Evan Keith Eppich, Griselda Pérez, Ana Lucia Arroyave, Fabiola Quiroa, Juan Carlos Meléndez y Edwin Román

2005 Estudio Cerámico, la secuencia de la Tradición Cerámica de El Perú-*Waka'* in *Proyecto Arqueológico El Perú-Waka': Informe No. 2, Temporada 2004*, edited by Hector Escobedo and David Freidel, pp. 313-350. Informe Entregado a la Dirección General del Patrimonio Cultural y Natural de Guatemala, Guatemala.

Estudio Cerámico, la secuencia de la Tradición Cerámica de El Perú-Waka'

Evan Keith Eppich, Griselda Pérez, Ana Lucia Arroyave, Fabiola Quiroa, Juan Carlos Meléndez y Edwin Román

Introduction

In the course of the 2004 field season, archaeologists carried out nine operations, totaling 33 separate excavation units in and around the ancient city of Waka', now the site of El Perú. Combined with the material recovered from the 2003 season, this brings the total ceramic count to over 200,000 individual sherds with some 25 whole and reconstructable vessels. The sherds originate from a variety of contexts, including sheet middens, sealed architectural deposits, looters' spoil piles, termination deposits, surface collections, burials, caches, and tombs, among others. The excavated contexts were good enough, the quality of preservation high enough, and the quantity of sherds easily large enough to begin the process of assembling the chronology of the site's ceramic tradition. It is the analysis of those ceramics that is the focus of this section. This report derives from and is purposefully meant to supplant that which was issued earlier (Eppich 2004).

It is apparent that El Perú-*Waka'* originates at some point in the Preclassic and proceeds to span the entirety of the Classic period, lasting well into the Terminal Classic (fig. 1). Initial dates, always difficult to determine

ceramically, would include both the Sixth and Tenth cycles of the Maya calendar, being roughly from -500 BC to AD 900+. Continuity appears to be a prominent attribute of the site's potting tradition with the community apparently lacking either a large-scale hiatus or major discontinuity. Even during the most formative, or most disastrous, periods of their history, the Maya occupied the site. They left an unbroken and deep ceramic column with especially strong representations from the transition periods at the end of the Late Preclassic and the Late Classic. Like other Terminal Classic sites, such as Seibal and Altar de Sacrificios, El Perú-Waka' seems to have its period of maximal population during the Terminal Classic. After this period, abandonment seems sudden, complete, and final.

The ceramic chronology of El Perú-*Waka'* provides a critical insight to the potting traditions of the Maya peoples of lowland Guatemala, opening an important new chapter on the history of the Native American civilizations in Central America. Situated at the crossroads of the Western Petén, El Perú-*Waka'* interacted with all the major powers of its day. Their history is written, to some extent, in the ceramics that were left behind. Among the Maya, ceramics are a feminine art and the growth and eventual downfall of the Maya civilization was recorded, in pottery, by the hands of the women who made it. It falls only to modern researchers to attempt to read the record they left behind.

The goals of the study of the ceramics of El Perú-*Waka'* are threefold and all, at this stage, concern themselves with chronology. They are as follows:

- To establish a baseline chronological sequence for the site's occupational history.
- To begin to apply this chronology to the investigated structures of the site, however preliminary, in an attempt to develop the sequence of construction that comprises the site's core.
- To begin a preliminary exploration of the site's relations with the bulk of the Maya World, as can be determined through the material remains of their potting tradition.

Methodology

To best accomplish these goals, the type-variety system was applied to the recovered materials. Lacking the time and resources to undertake a formal typological approach, descriptions of well-known ceramic types from published reports were utilized. Researchers examined selected lots and indicated the easily identified, previously published ceramic types present in those lots. Except for a few recognizable type-varieties, the analysis was not taken down to the variety level, that being left to a more exacting sorted typology to follow. This approach, it needs be noted, possesses certain critical limitations with a direct bearing on the interpretation of the material. These limitations will be discussed below. However, it allowed for the rapid and highly accurate assembly of a workable sequential ceramic column. Key excavation units were selected, preferably those containing intact assemblages from sealed architectural deposits, thus maintaining a direct stratigraphic relationship between observed ceramic types. Burial assemblages also served a particularly useful function, being usually single-event deposits and thus taphonomically free from the "upwelling effect" noted in the architectural deposits of Tikal (Culbert 2003: 50). The material from the units was laid out on laboratory tables and the occurrence of specific ceramic types in specific levels noted. Copious notes and illustrations followed, producing impressive amounts of single sherd drawings (140+ pages). Structure floors and other architectural features were noted and the various stratigraphic columns then lined up to produce a single, extremely large picture of the site's ceramic history. The result of this matching of typologically related material is presented here as figure 1. Particularly useful units included CK08a-1, ES01b-3, ES01b-4, ES01b-5, ES05b-17, WK02a-13, WK05e-10, WK05f-1, WK05g-5, WK05h-10, WK06a-22, WK07b-12, WK07b-15, and WK10a-20, among others. Although not all units proved to be as stratigraphically ordered as one would prefer, all units contributed to the formation of the site's ceramic sequence. Figure 1 may be yet only a brief outline of the site's

sequence, but it is felt to be a fairly accurate one. More research will serve to broaden and deepen the detail present there, but it will probably not overturn large portions of it. In the near future, it is hoped, real quantitative data will serve to flesh out this outline. It is felt that many minor types, less recognizable from published reports, or perhaps specific to El Perú-*Waka'*; have been overlooked and are not incorporated into figure 1 or into this report.

Significant difficulties emerge in working solely from the published record, rather than a typology specific to El Perú-Waka' and generated from the site's own ceramic material. Principally, the ceramics from different sites are not identical and the particular attributes present in any given ceramic type vary considerably from site to site. Compare, for instance, the description of the fairly well-known Early Classic type of Balanza Black from Seibal (Sabloff 1975: 107-110) and that from Becan (Ball 1977: 33). In terms of form and paste, the descriptions differ considerably, and even in surface decoration, their descriptors are markedly dissimilar. Even taking into account the inherently subjective nature of the type-variety system, variation within a type, from site to site, exists as a very real phenomenon. The ceramics of El Perú-Waka' are going to differ from those of Uaxactun, Tikal, Seibal or any other site, in some cases slightly and in others, much more substantially. In the identification of ceramic types at this site, a conservative mindset was considered healthy and hence produced the significant number of "undesignated" ceramic types present in figure 1. It was felt best not to attempt to type the

unslipped ceramics at all. This means that a degree of necessary ambiguity should be attached to all of the ceramic type-names given in both this section and in the informe as a whole. The illustrations attached should serve to show interested parties of the veracity of some of the type-name assignations. Showing, it was felt, would be better than simply telling.

Secondly, the great reliance on previously published ceramic types placed a degree of exaggeration on interregional contacts. The ceramic corpus of El Perú-Waka' has acquired a cosmopolitan character that it may not necessarily possess, or certainly possesses to a lesser extent. In using, for instance, the ceramic report of Uaxactun (Smith 1955) to type one's sherds, one should not be too surprised to find one's own collection eerily resembling that of Uaxactun. Compound this by the dozen or so ceramic reports used, and it is easy to see how El Perú-Waka' may grow to resemble an amalgam of all these reports instead of an independent tradition in its own right. In the use of published typologies, researchers are highlighting similarities and obscuring the differences between the ceramic corpus of El Perú-Waka' and the remainder of the Maya world. This does not prevent us from making observations about the degree of intersite ceramic similarities, but simply instills caution inside those observations. Currently, El Perú-Waka' resembles a ceramic crossroads of the Western Petén. However, this impression may, in fact, be nothing more than an artifact of the methodological approach employed. It remains for a solid sorted typology to untangle these interpretations. The published ceramic

typologies used most often in this study include Altar de Sacrificios (Adams 1971), Barton Raime (Gifford 1976), Becan (Ball 1977), Calakmul (Dominguez Carrasco 1994), El Pozito (Eppich 2000), El Mirador (Forsyth 1983), Edzna (Forsyth 1989), La Joyanca (Arnauld and Morales 1999; Breuil-Martinez et al. 2002), Lago Petén Itzá (Chase and Chase 1983), Macanché Island (Rice 1987), the Petexbatun Region (Foias 1996), Polol (August 1982), Seibal (Sabloff 1975), Tikal (Culbert 1993), Uaxactun (Smith 1955; Smith and Gifford 1966), and the Yucatan-Campeche coast (Ball 1978).

In a series of articles establishing the comparative type-variety approach, the scholars of the day made two important aspects of the system apparent (Smith, Willey and Gifford 1960; Smith and Gifford 1966; Gifford 1960, 1976). One is that the working definition of type originates from a clustering of attributes and the second being that these attributes must be apparent and observable. For example, the ceramics making up a given type will all share in surface color, decorative elements, paste composition, and so on, these aspects being, literally, their principal identifying attributes. This is where the contradictory aspect of the typevariety system takes hold, whereas the attributes themselves are somewhat objective, their organization into types and varieties are definitely not. This ambiguity was apparent to the architects of the system, especially when the ceramic type is referred to as "an abstraction" (Smith, Willey, and Gifford 1960: 332), or when it is stated that "these units may or may not be contrivances or artificial constructs" (Gifford 1960: 342). Still, these principal identifying

attributes are assembled from the direct observation of recovered potsherds. In terms of its execution, no approach other than that of direct, physical and systematic comparative sorting of ceramic material is ultimately acceptable. "In a region previously unknown from a ceramic type-variety standpoint, one must first," writes Robert Smith, James Gifford, and Gordon Willey (1960:333), "sort the material." The initial sorting into "ceramic units" is to remain flexible enough to be responsive to new discoveries and open enough to incorporate them. Even published reports, it must be remembered, need to be continually reinterpreted and never uncritically accepted or "fossilized" into dogmatic, definitional texts (see Forsyth 1989: 6). One of the great advantages of a type-variety approach is its adaptability to innovation. The point of this section is to stress that the ceramicists of El Perú-Waka' know full well the importance of establishing a sorted typology from the material record of the site. Moreover, we know full well how to both accomplish such a goal and how detrimental the absence of such a typology can be. Such an undertaking is only a matter of time and resources, two materials always in scant supply in any archaeological project.

