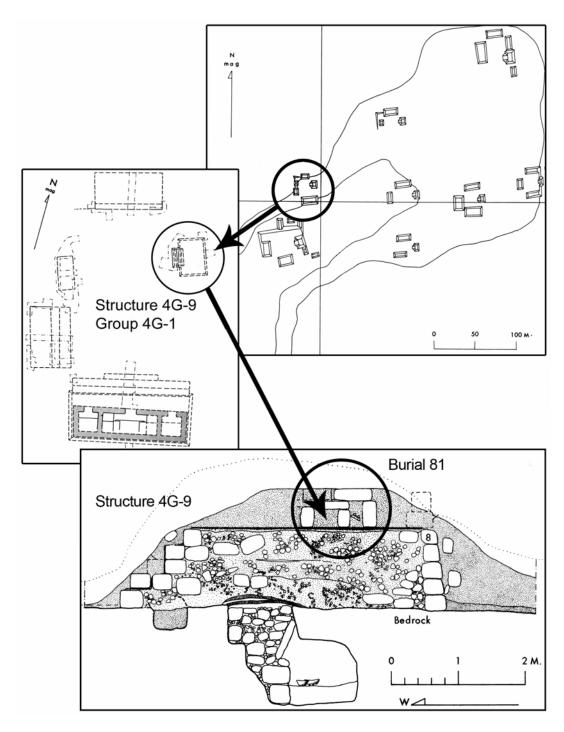


Figure 215 Drawing showing location of Tikal Group 4G-1 along the Bajo Santa Fé (after Becker 1999:Figure 1) with detail of Plaza Plan (after Becker 1999:Figure 2) and E-W profile of Structure 9, Group 4G-1 showing location of Burial 81 (after Becker 1999:Figure 3b).

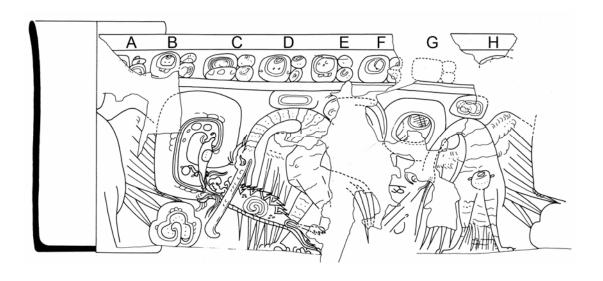


Figure 216 Line drawing of Culbert 1993:43d with incised pseudo-glyphs (after Culbert 1993:Figure 43d), from Tikal Burial 81, Structure 9, Group 4G-1.

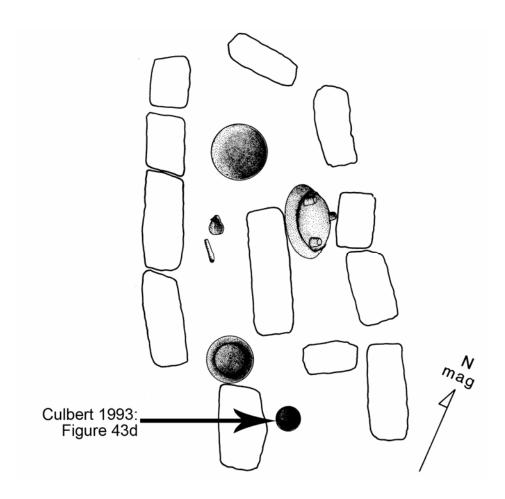


Figure 217 Plan drawing of Burial 81, Structure 9, Group 4G-1, Tikal, showing location of pseudo-glyph bearing vase Culbert 1993:43d (after Becker 1999:Figure 10a).

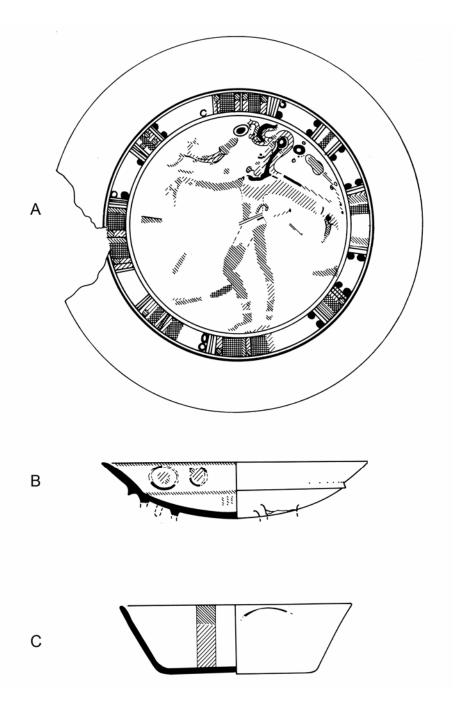


Figure 218 Line drawings of vessels not decorated with pseudo-glyphs from Burial 81, Tikal: (A) Culbert 1993:Figure 43a; (B) Culbert 1993: Figure 43b; (C) Culbert 1993:Figure 43c.

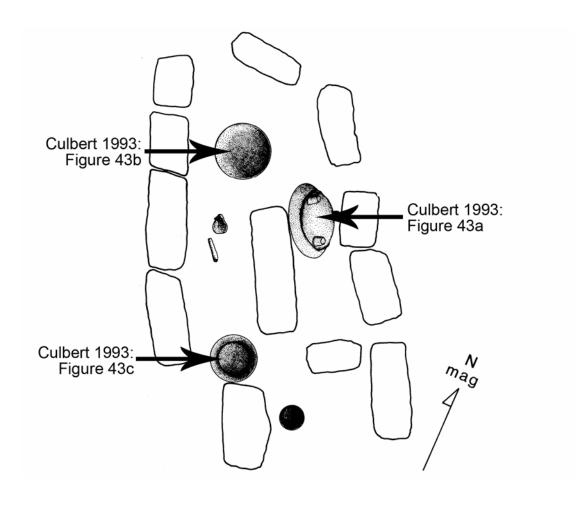


Figure 219 Plan of Tikal Burial 81, Structure 4G-9, showing location of vessels without pseudo-glyphs (after Becker 1999:Figure 10a).