The type-variety system was intended to be methodologically flexible. Over the course of the past few decades, various scholars have amended the type-variety designations in such a way to make bring the system more into line with the reality of the archaeological record. All typologies, it must be remembered, are works in progress. Particularly useful revisions, detailed below, have been adopted in the analysis of the El Perú-Waka' ceramic corpus. These distinctions remain in effect unless they prove awkward in the subsequent typological analysis and a different approach is called for. Such approaches will be dealt with in any subsequent methodology section. Forsyth (1983, 1989) has made significant progress in revising conflicting or unnecessary typological distinctions and many of his suggested reforms have been adopted here. Following specifically one recommendation (Forsyth (1989: 9), the Dos Arroyos Orange Polychrome group, together with all its associate types, has been included in the Aguila ceramic group. This includes San Blas Red-on-orange, Boleto Black-on-orange, and Caldero Buff-Polychrome. Similarly, as the Saxche and Palmar Orange Polychrome types lack any significant distinction (Smith and Gifford 1966: 160, 162; Adams 1971: 30), they should be folded into a single ceramic type, *Palmar* Orange Polychrome (Forsyth 1989: 5-7, 107). For the time being, following loosely the recommendations of Forsyth (1989: 107), highquality glossy sherds with glyphic elements will be classified as the Saxche variety of the Palmar type with the designation Palmar Orange *Polychrome: Saxche Variety*. The Late Classic polychromes of El Perú-Waka' are well preserved and this preliminary distinction should be expected to be clarified once the sorted typology begins. In terms of the monochrome red sherds, the very fine distinctions between the Late Classic monochromes of Tinaja Red and Subin Red are not differentiated enough for a rough field analysis. As such, and following the argument laid down by Foias (1996: 478-479), the Tinaja name is retained but the Subin

characteristics have been subsumed as a poorly-fired variety of the Tinaja type, as in Tinaja Red: Subin variety. Nanzal Red, established as an independent type at Uaxactun (Smith and Gifford 1966: 160), is similarly subsumed in the Tinaja type, as in Tinaja Red: Nanzal variety, again following the argument presented by Forsyth (1989: 79-80). Thus, instead of three overlapping types of Late Classic monochrome reds with blurred and indistinct edges, Tinaja Red has three distinct varieties, a high-quality Nanzal, a low-quality Subin, and a middling Tinaja. This same approach was taken with respect to the Late Classic monochrome blacks with Achotes Black being subsumed as a poorly-fired variety of Infierno Black, as in Infierno Black: Achotes variety. This also follows the methodology of Foias (1996: 532).

Finally, there falls the currently confused distinction of the Fine Pastewares. As can be seen in the mixed paste rimsherds in figure 9 (a,e), the fine greys and fine oranges are actually two variations on a single ceramic tradition. These mixed orange-grey fine pastewares are not uncommon in the Rax Complex assemblages of the site. Similarly, the distinctions between the various ceramics types of fine orange, Altar, Balancan, Dzibilchaltun, Silho and so on, are felt not to be differentiated enough in the original type designations to warrant such a separation (see Ball 1977: 45-47). This study prefers to follow the methodology of the kind used in the Petexbatun study (Foias 1996: 673), separating the Balancan by its white slip coloration. Other types have been, for the present, eliminated.

Everything else has simply been designated Altar Orange (Foias 1996: 674). Similarly, the fine grey pastes have been traditionally divided into Chabelekal Grey and Tres Naciones Grey, established, respectively, at Uaxactun (Smith and Gifford 1966: 156) and Altar de Sacrificios (Adams 1971: 26). The two types, at these two sites, are suspiciously exclusive. Detailed reading of the type descriptions, however, discerns very little difference between the two, and certainly no difference distinct enough to warrant their separation into two different ceramic types. Even in sites where both types are said to occur, the two types are virtually identical (Foias 1996: 588, 702). While, typologically, the two fine greys should be folded into a single ceramic type, it has become traditional to speak of them as being quite separate. Some degree of hesitation, therefore, would be best and both type-names have been retained in the analysis to date. Suffice it to say that the critiques presented in Ball (1977: 45-47) remain quite valid. There remains a great deal of typological uncertainty concerning the fine pastewares. Low frequencies of fine wares persist as a contributing factor. However unfortunate, this degree of confusion of types, varieties, groups, and methodology concerning the fine greys and fine oranges is very much in evidenced in the ceramic analysis of this report. Future analysis, it is hoped, will serve to clarify the distinctions of the fine pastewares.

The conventions of ceramic illustration used here require a brief explanation. It was felt that a color-coded technique of the type used in Smith (1955: viii-ix) or Rice (1987: 65) would obscure the fine details present. Especially given the ease of doing so with modern software, simply labeling the individual colors on the illustrated sherds themselves was considered more accurate, more explanatory, and more pleasing visually. The illustrator adopted a three-tiered technique well suited, it was thought, for publication in a black-and-white format. The technique involved areas that were darkened, shaded grey, or stippled. Each area on each sherd was labeled in its own fashion. Stippling on one drawing does not indicate the same coloration as stippling on another. Each individual drawing should be consulted for the colors present upon it. Limitations of space prevented the use of a single scale of one-third or one-fourth, which would have been ideal. The illustrations are meant to be representative of the ceramic assemblages of the site and, as such, the most important illustrative feature were those attributes considered most diagnostic of the type itself. This meant, for instance, enlarging the drawings of the Codex-style ceramics (figure 6) while reducing those of large Preclassic rimsherds (figure 2). As with surface color and decoration, each sherd has the size detailed upon it and each individual drawing should be consulted for the size of the illustrated sherd. Each illustration fits its own individual scale. Lastly, the illustrations chosen were those of single sherds and not complete vessels because they both fit the published typological definitions better and they more closely portray the manner of material encountered in the excavation units themselves. Due to space considerations, numerous references are included to the previous ceramic report (Eppich 2004) and readers are encouraged to consult

that report for the illustrations thereof. Mistakes in illustrations are solely the fault of the author, as the author, except when otherwise noted, is the illustrator.

Project archaeologists identified six distinct ceramic complexes. The complex names chosen were deliberately non-sequential terms. As such, maximum flexibility is maintained, especially in respect to new data. The complex names have no interpretive bearing on their respective periods. Local K'echi (Q'eqchi') color terms were used and are essentially random in their application The terms for red, yellow, white, black, purple, and blue/green were applied, being, respectively, Kaq, Q'an, Saq, Q'eq', Morai, and Rax. They were obtained by asking the hired workmen of the local K'echi (Q'eqchi') community of Paso Caballos and supplemented by the Diccionario del Idioma Q'eqchi' (Sam Juarez et al. 2001). Use and methodology of the terminology follows that delineated in Willey et al. (1967) and Gifford (1976), especially in reference to the means to define ceramic complexes. These complexes, phases, subcomplexes, schools, group, spheres, types, varieties, and so on, allow for an accurate discussion and delineation of the site's occupational history.

The ceramic sequence of El Perú-Waka'

Combined, the evidence from the 2003 and 2004 seasons reveals a potting tradition present at the ancient city of *Waka'* that spans about fourteen centuries. In the excavation units, Late Preclassic sherds lay on limestone bedrock with Terminal Classic sherds on the forest floor. Indeed, nearly every unit recovered Terminal Classic sherds from surface deposits. The calendar dates generally accepted for these periods bookend the site's occupation as starting around -500 BC and lasting perhaps until AD 1000. These dates represent maximal values only. Middle Preclassic deposits have not yet been uncovered at the site, suggesting an initial Late Preclassic settlement. Certainly sites in the region, including La Joyanca (Forné et al. 2001: 319), Uaxactun (Smith 1955: charts 1 and 2), Nakbe (Forsyth 1993: 34), and, of course, El Mirador (Forsyth 1989: 13) possess substantial Middle Preclassic deposits and so an earlier founding for El Perú-Waka' shouldn't be necessarily discounted. Deposits later than the Terminal Classic, placing a Postclassic occupation at the site, are possible, though considered unlikely. Some unprovenienced, possibly postclassic, sherds were recovered by a 2004 survey team at a series of mounds some distance north of the site center, although these still await detailed analysis.

The information from the ceramic analysis to date is summarized in figure 1. The ceramic sequence, although still somewhat preliminary, possesses at least six distinct ceramic complexes. The named complexes are shown on the top of the figure with the larger phases of Maya history labeled below. The ceramic complexes represent all the major periods of Classic-era civilization. Again, continuity appears to be a major feature of the sequence and the site apparently lacks any substantial period of hiatus or major discontinuity in the ceramic record. Indeed, two important transitional complexes, the Q'an and the Morai suggest a gradual move from one era to the next. These transitional phases cover the poorly understood Classic-era horizons, the Preclassic-Classic and the Late-to-Terminal Classic divides respectively. These are periods when changing ceramic traditions overlap one another, characterized by a few unusual types of their own. In addition to these two phases, preliminary evidence, especially from key burial deposits, suggests a third transitional phase, positioned between the Early and Late Classic periods. Currently, however, this remains simply likely, but unproven. Because large sections of the ceramic corpus have yet to be explored in detail, many ceramic types lack known start- or end-points. This uncertainty is expressed in figure 1 as a series of dashed lines. Zacatel Cream Polychrome, for example, first appears in the Late Classic Q'eq' Complex and continues on through the Morai Transitional Complex, but was found in low numbers and in mixed deposits with Terminal Classic materials. While it is very likely that Zacatel Cream Polychrome occurs in Terminal Classic deposits, as it does at Tikal (Culbert 1993: fig. 98d,e), direct observation from good contexts is lacking for El Perú-Waka'. Thus, the Rax Complex occurrence of Zacatel Cream Polychrome is both high and likely, but currently unproven, and so is represented as a series of dashed lines. The broad periods of Maya history are displayed as well, serving more as a heuristic device and less as a means to date the sequence. Assigning calendar dates to ceramic sequences, always a notoriously difficult task (see Rands 1973: 43-44), has not been attempted in figure 1. Approximate dates are given in the individual complex descriptions, but

even these should be regarded with a degree of uncertainty. Eventually, with application of a sorted typology, end dates will assume a more fixed character and volumetric measures assigned to the figure. In the ongoing research into the ceramic corpus of the site, figure 1 represents the most current version of a fluid and evolving process.

To reiterate, the ceramic sequence of El Perú-*Waka'* is as follows:

- the Kaq Complex corresponds to the Late Preclassic and probably possesses both early and late facets,
- the Q'an Complex corresponds to a transitional phase between the Late Preclassic and the Early Classic,
- the Saq Complex corresponds to the Early Classic,
- the Q'eq' Complex corresponds to the Late Classic,
- the Morai Complex represents a transitional phase between the Late Classic and the Terminal Classic, and
- the Rax Complex corresponds to the Terminal Classic and possesses both an early and a late facet.

The Kaq Complex

While earlier ceramics perhaps lay elsewhere in the site, the earliest pottery yet uncovered is the Late Preclassic material that makes up the Kaq Complex. The Kaq Complex is defined as possessing a number of easily recognizable Late Preclassic ceramic types, presented in figure 2. Co-occurring with the Sierra and Polvero types are a number of unslipped striated bodysherds (Eppich 2004: fig 2h), unslipped rim- and bodysherds (*ibid*: fig.2i), a few mottled black-on-red bodysherds (*ibid*: fig. 2e) and a frequent number of waxy slipped brownish-red bodysherds. All the mottled and dichrome potsherds are likely fire-clouded and misfired examples of Sierra Red (*ibid*: 2g). Form attributes common in the Kaq Complex assemblages are labial, medial, and lateral flanges (fig. 2a), circumferential grooved rims (fig. 2b), and rim protuberances. Known types in the Kaq Complex include,

Polvero Black (fig 2d; Eppich 2004: fig 2f; Smith and Gifford 1966: 161) and Sierra Red (fig. 2a-c; Eppich 2004: fig. 2b-d, g; Smith and Gifford 1966:163).

The Kag Complex deposits are of considerable size and possess the marked similarity so striking in like deposits across the Late Preclassic Maya Lowlands (Forsyth 1989: 126). However, it is felt that some small degree of internal differentiation can be discerned, even at this early stage of analysis. This differentiation takes the form of the frequency of fire-clouding on the Sierra Red potsherds and the degree of bondedness present between slip and paste. Simply put, both fire-clouding and the flakiness of the slip decrease as one moves up through the stratigraphic levels of thick Kag Complex deposits. These characteristics are directly related to the quality of production, which decreases in the older, lower levels. Simply put, quality and the technical skill of the potters seems to improve over time. This is made most apparent in the Sierra Red sherds found in the seceding complex, being marked improvements over their earlier versions. This supports the division of the Kaq Complex into

early and late facets, although lacking the quantitative data in which to express this distinction, such a division remains only an intriguing possibility. It is felt that a detailed analysis, soon to follow, will be able to better define this shift in production technology. Calendar dates, following those given in the published record, would place this complex from 500 B.C. to about A.D. 100.

The Q'an Complex

The transition period between the Late Preclassic and the Early Classic remains slippery and somewhat difficult to define (Forsyth 1989: 128-129; Brady et al. 1998: 18-24). Even the terminology is somewhat conflicted, as the terms "Terminal Preclassic" and "Protoclassic" seem interchangeable. This study prefers to follow the strictly componential definition of the period as presented in Brady et al. (1998: 18). Ceramically, the Q'an Complex at El Perú-Waka' consists of an overlap period between the waxy traditions of the Late Preclassic and the double-slipping techniques of the Early Classic. It possesses its own unique ceramic types, including a series of "pseudo-Usulutan" ceramics (fig. 3a, c; Eppich 2004: fig. 3a, c, d) with positive painted "wavy" lines. The baseslip is a light orange color, although highly burnished unslipped surfaces are not uncommon. The pastes are generally soft, indicating low firing temperatures (Brady et al. 1998: 24). Additional sherds include a large number of unslipped, striated rim- and bodysherds (Eppich 2004: fig. 3g), although their frequency seems to diminish somewhat from the Kag Complex. Overall quality of firing, density of paste, bondedness of slip and brightness of

color are markedly improved from the preceding Kaq Complex. Some double-rims are present and many modes seem to continue from the Kaq Complex. Solid nubbin supports are present, as are hollow mammiform supports (fig. 3d). The two modes appear in many of the same deposits. The Q'an Complex deposits, then, are defined as those that include the following types:

Aguila Orange (Eppich 2004: fig. 3e; Smith and Gifford 1966: 154),

Flor Cream (fig. 3b; Smith and Gifford 1966: 158),

Picoleros Red-on-orange (fig. 3c; Forsyth 1989: 55).

Polvero Black (Eppich 2004: fig. 4b; Smith and Gifford 1966: 161),

Sacluc Black-on-orange (fig. 3a; Eppich 2004: 3a, c, d; Adams 1971: 28), and

Sierra Red (Eppich 2004: fig. 3f, 4a; Smith and Gifford 1966: 163).

The type-varieties these deposits resemble most are those of El Mirador (Forsyth 1989: 51) in that the overall number of ceramic types is not very high. This could be the result of excavation strategy or, more likely, that the Q'an Complex can "lens out" over portions of the site, meaning that many portions will probably contain few, if any, Q'an Complex deposits. In some assemblages, the polychromes of the Early Classic appear, especially Dos Arroyos Orange Polychrome while the pseudo-Usulutan types of Sacluc Black-on-orange and the much rarer Picoleros Red-on-orange are still in evidence, although such deposits may not be secure. Another possibility is that these early dichromes simply lasted, for a brief period, into the succeeding Saq Complex. Possibly, the

Q'an Complex possesses early and late facets. Calendar dates, based on the published record, would place this complex in the first few centuries A.D., being about 1 to 250.

The Saq Complex

The Early Classic component of the ceramic corpus is substantial and diverse, probably representing a surge in both population and major construction efforts. The proficiency of the local ceramic tradition is evident in the recently identified Muwaan B'ahlam vessel (Kerr no. 8777), a looted polychrome from the site (see Guenter 2004, Grube 2004). Certainly by the Early Classic, prestige ceramics seem to have become quite important. The shifts from Preclassic to Early Classic ceramics is well published and the Saq Complex deposits contain all of these well-known attributes. These include elaborate and double-slipped polychrome vessels (fig. 4a), thick basal flanges (fig. 4b), Z-angle bowls, fine-line incision (fig. 4b), and annular ring bases (fig. 4d), which are found with uncommon frequency. Striated bodysherds, omnipresent in virtually all deposits, are found here as well. Present as well is a fine example of an Early Classic censer burner with a lid similar to that show in Schmidt et al. (1998: 563. fig. 174) and in Culbert (1993: fig. 27a1). Glyphic elements are uncommon but present, though not nearly as frequent as those found in the Late Classic. The Saq Complex contains a number of well-known Early Classic ceramic types, including:

Aguila Orange (Smith and Gifford 1966: 154),

Balanza Black (Smith and Gifford 1966: 154-155),

Boleto Black-on-orange (Smith and Gifford 1966: 155),

Caldero Buff Polychrome (Smith and Gifford 1966: 155),

Caribal Red (Adams 1971: 21), Dos Arroyos Orange Polychrome (fig. 4a; Smith and Gifford 1966: 157),

Iberia Orange (Sabloff 1975: 90),

Lucha Incised (fig. 4b; Smith and Gifford 1966: 159), and

San Blas Red-on-orange (fig. 4c; Smith and Gifford 1966: 162).

There is probably a seventh ceramic period which lies immediately after the Sag Complex and leads into the succeeding Q'eq' Complex. Currently, there is not enough data to accurately define this transitional phase. Preliminary data, especially from certain burial assemblages, suggest such a "Middle Classic" complex for the site. It is hoped that in the course of a more detailed analysis, currently underway, archaeologists will be able to better discern this potentiality. Calendar dates, based on the published record, would place the Sag Complex at about A.D. 200 to 550. The Muwaan B'ahlam (K8777) vessel is dated, stylistically to the mid-sixth century (Guenter 2004; Grube 2004), either at the end of the Saq Complex or as part of any possible transitional phase.

The Q'eq' Complex

The Late Classic component of the site contains very high quality ceramics; vessels, if whole, would be among the finest works of art in the Maya world. The Q'eq' Complex deposits do not appear to be equally divided, being selectively concentrated across the site. Some units lack them altogether and others produce considerable quantities. Structure M12-32, for instance, produced copious amounts of Late Classic polychromes. Details of this distribution have yet to be worked out.

All the well-known Late Classic attributes are present, including highly glossy, double-slipped surfaces with the slip well bonded to the underlying paste. Colors are bright and vibrant. Glyphic elements are not uncommon. One Palmar bodysherd even bears the name of a Late Classic ruler, K'inich B'ahlam (fig. 5c), although it unhappily comes from a looters' spoil pile. Other high-quality ceramics include Codex-style vessels (figure 6). The Codex-style ceramics, never very numerous, were located in both Q'eq' and Morai Complex deposits. Their recovery hints at further examples, perhaps even whole vessels awaiting excavation. However, the unremarkable nature of their deposition, in architectural fill and sheet middens, seems to argue for local origin, although this cannot be stated with any certitude. Regardless, the overall quantity of Codex-style fragments was low enough that the site seems unlikely to have served as the proposed center of this tradition (Robicsek and Hales 1981: 235).

Although uncovered from a disturbed looter's trench, the "El Zotz" vessel was placed into this complex (fig. 10). The "El Zotz" vessel, probably the finest ceramic vessel yet recovered, is a small Palmar Orange Polychrome jar with a bulbous body and narrowed neck. It bears the long titles and name of a "fiery lord of El Zotz" (Guenter, per. comm.). Luckily, it appears to be mostly reconstructable. For a vessel of this quality, however, it was felt that it would be best for museum-quality curators to take charge of any reconstruction. Figure 10 was assembled from the various fragments of the vessel.