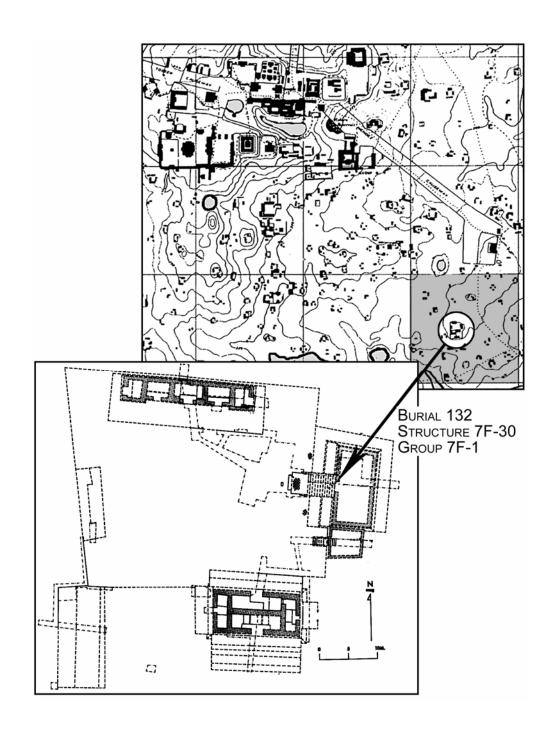


Figure 220 Map showing location of Group 7F-1 in relation to Tikal Acropolis, Mendes Causeway and Temple of the Inscriptions; detail map illustrating location of Burial 132 in Structure 7F-30, Group 7F-1 (after Haviland 1985:37, Figure 5).

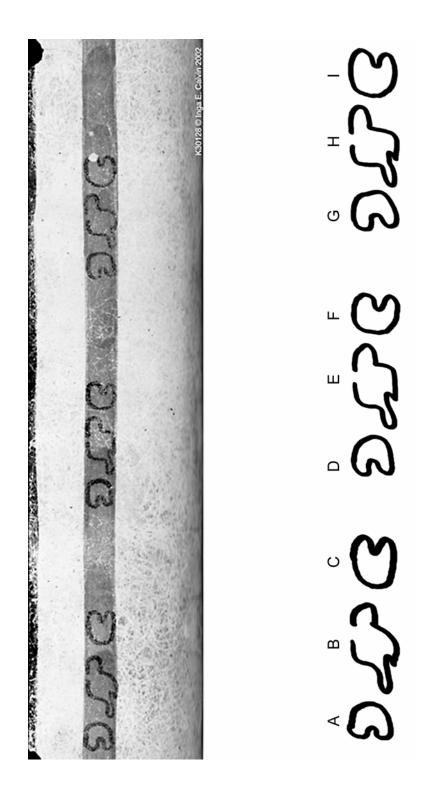


Figure 221 Photograph and drawing of pseudo-glyphs of barrel-shaped bowl K30128 from Burial 132, Structure 7F-30, Tikal.

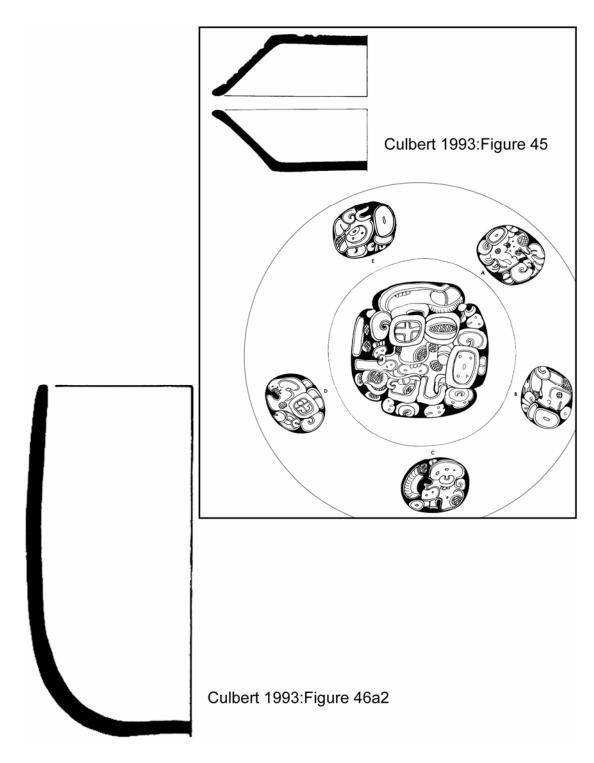


Figure 222 Drawings of cache vessel Culbert 1993:Figure 45 (showing both profile and plan view of carving on lid) and profile of barrel-shaped vase Culbert 1993:Figure 46a2 (after Culbert 1993).

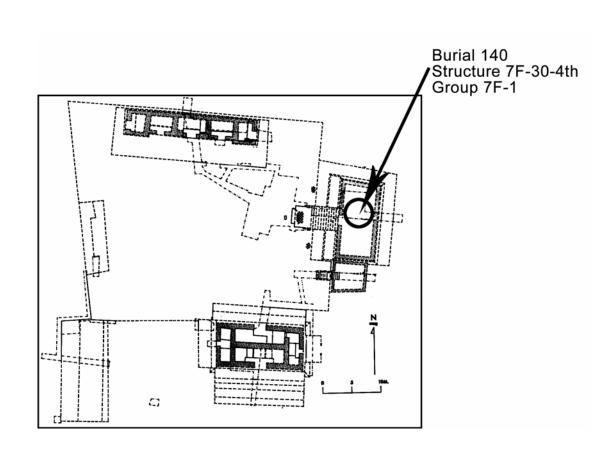


Figure 223 Map showing location of Burial 140 in Structure 7F-30-4th, Group 7F-1, Tikal (after Haviland 1981:97, Figure 5.3).



Figure 224 Photograph and drawing of 21 pseudo-glyphs painted around the rim of K8005 from Burial 140, Structure 7F-30, Tikal (photograph © Justin Kerr K8005).

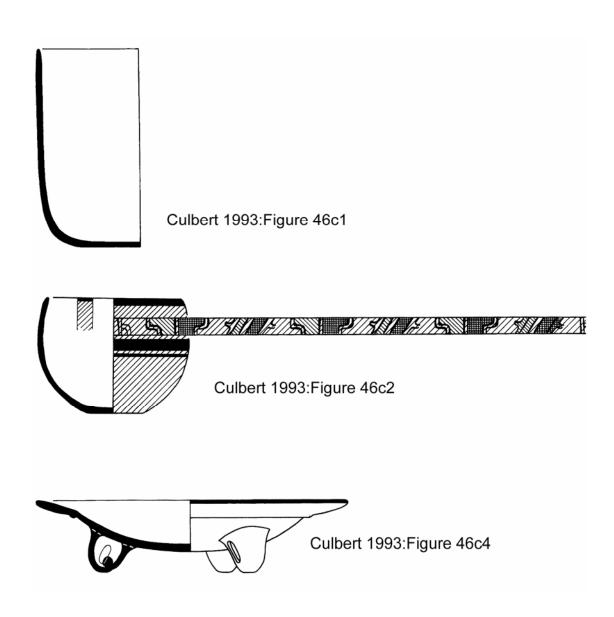


Figure 225 Drawing of vessels without inscription recovered from Burial 140, Structure 7F-30-2nd, Tikal (Culbert 1993:Figure 46c).