Monochrome reds dominate the deposits with all the common varieties of Tinaja Red being present. The Nanzal variety appears to be quite common in earlier deposits, as the poorly fired Subin variety appears to be more common later in the sequence. It is felt that the Nanzal sherds disappear from the ceramic record towards the end of the Q'eq' Complex, supplanted by the Tinaja and Subin varieties. However, this hypothesis awaits a clear quantification. Present as well, albeit in very low quantities, are the "waxy-wares" of the Terminal Classic. The Terminal Classic waxy-wares are part of a largely unpublished tradition that stretches from El Perú-Waka' to the west. They are characterized by a thick, glossy, and bright monochrome slip. The slip is well bonded to the underlying paste and the sherds themselves are well fired with a slightly "waxy" or "greasy" feel to them. When compared with the Kag Complex Sierra Red, the Terminal Classic waxy-wares are darker, less waxy to the touch, better fired, and lack the often flaky aspect of the Preclassic monochromes. At times, especially with heavily ravished sherds, even seasoned ceramicists can confuse the two types. The waxywares increase in frequency throughout the Q'eq' and Morai Complexes until they dominate the monochrome plainwares of the Rax Complex. These types

have not been given a specific type name designation.

The Q'eq' Complex of El Perú-*Waka'* is defined as those deposits containing the following types:

Carmelita Incised (fig. 5d; Smith and Gifford 1966: 156),

Infierno Black (fig. 5e; Smith and Gifford 1966: 172),

Palmar Orange Polychrome (Smith and Gifford 1966: 160),

Palmar Orange Polychrome: Creamground Codex-style (fig. 6c, e; Ball 1994: 364), Palmar Orange Polychrome: Orange-

ground Codex-style (fig. 6d, f; Ball 1994: 364), Palmar Orange Polychrome: Saxche Variety (fig. 5c; Smith and Gifford 1966: 162-163),

Tinaja Red (fig. 5b; Smith and Gifford 1966: 163),

Zacatel Cream Polychrome (fig. 5a; Smith and Gifford 1966: 164),

> undesignated waxy redware, and undesignated waxy blackware.

The Q'eq' Complex subtly transitions into the succeeding Morai Complex. The shift is identified in the appearance of some Terminal Classic ceramic types, which include the introduction of fine pastewares as well as polychromes of a markedly inferior quality. The undesignated waxy monochromes increase in frequency as well.

The 2003 and 2004 field seasons did not uncover large quantities of Late Classic material and certainly the material seems scanty in comparison to the substantial Early Classic and enormous Terminal Classic deposits. This is almost certainly a result of the excavation strategy. The areas of primary excavation, being the southeast and northwest acropolises, possess large Protoclassic and Early Classic platforms. Most of the buildings appear to be constructed in the Early Classic. As the analysis proceeds, this dating of building history will be reconstructed in greater detail. Suffice it to say that the site holds many examples of Late Classic architecture, but these have yet to excavated in a stratigraphic fashion. Repair and consolidation have occupied the energies of the archaeologists working on the Late Classic structures, especially the heavily loot-damaged M12-32. Based on ceramic styles and the named ruler mentioned above, the calendar dates for this complex would be about A.D. 550-800.

The Morai Complex

The ceramic corpus of El Perú-Waka' transitions into the Terminal Classic in a markedly gradual manner, one probably associated in date with the closing days of the eighth century. The Morai Complex is defined as being comprised of a combination of ceramic types generally associated with both the Late and Terminal Classic. Specifically, this entails deposits with high-quality polychromes cooccurring with fine pastewares. Double-slipped cylindrical vases, sometimes with glyphic elements, have bright and glossy colors, indistinguishable from Q'eq' Complex polychromes. Glyphic elements, usually painted, but some with calligraphic fine line incising, are present as well. In short, the full spectrum of the Late Classic polychrome

tradition seems evident at the site in this complex. Fine pastewares appear also, albeit in low frequencies and lacking elaborate forms or decorative techniques. This could represent a number of possibilities, the most likely being a late continuance of a polychrome painting tradition (W. Coe, cited in Sabloff 1973: 122). Polychromes persist at Uaxactun well into the Terminal Classic, some even appearing with Tenth Cycle dates on them (Rands 1973: 51-52; Smith 1955: 107-108). Without the polychrome tradition, the rest of the ceramic assemblage is almost solely comprised of Terminal Classic types and modes.

Bolstered rims occur often, although not in the high frequency seen in the succeeding complex. Molcajete fragments appear as well, although the contexts for their definite inclusion are not secure. Pabellon Modeled-carved cooccurs with many of the types given below, although not in secure contexts. Hence, it has not been included in this complex. There is, however, a general increase in the frequency of incised and carved designs. Torro Gouged-Incised types appear and with glyphic elements carved in deep relief. The calligraphy of some of these glyphs, carved with fine-line incising, is exceptionally high. A single rimsherd, not illustrated here for space considerations, has a fine line incised intact "ajaw" glyph (virtually identical to T747a in Thompson 1962: 455).

The monochromes of the Late Classic, Tinaja Red and Infierno Black, decline in both quality and quantity. The lesser quality varieties of both, being the Subin and Achotes respectively (Foias 1996: 478-479; Forsyth 1989: 93), make up a substantial portion of this declining tradition. The undesignated waxy redwares and blackwares, described above, become much more common. Two ceramic types seem most associated with this complex, being Anonal Orange Polychrome (fig 7a) and Lombriz Orange Polychrome. Anonal Orange Polychrome is associated with a similar period at Altar de Sacrificios and the examples at El Perú-Waka' bear a striking similarity to those in Adams (1971: 39). Occurring in these deposits are sherds with designs executed in bright red or orange-red directly onto a buffed and creamy underwash (fig. 7e). They are similar to types identified at Uaxactun (Smith and Gifford 1966: 160) and Macanché Island (Rice 1987: 71-73), although their poor state of preservation and seemingly low frequency prevent any accurate identification at this date. For this reason, the red-on-cream dichrome sherds remain an undesignated type.

Specifically, the Morai Complex is defined as those deposits containing the following ceramic types:

Altar Orange (fig. 7c; Adams 1971: 27), Anonal Orange Polychrome (fig. 7a; Adams 1971: 39),

Carmelita Incised (Smith and Gifford 1966: 156),

Chablebkal Grey (fig. 7d; Smith and Gifford 1966: 156),

Chicxulub Incised (fig. 7b; Smith and Gifford 1966: 156),

Infierno Black (Smith and Gifford 1966: 172),

Lombriz Orange Polychrome (Adams 1971: 39-40),

Trapiche Incised (Smith and Gifford 1966: 163),

Torro Gouged-Incised (Smith and Gifford 1966: 163),

Palmar Orange Polychrome (Smith and Gifford 1966: 160),

Palmar Orange Polychrome: Creamground Codex-style (fig. 6b; Ball 1994: 364), Palmar Orange Polychrome: Orange-

ground Codex-style (fig. 6a, f; Ball 1994: 364), *Tinaja Red* (Smith and Gifford 1966:

163),

Zacatel Orange Polychrome (Smith and Gifford 1966: 164),

undesignated waxy redware, undesignated waxy blackware, and an undesignated red-on-cream dichrome (fig. 7e).

At first, these assemblages were thought to be simply an oddity, an unusual mixture of ceramic types produced by the "upwelling" effect (Culbert 2003: 50). However, this combination of specific types was repeated in the sealed architectural deposits and sheet middens surrounding structures L13-18, L13-19, L13-20, and L13-21, among others. It is felt that as the analysis proceeds, many more examples of this complex await discovery. However, there is little doubt that the reality of this transitional complex will be questioned. Taphonomic disturbances of the manner described by Culbert (2003: 50) may account for a few admixtures, but the sustained pattern from across the site makes this possibility seem unlikely. If not a primary context, then some explanatory mechanism must be presented to place this assemblage of sherds beneath sealed floors. If

a mixed context, then earlier sherds would be expected to be present, sherds from the Early Classic or perhaps even earlier. Fine pastewares have not been convincingly demonstrated to enter the Petén a great deal prior to the ninth century (Rands 1973: 59; Foias 1996: 429, 967; Rice and Forsyth 2004: 54) and while an "upwelling" effect might bring early sherds closer to the surface, it is an odd mechanism that would selectively move sherds downwards. In short, the most logical explanation for these assemblages is that they represent a real transitional ceramic complex present in the material record of the site. Alternative explanations, while remaining quite possible, seem unlikely. Like the Q'an Complex, it is thought that the Morai Complex can "lens" out across large sections of the site, giving it a scattered and uneven distribution. Based on the published record, the ceramic style would be about A.D. 770-850, although there is a greater degree of uncertainty concerning this date than the others. At any rate, it would be hard to place fine pastewares appearing at this site before the A.D. 770 date.

The Rax Complex

The Terminal Classic Rax Complex represents the final occupation in the site's long history. Even exempting the single, enormous ritual deposit in front of Structure M13-1, Rax Complex ceramics dominate the recovered materials to date. All operations active in both field seasons recovered substantial quantities of Terminal Classic material. Judging from the sheer quantity and spread of the Terminal Classic ceramics, the Rax Complex almost certainly represents the site's maximal occupation. This mirrors similar situations at both Seibal (Sabloff 1973: 110) and Altar de Sacrificios (Adams 1971: 140).

Unslipped bolstered rims occur commonly and are found in high frequency throughout Rax Complex deposits (Eppich 2004: fig. 5a, b, c). Often a series of appliquéd thumbnail-impressions circle the vessel on the exterior just below the bolstered rim. They are similar to those illustrated in Sabloff (1975: fig. 325b, 326a), but at El Perú-Waka' they are almost always unslipped. Fragments of molcajetes, tripod chile-grater bowls (fig. 8d), are found throughout the deposits, including many made from the fine grey and fine orange pastes. Thickly striated bodysherds, almost certainly water storage jars, are very common and especially large body and jar neck sherds were evident across the site. Numerous ceramic figurines were uncovered as well, and even some made from fine orange. Another undesignated Terminal Classic ceramic type consists of a substantial numbers of well-fired. thin-walled sherds. These sherds are often covered in a series of fine-line incised geometric designs and their like does not appear to occur in the lower levels. As with the undesignated waxy monochromes and the red-on-creams, these types, too, await a formal typological definition. There seems to be a shift away from a polychrome painting tradition and towards carved and incised design features. While polychrome vessels still occur, the designs are not elaborate and, overall, they are poorly fired. Poor bondedness between slip and paste is, in fact, one of the primary identifying attributes of

the Lombriz Orange Polychrome. Largish molded incense burners become common, featuring grimacing designs. Ceiba-spiked vessels, very similar to those at Seibal (Sabloff 1975: fig. 334, 335), occur at areas of the site, although any distribution patterns have yet to be worked out.

In terms of the monochrome tradition, the undetermined waxy redwares (fig. 8e) and undesignated waxy blackwares dominate the collection with *Tinaja Red, Cameron Incised* (fig. 8d), *Torro Gouged-Incised*, and *Infierno Black* occurring only infrequently. The undesignated red-on-cream dichrome continues through this period as well, but it is not numerous.

The Rax Complex is defined as those assemblages that contain the following ceramic types:

Altar Orange (Adams 1971: 27), Cameron Incised (Smith and Gifford 1966: 155),

Carmelita Incised (Smith and Gifford 1966: 156),

Chablekal Grey (Smith and Gifford 1966: 156),

Chicxulub Incised (Smith and Gifford 1966: 156),

Cholul Fluted (fig. 8b; Smith 1971: 18), *Infierno Black* (Smith and Gifford 1966:

172),

Lombriz Orange Polychrome (Adams 1971: 39-40),

Kilikan Composite (Smith 1971: 21), *Miseria Appliqué* (Smith and Gifford 1966: 159),

Poite Incised (Adams 1971: 45),

Pabellon Modeled-carved (fig 9a-e; Smith and Gifford 1966: 160),

Tinaja Red (Eppich 2004: fig. 5e; Smith and Gifford 1966: 163),

Trapiche Incised (fig. 8d; Smith and Gifford 1966: 163),

Torro Gouged-Incised (Smith and Gifford 1966: 163),

undesignated waxy redware (fig. 8e; Eppich 2004: fig.5f, g),

> undesignated waxy blackware, undesignated red-on-cream dichrome.

Despite the decline of polychrome painting, overall the potting tradition of El Perú-Waka' shows very little sign of decadence of tradition in the Terminal Classic. The sherds of the Rax Complex are guite well fired with compact paste and, where remaining, bright colors. The elaborate polychrome tradition of the Q'eq' Complex appears to have been almost wholly replaced with an incised or modeledcarved tradition (fig. 8c). The carved ceramics display a high degree of craftsmanship, especially with the Pabellon Modeled-carved (fig. 9 a-e). There are also several indicators that point to a local manufacture for many of the Pabellon sherds. First, they use an exceptionally finely ground limestone-derived temper. So finely ground is the temper that it is visible only under 45x magnification with individual particles of temper measuring approximately 0.05mm across. Most unusual is the fact that some of the fine pastewares appear to have a fine orange surface but a fine grey core. An example is illustrated in figure 9a, e. There the fine grey core is visible on the exterior surface, where is carved with decorative

elements. This displays further evidence that fine greys and fine oranges are actually a single unified ceramic. The degree to which these represent "true" Pabellon sherds or merely local "imitations" is currently undetermined. Exceptionally elaborate examples of Pabellon are present in the Rax Complex assemblage and these more elaborate forms were examined and found to have a very fine volcanic ash temper, probably being the higher quality imported examples. A large bowl fragment (fig. 9c) recovered from structure L13-22 is remarkably similar to one from Seibal (Sabloff 1975: fig. 385). While many of the sherds are too ravished for any clear elements to be discerned, the "recumbent figure" may be present in a number of other sherds (fig. 9b). Iconographically, reclining figures such as these have been linked to capture and sacrifice (Werness 2003: 25). Banding on the vessel exterior holds a number of glyphic elements, although these are almost certainly all pseudoglyphs.

Another unusual high-quality vessel is that illustrated in figure 8a. It is listed as a Kilikan Composite, based on its striking similarity to those excavated from Mayapan (Smith 1971: 21, fig. 22e). However, the site seems too far south for a ceramic type normally associated with the Sotuta sphere and so some caution must be observed concerning this designation. Regardless, the sherds are large and well preserved. Most of an entire vessel can be reconstructed from the fragments, facilitating any future investigation of this type. Such investigation is clearly necessary. The Terminal Classic Rax Complex probably represents the final occupation of the ancient city and dates to the ninth and perhaps the tenth centuries. After this point, the end comes abruptly for the site and its potting tradition largely ceases. The sheer quantity of Rax Complex material argues for a lengthy occupation, hence the proposed tenth century occupation. Still such a date can be, at this point in the analysis, only regarded as an approximation.

A survey team recovered some unprovenienced sherds from a group of structures some distance away from the site center. There is some indication that these may represent a much later Postclassic or even a Colonial occupation. However, this possibility remains somewhat uncertain and the sherds still await formal analysis. Regardless, these ceramics are radically different from any other recovered material and certainly have little relation to the potting tradition present at the site for some twelve centuries.

Intrasite Comparison

While quite preliminary, it is now possible to sketch out a rough outline of the construction sequence of the site as a whole. This outline will confine itself to speaking only of generalities concerning the entire site. Data on the construction histories of individual structures are not available at the time of writing. Interested readers would be well served to examine the individual sections of this informe for specifics concerning the respective operations. To date, excavations have mostly confined themselves to the Chakah structures, the southeast and northwest acropolises and a series of testpits around the site center. The discussion here will focus accordingly on these areas.

Initial occupation of the site most likely occurs in the Late Preclassic Kaq Complex. No evidence has yet been uncovered for an earlier occupation. Kaq Complex ceramics possess a widespread distribution across the site, although any major Preclassic structures have yet to be discovered. It is suspected that more substantial Preclassic assemblages may lie buried under the buildup of structures at the site center. Based on the stratigraphic sequences from excavations in the camp area and in the Chakah areas, it appears that outside the immediate site center, settlement has moving, shifting character from one period to the next. Q'eq' Complex assemblages lay atop those of the Kaq Complex, or Terminal Classic Rax material might rest on a floor above Saq Complex material. To date, this shifting pattern appears fairly often in excavations outside the site center.

In the site center itself, there appears to be an initial burst of construction activity associated with the Protoclassic Q'an Complex and lasting well into the Early Classic Saq Complex. A great deal of the initial platform of the southeast acropolis is constructed in the Q'an Complex and a great deal of the northwest acropolis in the Saq Complex. The pattern can be characterized as a surge of construction during the Protoclassic and Early Classic with Late Classic construction on top of these earlier platforms and structures. To date, none of the ceramic types thus identified appear to be spatially restricted in any manner. Even highquality Late Classic polychromes are not restricted to the palace compounds at the site's center. The "El Zotz" vessel (fig. 10), certainly a vessel of royal quality, was located in a disturbed looters' deposit in the Chakah operations, almost five kilometers from the site center. Distribution of individual ceramic types remains an ongoing topic of investigation.

The Terminal Classic Rax Complex is present across the site. Virtually all operations encountered Rax Complex materials present in architectural fill, ritual deposit and large horizontal sheet middens. While the deposits still pose interpretative challenges, there can little doubt that substantial activity, both ritual and residential, took place in the Terminal Classic. This probably represents the period of maximal population for the site. Indeed, the site seems to take on an almost "crowded" aspect in the Terminal Classic. The distribution of ceramic types, even the high-quality pastewares appear very widespread. Fine orange and fine grey are encountered across the site, apparently regardless of relation to site center. However, it remains far too early in the investigation to attempt an explanatory model for the incomplete distributional data. It is, at this point, simply intriguing.

El Perú-Waka' and the ceramic geochronology of the Greater Petén

To place the ceramic corpus of El Perú-*Waka'* within a broader context, the traditional approach has been to apply the concept of the ceramic sphere (Willey et al. 1967: 306). A major difficulty, even given the caveat outlined above, is the lack of a sorted typology, a necessary and preliminary step towards determining affiliation with any given ceramic sphere (Gifford 1976: 19). One of the key reasons that a typology is necessary prior to assignation of ceramic sphere membership is that the ceramic spheres possess differing shades of membership. The work of Ball (1976: 323-324) delineates this "degree of intensity" as being triple-tiered, including full membership (>60% typological similarity), partial membership (40-60% typological membership), and definite exclusion (<40% typological similarity). Obviously, lacking a typology, a percentage of similarity remains a quantity that can only be estimated. Whatever the difficulties of doing so, it is felt that certain valid observations are both possible and even desirable, especially given the evolving research goals of the ongoing investigations. The term Greater Petén is used in this section to refer to the entirety of the Department of the Petén and all the areas immediately adjacent to it, especially Northern and Western Belize, the Rio Bec area, and the middle Rio San Pedro Martir and Upper Usumacinta into the state of Chiapas.

The Preclassic material is probably too scanty at this stage to determine intersite relations. Certainly, much more Preclassic material awaits excavation. The Preclassic, especially the Late Preclassic, possesses a uniformity of form and style that is well known (Willey et al. 1967: 308; Forsyth 1989: 128). The Chicanel Sphere covers virtually the entire Maya Lowlands and all of the Petén. The ceramics of the Kaq Complex fit quite comfortably into this tradition. Even a cursory examination reveals the ceramics of the site to be remarkably similar to those uncovered at other Late Preclassic sites. Compare, for instance figure 2a and 2b to similar rimsherds from El Mirador (Forsyth 1989: fig. 8c, 5f, respectively). In almost all certainty, the Kag Complex has full and definite membership to the Chicanel Sphere, making it roughly contemporaneous with the Chicanel Complex from Uaxactun (Smith 1955: 21), the Cascabel Complex from El Mirador (Forsyth 1989: 21), the Chuen Complex from Tikal (Culbert 1993: 4), the Tambo Complex from La Joyanca (2001: 319), the Barton Creek Complex from Barton Raime (Gifford 1976: 84), the Plancha Complex at Altar de Sacrificios (Adams 1971: 92), the Cantutse Complex at Seibal (Sabloff 1975: 7), the Pakluum Complex from Becan (Ball 1977: 129), the Kax Complex from Tayasal (Chase and Chase 1983: 80), the Takan Complex from Calakmul (Dominguez Carrasco 1994: 29), the Kan Complex from Nakbe (Forsyth 1993: 41), the Faisan Complex in the Petexbatun region (Foias 1996: 262), the Abal Phase from Piedras Negras (Muñoz 2003: 6), and the Preclassic Phase at Polol (August 1982: 27), among others.