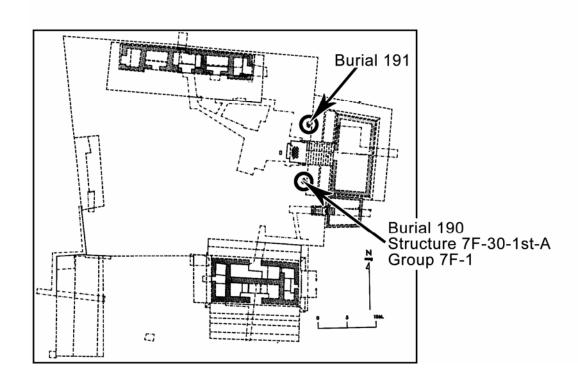


Figure 226 Map showing locations of Burial 190 and Burial 191 in Structure 7F-30-4th, Group 7F-1, Tikal (after Haviland 1981:99, Figure 5.5).



Figure 227 Drawing of carved bone (MT167, 3B-129/19) recovered from Tikal Burial 190, Operation 3B-19, Structure 7F30, Group 7F-1 (Coggins 1975:Figure 101d).



Figure 228 Photograph of tripod plate IDAEH 17-01-01-119 decorated with pseudo-glyphs, recovered from Burial 190, Operation 3B-19, Structure 7F-30, Group 7F-1, Tikal.

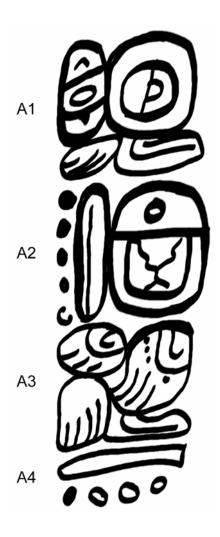


Figure 229 Drawing of SNT composed of pseudo-glyphs from tripod plate IDAEH 17-01-01-119, recovered from Burial 190, Tikal (glyph identification after Culbert 1993:Figure 81a).

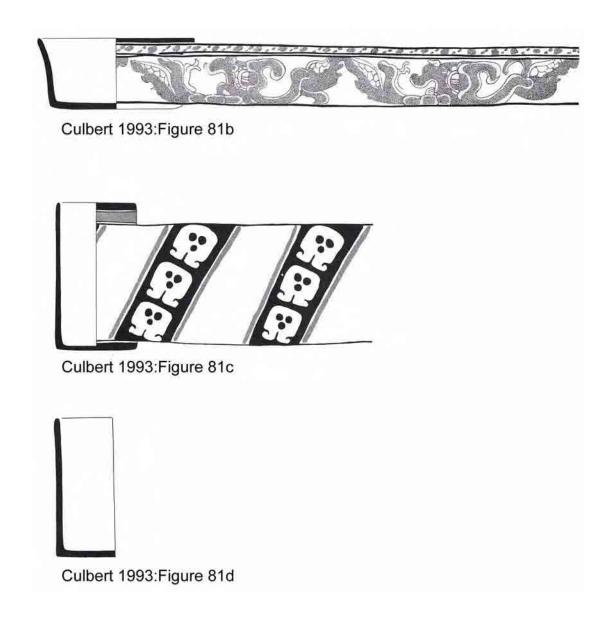


Figure 230 Drawing of vessels without hieroglyphic inscription recovered from Tikal Burial 190, Structure 7F-30, Group 7F-1 (Culbert 1993:Figure 81).

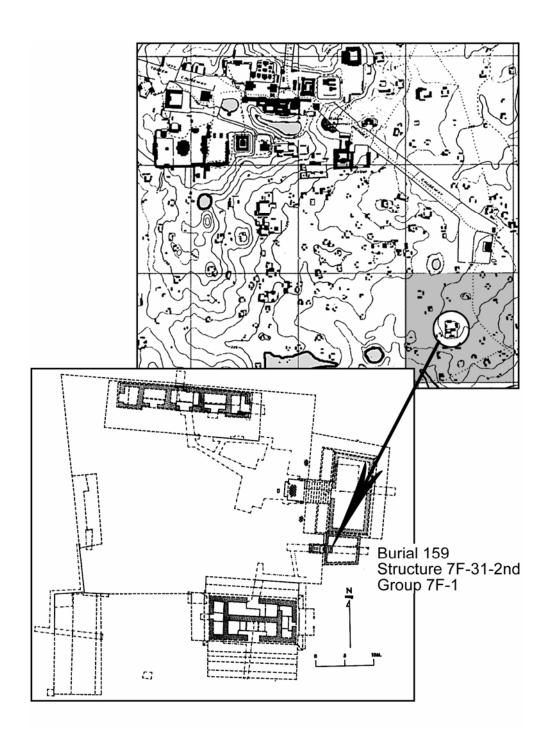


Figure 231 Map showing location of Group 7F-1 in relation to Tikal Acropolis, Mendes Causeway and Temple of the Inscriptions (after Carr and Hazard 1961); detail map illustrating location of Burial 159, Structure 7F-31-2nd, Group 7F-1 (after Haviland 1981:98, Figure 5.4).

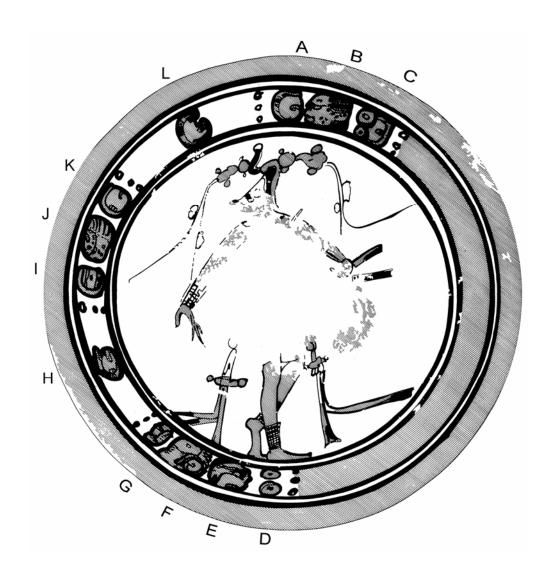


Figure 232 Drawing of lateral-ridge tripod plate Culbert 1993:Figure 48c decorated with pseudo-glyphs from Burial 159, Structure 7F-31, Group 7F-1, Tikal (glyph identification after Culbert 1993:Figure 48c).