The transitional era positioned between the Late Preclassic and the Early Classic, variously termed the Terminal Preclassic or the Protoclassic, is present at El Perú-*Waka'* as the Q'an Complex. A detailed and excellent analysis of Maya ceramics from this period may be found in Brady's (et al. 1998) article on the subject. This transition period has a sporadic distribution across the Greater Petén, probably for two main reasons. First, the changeover from Preclassic to Classic was neither total nor simultaneous, possessing a different character at differing sites at slightly different times. Some sites declined and perished, other flourished and waxed strong. Truly it can be said that while one site was experiencing the Terminal Preclassic, a close neighbor underwent transformation in the Protoclassic. Each term is equally valid. Secondly, the uneven distribution of ceramic periods may also be an artifact of ceramic analysis with many transitional assemblages thought to be mixed or folded into larger Late Preclassic complexes. No ceramic sphere has been designated as a "protoclassic sphere," although the Floral Park sphere (Willey et al. 1967: 309) may be a likely candidate. Clearly, many issues have yet to be worked out to their individual satisfaction. The Q'an Complex of El Perú-Waka' is similar to and roughly contemporaneous with the Matzanel Transitional Phase from Uaxactun (Smith 1955: 22), the Paixbancito Subcomplex at El Mirador (Forsyth 1989: 51), the Cimi Complex from Tikal (Culbert 1993: 4), the Tambo-La Flor Transition at La Joyanca (Forné et al. 2001: 319), the Floral Park Complex at Barton Raime (Gifford 1976: 127), the Salinas Complex at Altar de Sacrificios (Adams 1971: 93), the late facet of the Cantutse Complex at Seibal (Sabloff 1975: 232), the terminal facet of the Pakluum Complex from Becan (Ball 1977: 129), the Yaxcheel Ceramic Complex from Tayasal (Chase and Chase 1983: 80), the "Protoclassic" period at Nakbe (Forsyth 1993: 4), the late facet of the Faisan Complex in the Petexbatun region (Foias 1996: 262), and the Pom ceramic phase from

Piedras Negras (Muñoz 2003: 7), among others.

The Early Classic Sag Complex would place El Perú-Waka' as a full member of the Tzakol sphere. The Tzakol sphere covers all the Petén and nearly all of modern Belize, reaching far into the Yucatan peninsula, past the Rio Bec area (see Willey et al. 1967: 309; Ball 1977: 155). It is characterized by a dramatic increase in the number and quality of polychrome vessels. The double-slipping technique, developed in the preceding period, becomes widespread and even common (Brady et al. 1998: 27-29). Even common monochromes become much better fired and of higher quality. The reasons behind such a shift remain largely unknown, but in the course of less than a century, ceramic technology throughout the central Maya lowlands improves suddenly and dramatically. El Perú-Waka' possesses the complete suite of ceramic types and modes affiliated with this sphere and almost certainly belongs as a full and definite member. The Saq Complex also includes a number of ceramic types, specifically Iberia Orange and Caribal Red that are probably technological or perhaps stylistic holdovers from the Preclassic ceramic traditions (Sabloff 1975: 90, 105). These types show the great deal of continuity between the Preclassic and Classic periods in the potting tradition of El Perú-Waka'. They, and other associated attributes, effectively argue against the novelty of the Early Classic types mentioned in an earlier report (Eppich 2004: 374). The Sag Complex of El Perú-Waka' is a full member of the Tzakol sphere and is similar to and roughly contemporaneous with the Tzakol Complex of

Uaxactun (Smith 1955: 23), the Acropolis Ceramic Complex at El Mirador (Forsyth 1989: 61), the Manik Complex at Tikal (Culbert 1993: 4), the La Flor Complex at La Joyanca (Forné at al 2001: 319-320), the Hermitage Complex at Barton Raime (Gifford 1976: 153), the Ayn Complex at Altar de Sacrificios (Adams 1971: 94), the Junco Complex at Seibal (Sabloff 1971: 101), the Chacsik Complex at Becan (Ball 1977: 132), the Hoxchunchan Complex at Tayasal (Chase and Chase 1983: 88), the Kaynikte Complex at Calakmul (Dominguez Carrasco 1994: 49), the Jordan Complex in the Petexbatun region (Foias 1996: 357), the Naba ceramic phase from Piedras Negras (Muñoz 2003: 9), and the Early Classic period at Polul (August 1982: 39), among others.

Again, evidence may suggest a transition period situated between the Sag and Q'eq' complexes, where the ceramic types and modes of the Early Classic overlap with those of the Late. However, the evidence is not from undisturbed contexts and is neither sizeable enough nor conclusive enough to warrant the establishment of a separate ceramic phase at this time. Further evidence will certainly either provide this information or effectively dismiss the idea. Other sites, especially those with long and continuous ceramic traditions, like El Perú-Waka', possess such a transition period. At Altar de Sacrificios (Adams 1971: 98), the Veremos Complex is exactly such a period of transition with Early Classic Balanza Black and Dos Arroyos Orange Polychrome sherds cooccurring with Late Classic Tinaja Red and Subin Red. Adams also mentions Late Classicstyle designs, such as glyph bands and

naturalistic animals, applied onto Early Classic vessels, which is probably the situation at El Perú-*Waka'*. Other Early to Late transitional phases include the lk Complex at Tikal (Culbert 1993: 4), the Tiger Run Complex at Barton Raime (Gifford 1976: 191), the Sabucan Complex at Becan (Ball 1977: 132), the Balche ceramic phase at Piedras Negras (Muñoz 2003: 10), potentially the Tzakol 3 Complex from Uaxactun (Smith 1955: 24) and the Pakoc Complex from Tayasal (Chase and Chase 1983: 91) among others.

The Q'eq' Complex at the site indicates a full and definite membership in the Tepeu ceramic sphere. The complex possesses a large number of abundant, shared ceramic types common throughout the Late Classic Maya lowlands. These especially include the highquality polychromes illustrated in figures 5 and 6c-e. This is less than surprising, especially as the Tepeu sphere is large and easily identifiable. It reaches from the Upper Usumacinta to the Bay of Chetumal, encompassing the Greater Petén region (Willey et al. 1967: 310; Rice and Forsyth 2004: fig. 3.1). Exactly what this pattern represents, especially in terms of past human behavior, remains unknown. A unified system of ceramic production, exchange and distribution is generally assumed, probably bound into the Late Classic economy (ibid: 52). Whatever manner of system may have existed, it clearly does not represent any manner of political suzerainty. The Tepeu sphere incorporates the two warring hegemons of Tikal and Calakmul, whose mutual antagonism has been well documented (Martin and Grube 2000: 20-21, 101). Regardless of whatever manner of system that produced this pattern, El Perú-Waka' appears to be a full participant. It is still too early in the analysis to determine any intrasphere connections within the system (as per Eppich 2000: 189-191). The Codex-style sherds (fig. 6c-e) present in the assemblage would indicate an emphasis on relations to the north and northwest towards the direction of the presumed heartland of the Codex-style at Nakbé (Hansen et al. 1991: 227; Reents-Budet 1994: 153-155). Combined with the "El Zotz" vessel, this tentatively suggests some degree of affiliation along an El Zotz-Nakbé axis running north-northeast in the direction of Calakmul. The glyphs on the Codex-style ceramics has led Martin (1977: 851) to suggest a link between Codex-style ceramics and the hegemonic influence of the K'an polity centered at that potent center. This agrees with the epigraphy of the period, with stelae 33 and 34 both showing a close political influence between El Perú-Waka' and Calakmul. It should be noted, however, that neither typological similarity nor ceramic sphere affiliation are particularly good indicators of political allegiance. In the Late Classic, El Perú-Waka' shares many ceramic types with Tikal, Uaxactun and all the sites included in the Tepeu Sphere. Distinct patterns have yet to be winnowed from the available data. The Q'eq' Complex of El Perú-Waka' is similar to and roughly contemporaneous with the Tepeu Complex at Uaxactun (Smith 1955: 24), the Lac Na Complex at El Mirador (Forsyth 1989: 79), the Imix Complex at Tikal (Culbert 1993: 4), the Abril Complex at La Joyanca (Forné et al. 2001: 320), the Spanish Lookout Complex at Barton Raime (Gifford 1976: 225), the Chixoy and

Pasión Complexes at Altar de Sacrificios (Adams 1971: 100), the Tepejilote Complex at Seibal (Sabloff 1975: 114), the Bejuco Complex at Becan (Ball 1977: 158), the Hobo Complex from Tayasal (Chase and Chase 1983: 94), the Ku Complex from Calakmul (Dominguez Carrasco 1994: 122), the Uuc Complex from Nakbe (Forsyth 1993: 44), the Nacimiento Complex in the Petexbatun region (Foias 1996: 419), the Yaxche ceramic phase at Piedras Negras (Muñoz 2003: 11) and the Late Classic ceramics at Polul (August 1982: 39), among others.

The transitional period between the Late and Terminal Classic remains intriguing and, very much like the Preclassic-to-Classic transition, is not a phenomenon found at every site in the Maya lowlands. As such, the ceramic sphere concept applies poorly to the scattered distribution of this indistinct phenomenon. This horizon probably takes place during the closing days of the eighth century and into the first half of the ninth. The transition seems to have been a period of extreme stress throughout the Greater Petén, one characterized by a marked diminution of elite activity and monumental construction accompanied by significant population shifts. Ceramically, it occurs at the same time as the introduction of the fine pastewares and the beginning of the end of the high-quality polychrome tradition (Rands 1973: 56-60). At El Perú-Waka', this manifests itself as the Morai Complex. Many of the Late Classic types still occur but are accompanied by an increasing frequency of Terminal Classic ceramic types (fig.1). High-quality polychromes accompany the introduction of fine pastewares,

although it is currently unknown whether the earliest pastewares were either unslipped or monochrome. They may or may not have included the very elaborate modeled and gouged works prevalent in the Terminal Classic. The presence of such a transitional phase at El Perú-Waka' is not an isolated incident. Ceramic complexes similar to and roughly contemporaneous with the Morai Complex include the early facet of the Boca Complex from Altar de Sacrificios (Adams 1971:104, 113), the Tepejilote-Bayal Transition at Seibal (Sabloff 1975: 153), elements of the Hobo Complex at Tayasal (Chase and Chase 1983: 94), the late facet of the Nacimiento Complex in the Petexbatun region (Foias 1996: 357), possibly the late Abril Complex from La Joyanca (Forné et al. 2001: 320-321), possibly the Ku-Halibe phase from Calakmul (Dominguez Carrasco 1994: 245), and the Chacalhaaz ceramic phase from Piedras Negras (Muñoz 2003: 12), among others. The dating on these assemblages is somewhat problematic, especially as there is little assurance that they occurred at the same moment in time. Chronological issues remain somewhat dubious in any ceramic report.

By the end of the 8th century, the Tepeu 2 sphere fragments into a series of increasingly regionalized zones. In only a general sense, there remains an eastern portion, dubbed Tepeu 3, and a western portion, the Boca sphere. Based on the analysis to date, the ceramics of El Perú-*Waka'* would most comfortably fit into the latter, due to the shared similarities with the late Boca and Jimba Complex at Altar de Sacrificios (Adams 1971: 104-108) and the Bayal Complex of Seibal (Sabloff 1975: 174).

Similar types include all of the fine pastewares, the decorated Torro Gouged-Incised and Carmelita Incised as well as the Lombriz Orange polychrome. While the polychrome tradition is mostly vanished from Seibal, the Anonal Orange Polychrome type is found at both El Perú-Waka' (fig. 7a) and Altar de Sacrificios (Adams 1971: 39). The presence of the Boca sphere at El Perú-Waka' would mark this sphere's most northerly extension. The sphere would then stretch from the Upper Rio San Pedro Martir down the western Petén to Altar and Seibal and perhaps then extending eastwards towards Lubaantun (Rice and Forsyth 2004: 37). It is contrasted with the Tepeu 3 sphere, which forms a rough nucleus from Calakmul to the Tikal-Uaxactun area. Outliers of Tepeu 3 lay farther afield, possibly even as far south as the Motagua river valley (*ibid*: fig. 3.2). The Rax Complex at El Perú-Waka' is a full member, then, of the Boca Sphere and possibly a peripheral member of the Tepeu 3 Sphere (see below). The Rax Complex is similar to and roughly contemporaneous with the Tepeu 3 Complex at Uaxactun (Smith 1955: 25), the Eznab Complex at Tikal (Culbert 1993: 4), the Tuspan Complex at La Joyanca (Forné et al. 2001: 321), the late facet of the Boca Complex and the whole of the Jimba Complex from Altar de Sacrificios (Adams 1971: 102-108), the Bayal Complex at Seibal (Sabloff 1975: 174), the early facet of the Xcocom Complex at Becan (Ball 1977: 134-135), elements of the Hobo Complex at Tayasal (Chase and Chase 1983: 94), the Halibe Complex at Calakmul (Dominguez Carrasco 1994: 182), the Sepens Complex in the Petexbatun region (Foias 1996: 626), the

Kumche ceramic phase at Piedras Negras (Muñoz 2003: 14), and the Romero Complex at Macanché Island (Rice 1987: 63), among others.

A difficulty posed by the analysis of Terminal Classic ceramics in the Petén is that there isn't a great deal of difference between the Boca and Tepeu 3 ceramic spheres. It is felt that what differences that do exist may just as likely be the result of differences in the site-type or the in individual site histories rather than any large-scale pan-Maya development. Forsyth (Rice and Forsyth 2004: 32) has proposed the existence of a single Terminal Classic ceramic tradition, termed the "Petén supercomplex" (Rice and Forsyth 2004: 32). This unified ceramic tradition lacks the hard and fast divisions between the Boca / Tepeu 3 divide, as well as lacking the intestine epistemological problems of the ceramic sphere concept as a whole. This "supercomplex" contains regional variations within it, possessing a western group of ceramic attributes which fade into an eastern group of attributes, while containing substantial overlap between the two. This overlap was present not only in a geographical sense, but temporal as well, displaying a hitherto unacknowledged continuity across the time and space of the Terminal Classic. Such a pattern of stability and continuity, of course, matches the pattern present at El Perú-Waka'. Rax Complex El Perú-Waka' fits awkwardly into a Boca / Tepeu 3 pattern, but quite nicely into the western grouping of the Terminal Classic Petén Supercomplex. While this may seem like nothing more than a reshuffling of terminology, it actually emphasizes the similarities between the

dynamic sites of the Terminal Classic and their respective ceramic complexes. It shows the groupings as two different versions of the same tradition, not as two wholly different traditions.

El Perú-Waka', then, would belong to Forsyth's western group of the Terminal Classic Petén Supercomplex. The site, in the Terminal Classic, possessed certain ties to the rejuvenated sites on the Upper Usumacinta to the south, Altar de Sacrificios and Seibal. It also had, to a lesser extent, ties to the Central Lakes region, and perhaps even as far north as the Rio Bec region. The red-on-cream sherds (fig. 1, 7e) that appear in both the Morai and Rax Complexes are absent from either Altar or Seibal but present as part of the Terminal Classic tradition uncovered at Macanché Island (Rice 1987: 74) and Becan (Ball 1977: 62-64). The fine pastewares, especially the Pabellon Modeled-Carved (fig. 9) indicate ties to the Lower Usumacinta and Gulf Coast. Similarly, the site's undesignated Terminal Classic waxyware tradition (fig. 8e) shows relations to a largely unpublished and poorly understood western ceramic waxy tradition (Ball 2003, per. comm.). In short, Rax Complex El Perú-Waka' has close ties with the south, to the upper reaches of the Rio Usumacinta and perhaps peripheral ties to the central lakes and Rio Bec regions. This is in addition to the ties downriver to the Lower Usumacinta and perhaps the Gulf Coast. The Rax Complex assemblages seem to show that while the great polities of the Late Classic were in the process of dissolution and disintegration, El Perú-Waka' appears to continue to be a crossroads of north-to-south and east-to-west. Though much-altered, El

Perú-*Waka'* survives the collapse of the Late Classic to form part of a Terminal Classic pattern of revitalization that includes surges in population and wealth at Seibal (Sabloff 1975: 237, 1973: 110), Altar de Sacrificios (Adams 1971: 104-105, 1973: 140), and Becan (Ball 1977: 134-135), among others. It is this phenomenon of revivification and apparent population aggregation in the face of the Maya collapse that remains intriguing and, most interestingly, unexplained.

Conclusions and perspectives for the succeeding field season

As the post-season analysis of the material from the first two years of excavation has only just begun, it seems much too early to be able to draw firm conclusions from it. Instead, the following observations will be offered and a blueprint included as to the best manner in which to proceed with the material. The sequence in figure 1 represents only a crude skeleton that waits for the typological and quantitative flesh to be added. The potting tradition of El Perú-Waka' stretches across twelve centuries while its analysis has not even crossed into its second year. It remains a procedure that demands a knowledgeable approach and a deliberate patience. Still, current data is enabling enough to permit the essential framework to be sketched out, as has been done here. While the work has, to date, focused on chronology, it should be understood that the ceramic sequence is the material remains of past human behavior. As such, is capable of generating much more information about past cultures than a just simple timeline

and future analysis need not limit itself so. The following goals are included and proposed for the ongoing laboratory analysis for the site's ceramic corpus:

- The sorted typology should be completed. While it does not seen possible to complete such a typology in time for the 2005 field season, this finely detailed analysis should commence prior to the archaeologists entering the field. A sorted typology would greatly aid the archaeologists in the field and eliminate the lag between laboratory analysis and field excavation. In such a manner, inaccuracies in field observations may be greatly reduced.
- In a sorted typology, intrasite distribution of various ceramic types may be modified to fashion a complete construction history for the site. In this manner, construction periods, ritual deposits, and burial assemblages may all be fitted together into a relative sequence of deposition. More testpits into building platforms would be required.
- The ceramics need to be both counted and weighed as to determine quantitative data for the various complexes to serve as part of any future seriation efforts.
- A computerized database is essential to this process.

Cited Sources

Adams, Richard E. W.

- 1971 *The Ceramics of Altar de Sacrificios*, Papers of the Peabody Museum of Archaeology and Ethnology, vol. 63, no. 1, Harvard University, Cambridge.
- 1973 Maya Collapse: Transformation and Termination in the Ceramic Sequence at Altar de Sacrificios. In *The Classic Maya Collapse*, edited by T. Patrick Culbert, pp. 133-164. University of New Mexico Press, Albuquerque, NM.

Arnauld, Marie-Charlotte and Morales, Paulino

1999 *Primera Temporada de Campo en el Sitio Arqueologico La Joyanca y su Region*. Informe no. 1, Proyecto Petén Noroccidente-La Joyanca. Informe presentado al IDEAH.

August, Nancy

1982 *Ceramics of Polol, Guatemala*. Unpublished M.A. thesis, Department of Anthropology, San Francisco State University, San Francisco.

Ball, Joseph W.

- 1977 *The Archaeological Ceramics of Becan, Campeche, Mexico*. Middle American Research Institute, Publication 43, Tulane University, New Orleans.
- 1978 Archaeological Pottery of the Yucatan-Campeche Coast. Middle American Research Institute, Publication 46, Tulane University, New Orleans
- 1994 Type-Variety Analysis and Masterworks of Classic Maya Polychrome Pottery. In *Painting the Maya Universe: Royal Ceramics of the Classic Period*, by Dorie Rents-Budet, pp. 362-365. Duke University Press, Durham, NC.
- Brady, James E., Joseph W. Ball, Ronald Bishop, Duncan Pring, Norman Hammond, and Rupert Housley
 - 1998 The Lowland Maya 'Protoclassic,' A reconsideration of its nature and significance. *Ancient Mesoamerica* 9: 17-38.
- Breuil-Martinez, Veronique; Saint-Dizier, Tristan; Lopez, Ervin Salvador, editors
 - 2002 Cuarta Temporada de Campo en el Sitio Arqeuologico La Joyanca y su Region. Proyecto Petén Noroccidente La Joyanca. Informe No. 4. CEMCA-Guatemala. Informe entregada al IDEAH.