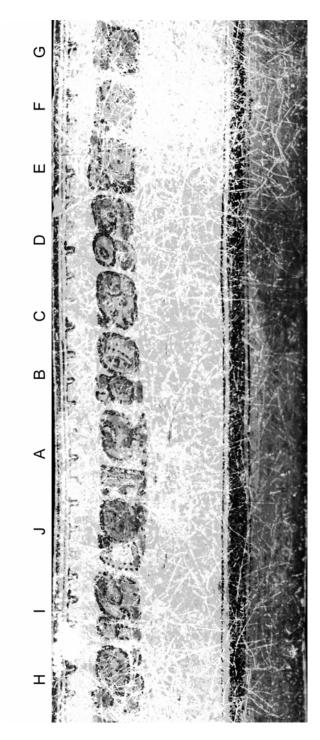


Figure 233 Photograph of cylinder vase K5620 with Dedicatory Formula recovered from Tikal Burial 159, Structure 7F-31 (photograph © Justin Kerr K5620, glyph identification from Culbert 1993: Figure 048a).

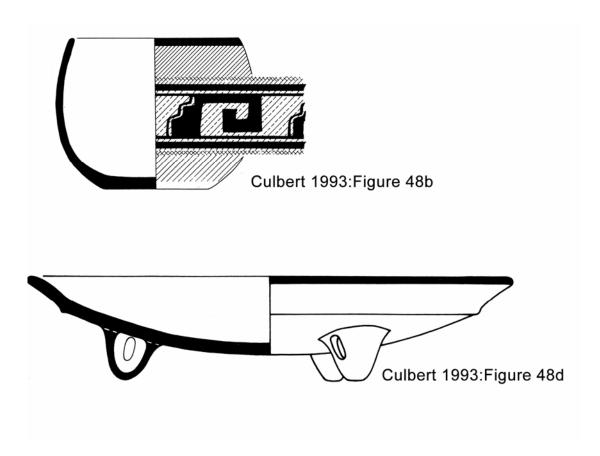


Figure 234 Drawing of vessels without inscription recovered from Burial 159, Structure 7F-31, Tikal.

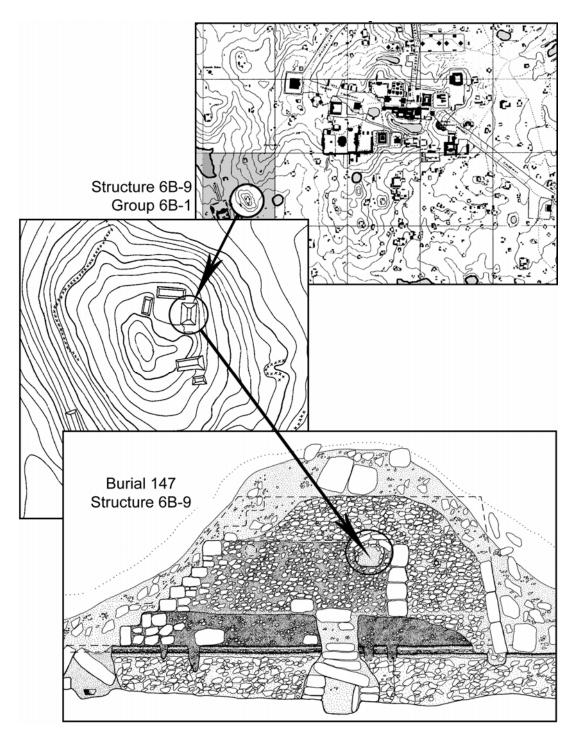


Figure 235 Map showing location of Group 6B-1 within Tikal and detail showing location of Structure 6B-9 as part of Group 6B-1 (maps after Carr and Hazard 1961), profile map showing location of Burial 147 within Structure 6B-9 (after Becker 1999:Figure 100).

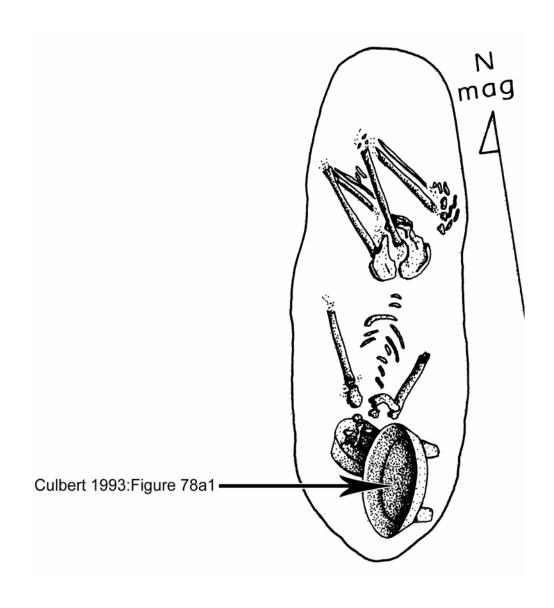


Figure 236 Plan map of Tikal Burial 147 showing location of tripod plate Culbert 1993:Figure 78a1 decorated with pseudo-glyphs (after Becker 1999: Figure 102a)



Figure 237 Drawing of profile and interior of tripod plate Culbert 1993:Figure 78a1 decorated with pseudo-glyphs, recovered from Burial 147, Tikal (after Culbert 1993).

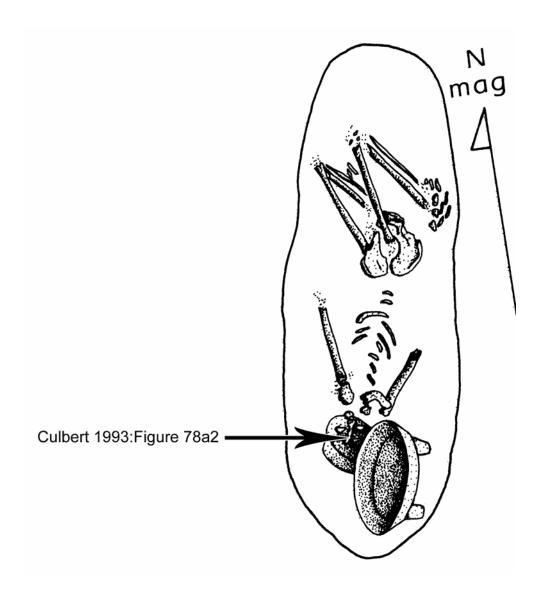


Figure 238 Plan map of Tikal Burial 147 showing location of bowl Culbert 1993: Figure 78a2 (after Becker 1999:Figure 102a)



Figure 239 Drawing of bowl Culbert 1993:Figure 78a2 recovered from Burial 147, Group 6B-1, Tikal (Culbert 1993:Figure 78a2).

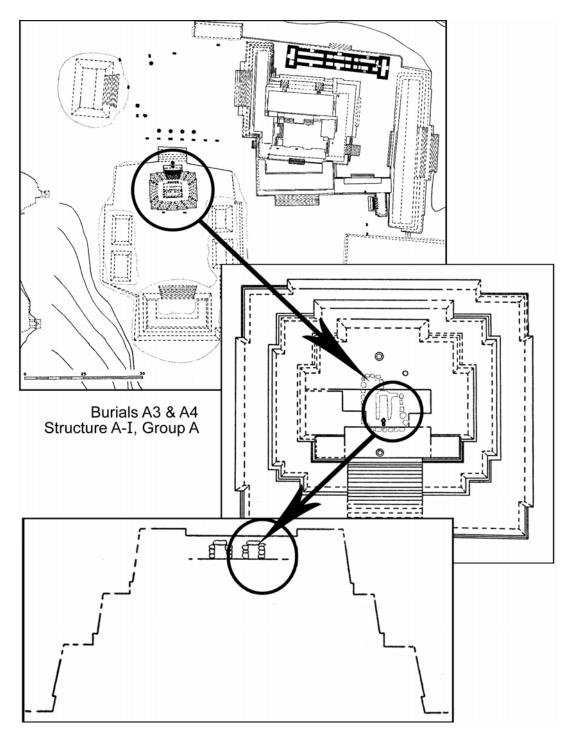


Figure 240 Map showing location of Structure A-I, Group A, Uaxactun (after Smith 1937:192), with detail of Burial 3A, Crypt II, and Burial A4, Crypt III, as part of Pyramid E, the penultimate construction phase of Structure A-1 (after Smith 1937:206, Figure 7a and 7b).

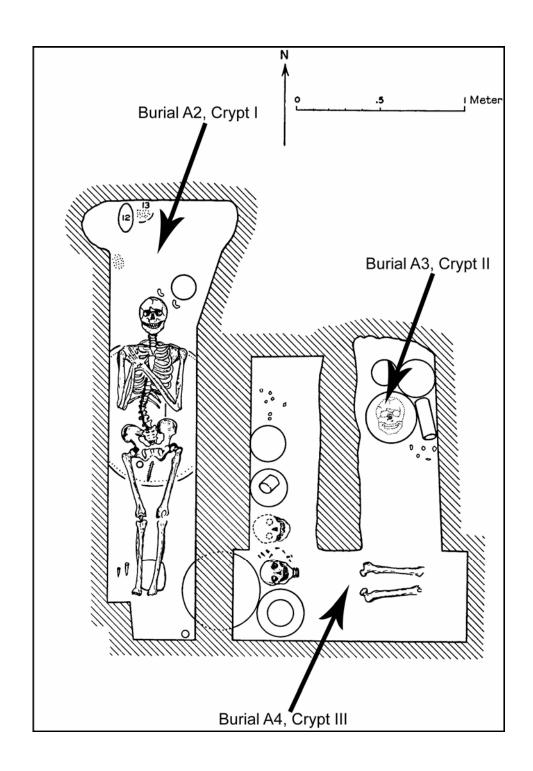


Figure 241 Plan map showing Burial A3, Crypt II, and Burial A4, Crypt III, within Pyramid E, Structure A-I, Group A, Uaxactun (after Smith 1937:207, Figure 8).



Figure 242 Photograph of basal-ridge tripod bowl MNAE 3521, recovered from Burial A3, Crypt II, Structure A-1, Uaxactun, and drawing of pseudo-glyphs encircling interior rim.

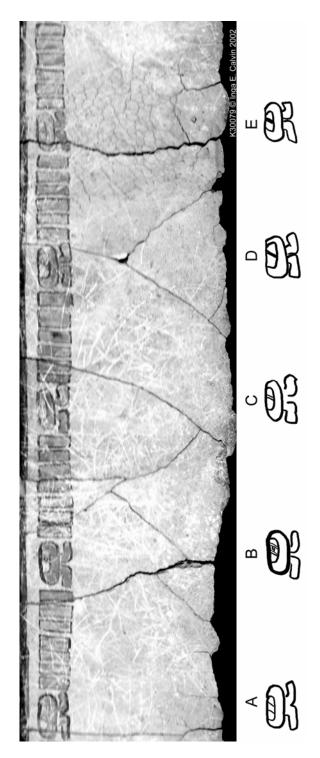


Figure 243 Photograph of round-sided bowl K30079, recovered from Burial A3, Crypt II, Structure A-1, Uaxactun, and drawing of pseudo-glyphs encircling exterior rim.

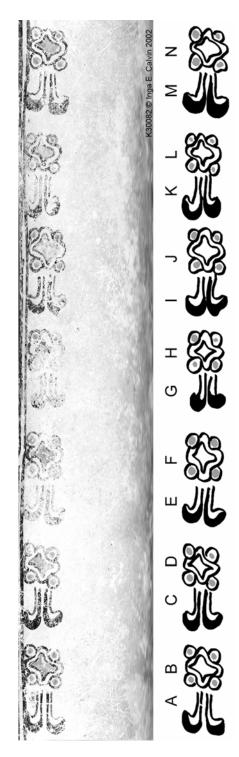


Figure 244 Photograph of round-sided bowl K30082, excavated from Burial A23, Construction V, Structure A-V, Uaxactun, and drawing of pseudo-glyphs encircling exterior rim.

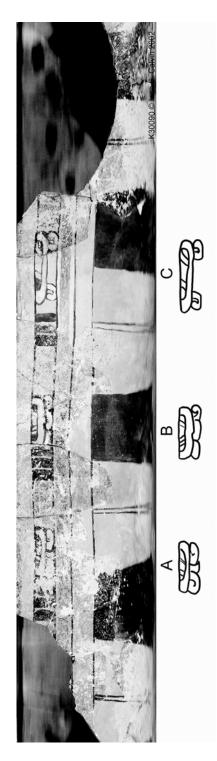


Figure 245 Photograph of round-sided bowl K30090 from Uaxactun and drawing of pseudo-glyphs encircling exterior rim.