Chase, Arlen F. and Chase, Diane Z.

1983 *La Cerámica de la Zona Tayasal-Paxcamán, Lago Petén Itzá, Guatemala*. The University Press, University of Pennslyvania, Philadelphia, PA.

Culbert, T. Patrick

- 1993 *Tikal Report No. 25, Part A, The Ceramics of Tikal: Vessels from the Burials, Caches and Problematic Deposits.* The University Museum, University of Pennslyvania, Philadelphia.
- 2003 The Ceramics of Tikal. In *Tikal: Dynasties, Foreigners, and Affairs of State*, edited by Jeremy Sabloff, pp. 47-82. School of American Research Press, Santa Fe, NM.

Dominguez Carrasco, Maria del Rosario

1994 *Calakmul, Campeche, Analisis de la Ceramica*. Universidad Autónoma de Campeche, Campeche.

Eppich, Evan Keith

- 2000 Ceramics and Interaction at El Pozito, Belize: a type-variety based approach. Unpublished MA thesis, Department of Anthropology, San Diego State University, San Diego, CA.
- 2004 Análisis Preliminar de la Cerámica de El Perú-*Waka*'. In *Proyecto Arqueológico El Perú-Waka': Informe no. 1, Temproada 2003.* edited by Hector Escobedo and David Freidel,

pp. 369-384 Informe Entregado a la Dirección General del Patrimonio Cultural y Natural de Guatemala, Guatemala.

Foias, Antonia E.

- 1996 Changing Ceramic Production and Exchange Systems and the Classic Maya Culture in the Petexbatun Region. Ph.D. dissertation. Vanderbilt University, Nashville, TN.
- Forné, Mélanie, Marie Soubelet, Véronique Gervais and Sébastien Lacomba
 - 2001 Capitulo 12, Laboratorio e Materiales, Estudio Cerámico, Análisis Osteológico y Estudio Lítico. In *Proyecto Peten Noroccidente La Joyanca, informe no. 3 Tercera Temporada de Campo*, edited by Véronique Breuil-Martinez, Erick Ponciano and M. Charlotte Arnauld, pp. 314-348.

Forsyth, Donald W.

- 1983 *Investigations at Edzna', Campeche, Mexico, vol. 2: Ceramics.* Papers of the New World Archaeological Foundation, Brigham Young University, Provo.
- 1989 *The Ceramics of El Mirador, Petén, Guatemala. El Mirador Series, Part 4.* Papers of the New World Archaeological Foundation, No. 63, Brigham Young University, Provo.
- 1993 The Ceramic Sequence at Nakbe, Guatemala. Ancient Mesoamerica 4: 31-53.

Gifford, James C.

- 1960 The Type-Variety Method of Ceramic Classification as an Indicator of Cultural Phenomena. *American Antiquity*, v25, n3, pp. 341-347.
- 1976 Prehistoric Pottery Analysis and the Ceramics of Barton Raime in the Belize Valley. Memoirs of the Peabody Museum of Archaeology and Ethnology, volume 18, Harvard University, Cambridge, MA.

Grube, Nikoolai

2004 Commentary on the K8777 vessel. The Maya Vase Data Base, an archive of rollout photos created by Justin Kerr, available at: http://www.mayavase.com/8777/com8777.html.

Guenter, Stanley

2004 Commentary on the K8777 vessel. The Maya Vase Data Base, an archive of rollout photos created by Justin Kerr, available at: http://www.mayavase.com/8777/com8777.html.

Hansen, Richard, Ronald L. Bishop and Federica Fahsen

1991 Notes on Maya Codex-style Ceramics from Nakbe, Peten, Guatemala. *Ancient Mesoamerica* 2: 225-243.

Martin, Simon

1997 The Painted King List: A Commentary on Codex-Style Dynastic Vases. In *The Maya Vase Book, a Corpus of Rollout Photographs of Maya Vases, vol. 5*, Justin Kerr, pp. 846-867. Kerr Associates, New York.

Martin, Simon and Nikolai Grube

2000 Chronicle of the Maya Kings and Queens. Thames and Hudson, London.

Muñoz, Arturo René

2003 The Ceramic Sequence of Piedras Negras, Guatemala: Type and Varieties. A report submitted to FAMSI, available at http://www.famsi.org/reports/02055/index.html.

Rands, Robert L.

1973 The Classic Collapse in the Southern Maya Lowlands: Chronology. In *The Classic Maya Collapse*, edited by T. Patrick Culbert, pp. 43-62. University of New Mexico Press, Albuquerque, NM.

Reents-Budet. Doris

1994 *Painting the Maya Universe: Royal Ceramics of the Classic Period.* Duke University Press, Durham, NC.

Rice, Prudence M.

- 1987 *Macanché Island, El Petén, Guatemala: Excavations, Pottery, and Artifacts.* University Presses of Florida, Gainesville, FL.
- Robicsek, Francis and Donald M. Hales
 - 1981 *The Maya Book of the Dead: The Ceramic Codex.* The University of Virginia Art Museum, Charlottesville, NC.

Sabloff, Jeremy A.

- 1973 Continuity and Disruption during Terminal Late Classic Times at Seibal: Ceramic and Other Evidence. In *The Classic Maya Collapse*, edited by T. Patrick Culbert, pp. 107-132. University of New Mexico Press, Albuquerque, NM.
- 1975 *Excavations at Seibal: Ceramics.* Memoirs of the Peabody Museum pf Archaeology and Ethnology, Harvard University, volume 13, number 2. Cambridge, MA.

San Juarez, Miguel, Ernesto Chen Cao, Crisanto Xal Tec, Domingo Cuc Chen and Pedro Tiul Pop.

- 2001 *Diccionario del Idioma Q'eqchi'*. Poryecto Linguistico Francisco Marroquin, La Antigua Guatemala.
- Schmidt, Peter, Mercedes de la Garza, and Enrique Nalda
 - 1998 Maya. Rizzoli International Publications, New York, NY.

Smith, Robert E.

- 1955 *Ceramic Sequence at Uaxactun, Guatemala.* Middle American Research Institute, Tulane University Publication, no. 20. Tulane University, New Orleans, LA.
- 1971 Pottery of Mayapan, including studies of ceramic material from Uxmal, Kabah, and Chichen Itza. Papers of the Peabody Museum of Archaeology and Ethnology, vol. 66. Harvard University, Cambridge, MA.

Smith, Robert E. and James C. Gifford

1966 Maya Ceramic Varieties, Types, and Wares at Uaxactun: Supplement to Ceramic Sequence at Uaxactun, Guatemala." Middle American Research Institute, Tulane University, Publication 28, pp. 125-174.

Smith, Robert E., Gordon Willey and James C. Gifford

1960 The Type-Variety Concept as a Basis for the Analysis of Maya Pottery. *American Antiquity* 25 (3): 330-340.

Thompson, J. Eric S.

1962 A Catalog of Maya Hieroglyphs. University of Oklahoma Press, Norman, OK.

Willey, Gordon R., T Patrick Culbert, and Richard E.W. Adams

1967 "Maya Lowland Ceramics: A Report from the 1965 Guatemala City Conference." *American Antiquity* 32(3): 289-315.

aq 1plex	Q'an Complex	Saq Complex	Q'eq' Complex Palmar: orange ground Co	Morai Complex	Rax Complex
	Sactuc Black-on-orange		Palmar: Saxche variety Palmar Orange polychroi Zacatel Cream Polychroi Palmar Orange Polychroi Tinaja Red Infierno Black	me: cream ground Codex me	Miscria Appliqué style = = = = = = = = = = = = = = = = = = =
	Flor Cream	1	undesignated waxy redw	are	
			undesignated waxy black	sware Anonal Orange Polychre	ome
	Aguila Orange	Lucha Incised		Lombriz Orange Polychi Altar Orange	rome
		Caribal Red Iberia Orange Balanza Black		Chablekal Grey Chiexulub Incised Trapiche Incised	
		San Blas Red-on-orange Bolteo Black-on-orange Dos Arroyos Orange poly Caldero Buff polychrome		Torro Gouded-Incised undesignated red-on-cre = = = = = = = = = = = = = = = = = = =	am bichrome Poite Incised Pabellon modeled-carved Cameron Incised Kilikan Composite Cholul Fluted
classic	Protoclassic	Early Classic	Late Classic	Late-Terminal Transition	Terminal Classic



figure 2. Kaq Complex ceramics. a, b, c) Sierra Red, d) Polvero Black.



figure 3. Q'an Complex ceramics. a) Sacluc Black-on-orange, b) Flor Cream, c) Picoleros Red-on-orange, d) unslipped mammiform support.



figure 4. Saq Complex ceramics. a) Dos Arroyos Orange Polychrome, b) Lucha Incised, c) San Blas Red-on-orange, d) unslipped annular ring base.



figure 5. Q'eq' Complex ceramics. a) Zacatel Cream Polychrome (ix-chel-?-te?), b) Tinaja Red, c) Palmar Orange Polychrome, d) Caremlita Incised, e) Infierno Black.



figure 6. Codex-style sherds from the Q'eq' and Morai Complexes. a, d, f) Palmar Orange Polychrome: Orange-ground Codex-style, b, c, e) Palmar Orange Polychrome: Cream-ground Codex-style.



figure 7. Morai Complex ceramics. a) Anonal Orange Polychrome, b) Chicxulub Incised, c) undesignated fine orange, d) undesignated fine grey, e) undesignated red-on-cream.



figure 8. Rax Complex ceramics. a) Kilikan Composite, b) Cholul Fluted, c) undesignsted (Sahcaba?) modeled-carved, d) Cameron Incised molcajete, d) undesignated waxy redware..



figure 9. Pabellon Modeled-carved from the Rax Complex.



figure 10. fragments of the "El Zotz" vessel. exterior surface treatment and circumferential glyphic band