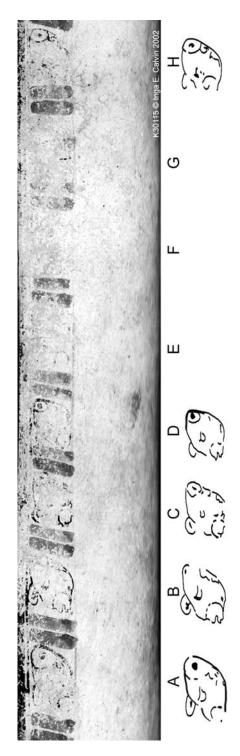


Figure 246 Photograph and drawing of pseudo-glyphs from round-sided bowl K30015 excavated from Uaxactun.

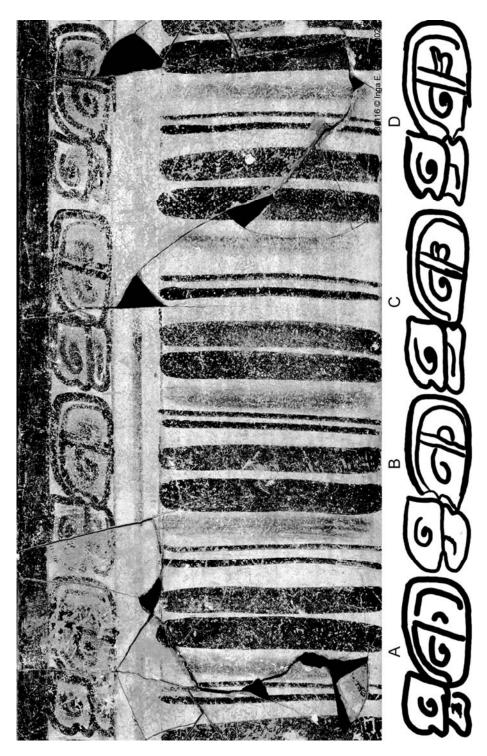


Figure 247 Photograph and drawing of pseudo-glyphs from cylinder vase K30016 from Uaxactun.

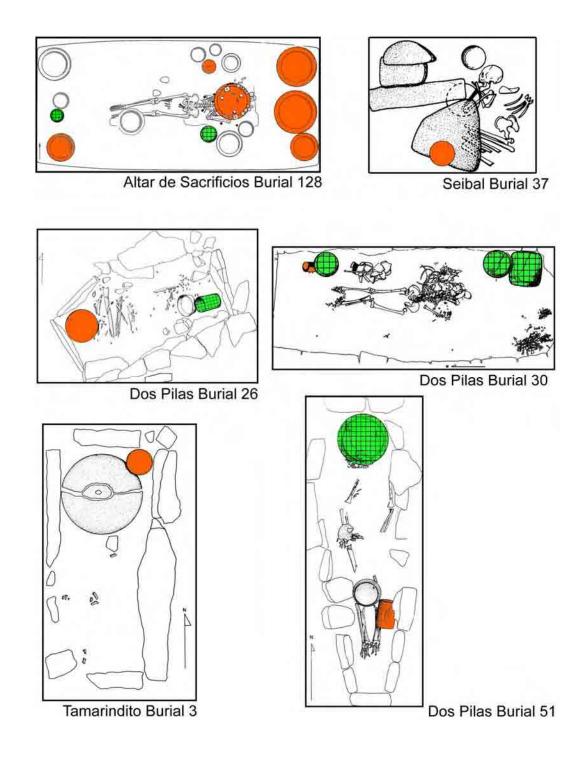


Figure 248a-c Color illustration of burials plans from various sites with pseudo-glyph decorated vessels shown in orange and conventional glyphs highlighted in green with check pattern. All burials have been oriented with north at the top of the page and none are to scale.

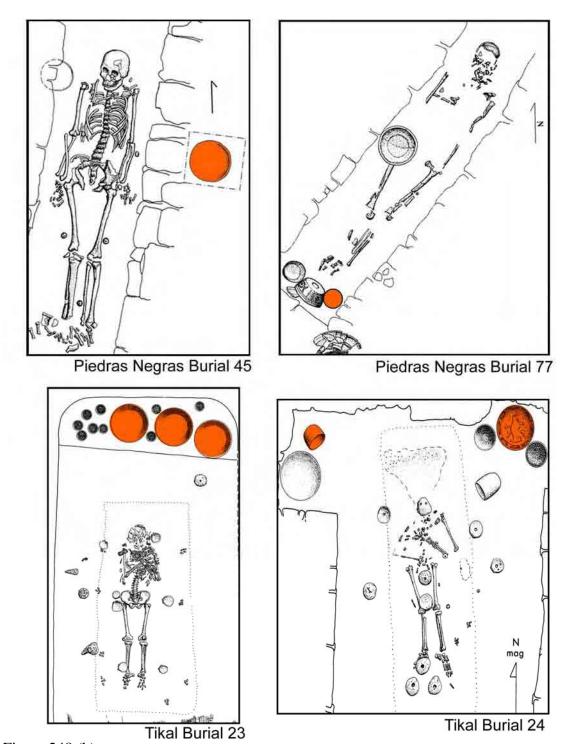


Figure 248 (b)

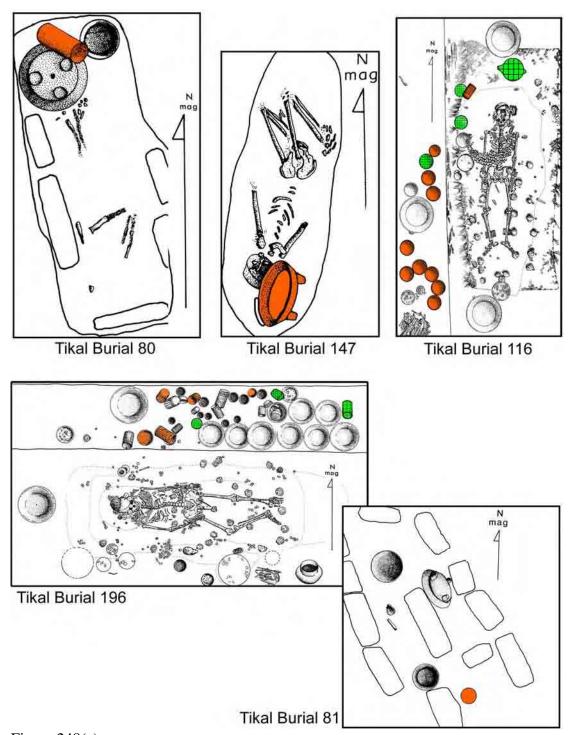
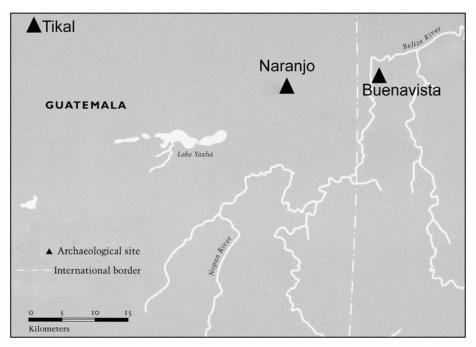


Figure 248(c)



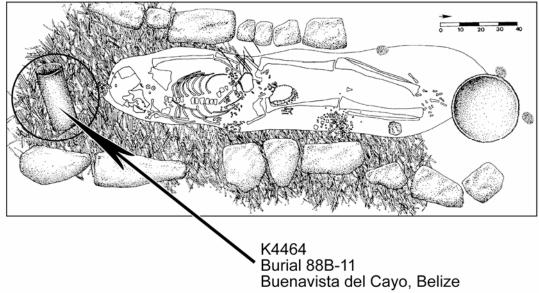
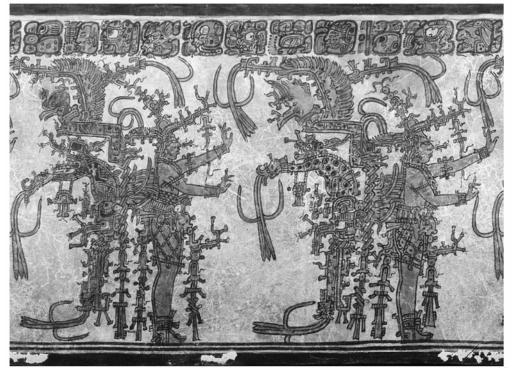


Figure 249 Map illustrating sites of Tikal, Naranjo and Buenavista (after Reents-Budet 1994:298, Figure 75.) and detail showing location of vase K4464 in Burial 88B-11, Buenavista del Cayo, Belize (after Taschek and Ball 1992:495, Figure 3).



K4464



Cabrito cream-polychrome: Guajiro variety

Figure 250 Photograph of K4464, excavated from Burial 88B-11, Buenavista, Belize (photograph © Justin Kerr K4464) and drawing of pseudoglyph bearing vase recovered from trash midden behind possible elite pottery workshop (Ball 1993:251, Figure 4).

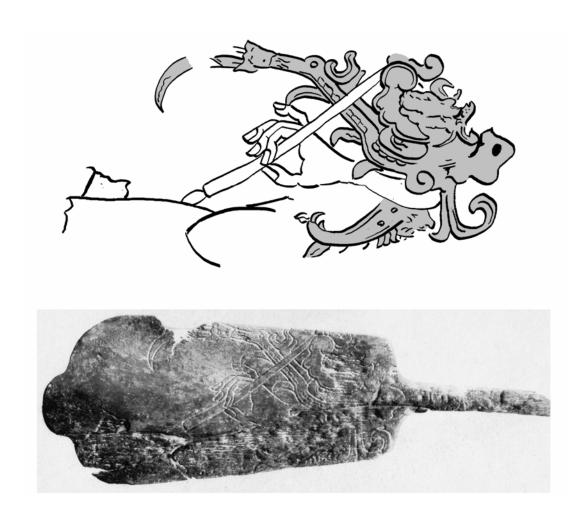


Figure 251 Line drawing and photograph of Tikal Bone from Burial 116 (drawing by author; photograph from University of Pennsylvania Museum Tikal Project, negative 63-004-361, in Herring 2005:96, Figure 43).

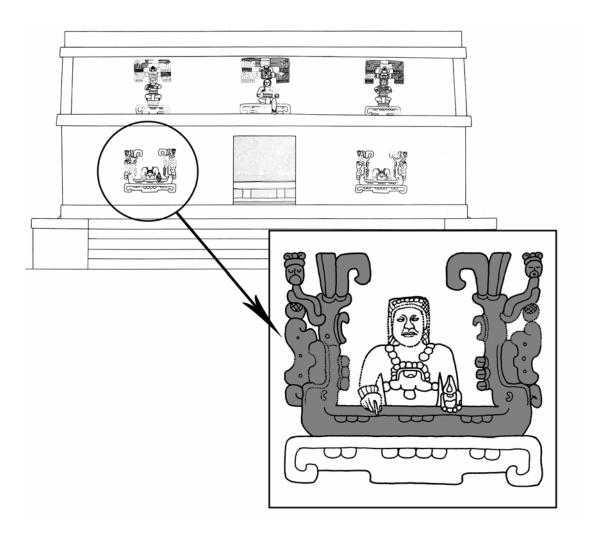


Figure 252 Drawing of Structure 9N-8, Group 9N-82, Copan (by B. Fash, from Fash 1989:66, Figure 64) and detail of sculptured mosaic façade (by L. Schele, SD1090) showing emergence of ancestral scribe from mouth of supernatural centipede.

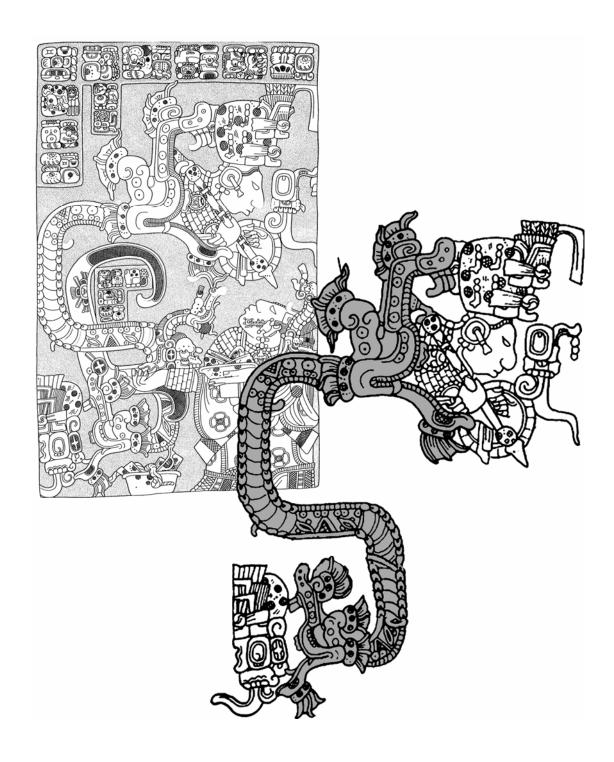


Figure 253 Drawing of Yaxchilan Lintel 25 (Graham and Von Euw 1975:55) with detail of supernatural centipede from whose mouth manifests an ancestor, dressed for battle.



Figure 254 Drawing of Copan Stela D (by L. Schele, SD1006) with all glyph blocks rendered in their full-figure, animate nature.

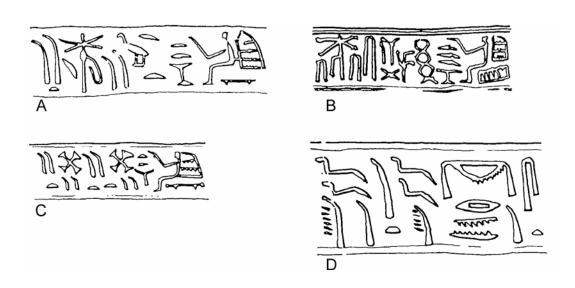
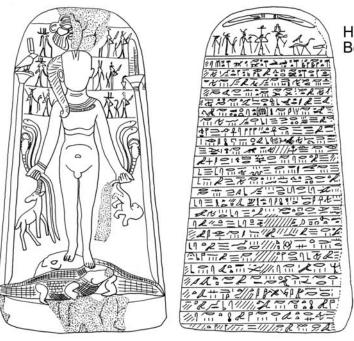


Figure 255 Examples of semi-pictorial Egyptian cylinder seals from the 1st-2nd dynasties bearing pseudo-hieroglyphs (after Baines 2004:183, Figure 6.9). All derive from the British Museum EA collections: (A) No. 65353; (B) No. 66812; (C) No. 65872; (D) No. 36462.



Horus Stela - Type I-a Bologna KS 242

Horus Stela - Type I-b Baltimore 739

Figure 256 Drawing of front and back sides of Egyptian Horus Stela Bologna KS 242 (Sternberg-El Hotabi 1999:272 & 273, Figures 74a and 74b) and back side of Horus Stela Baltimore 739 (Sternberg-El Hotabi 1999:278, Figure 78).

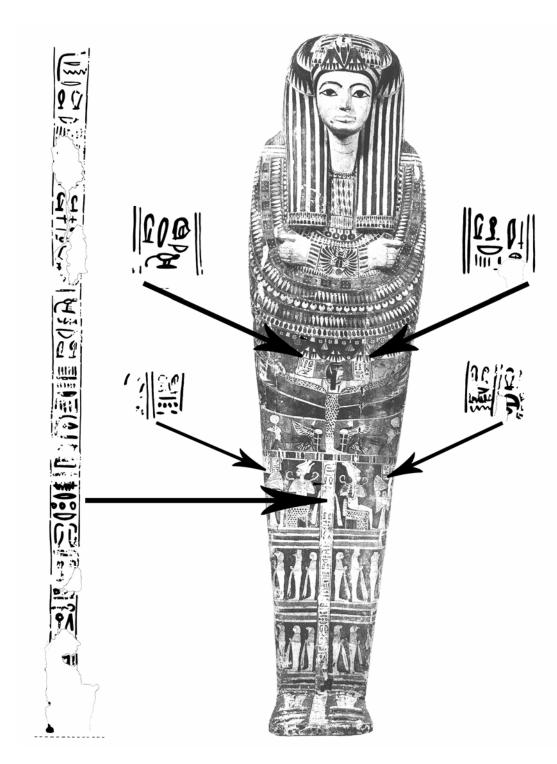


Figure 257 Lid of Coffin No. 27, Tomb of Iurudef, Saqqâra, Egypt, showing enlargement of pseudo-hieroglyphic inscription (after Raven 1991:Plate 17, Plate 36 & Plate 37).

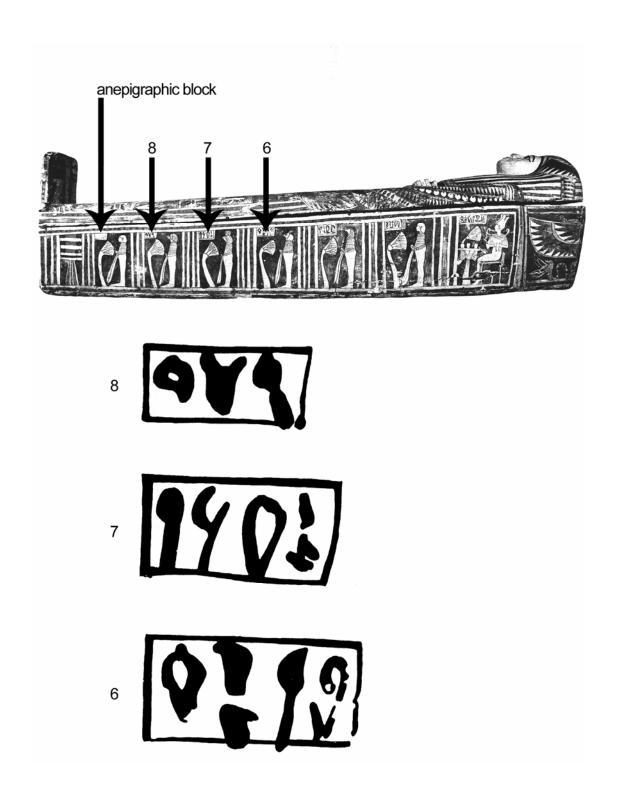


Figure 258 Details of pseudo-hieroglyphic and anepigraphic blocks from the side of Coffin 27, Tomb of Iurudef (after Raven 1991:Plate 17 & Plate 36).

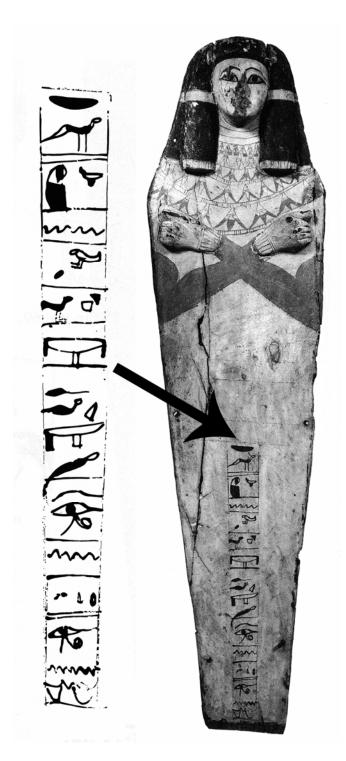


Figure 259 Lid of Coffin 54 +64, Tomb of Iurudef, showing detail of pseudo-hieroglyphic inscription (after Raven 1991:Plate 25 & Plate 37).