



Figure 1. Detail of scene SE-S1 of the southeast corner, first tier.  
Photo: Rogelio Valencia Rivera/PAC.

# Hieroglyphs from the Painted Pyramid: The Epigraphy of Chiik Nahb Structure Sub 1-4, Calakmul, Mexico

Simon Martin

The murals progressively uncovered at Calakmul over recent years supply a wealth of new data on the life of a major Classic Maya capital. Their subject matter has no precedent in Maya art and offers an opportunity to explore hitherto unknown social activities and practices. Crucially, the rich iconographic material from the paintings is joined by a substantial body of hieroglyphic inscriptions, producing an invaluable interaction between text and image in which each supports and illuminates the other.

The present study remains in many respects an interim effort.<sup>1</sup> Eight seasons of work by the Proyecto Arqueológico Calakmul (PAC) have revealed much about the “painted pyramid” of Chiik Nahb Structure Sub 1-4 (see Carrasco Vargas and Cordeiro Baqueiro, this volume; Carrasco Vargas et al. 2009; Cordeiro Baqueiro 2012), but the work continues and a final report must await a range of analyses that are still in process—especially the full conservation and study of the uppermost third tier.<sup>2</sup> Even so, this is an appropriate moment to report on the progress made thus far, and to give some idea of the significance of what has been uncovered from an epigraphic point of view.

Some 86 glyph-blocks have been identified on the murals, the great majority interspersed between the human figures in a manner characteristic of captions (Figure 1). Their state of preservation ranges from almost pristine to the faintest of traces. The glyphs in all phases of the paintings were originally outlined in black or dark brown, although in many cases this has decayed to a red-brown or pinkish hue. Some have plain

interior spaces or are decorated with light brown highlights, but most are filled with solid areas of yellow tan, blue, or green. Each phase mixes styles and colors, making it difficult to assign particular glyphs to particular layers by appearances alone, although it is clear that those from the third and final phase are predominantly filled with yellow tan. The full technical analysis of the pigments and paint stratigraphy will ultimately refine and clarify the sequence as currently understood (see Carrasco Vargas and Cordeiro Baqueiro, this volume). Assorted glyph fragments with blue and tan infilling were recovered from the construction fill around Structure Sub 1-4 (Figure 2). Their original locations are unknown, but an associated figural fragment bears a close resemblance to the final phase of painting, suggesting that all may be remnants from the same program, probably from anciently dismantled portions of stairway.

The palaeography of all three phases is distinctly Late Classic, with some features that become common only after the

<sup>1</sup> Photographs and pencil drawings were produced on-site and later compared to the multi-spectral images produced by Gene Ware (2008). The line drawings reproduced here were traced from photographs and are not intended to replace measured tracings of the paintings themselves. The restricted space underground during excavation made technical photography difficult, and a number of drawings are composites made from two or more photographs in order to minimize distortion.

<sup>2</sup> An evaluation of the third tier and other newly emerged texts has recently been completed and will appear in Martin (n.d.c), a study to accompany the complete publication of the murals in the series *La pintura mural prehispánica en México*.



**Figure 2.** Glyph fragments from construction fill. Composite of photos by Harri Kettunen/PAC and Verónica Vásquez López/PAC.

middle of the seventh century CE. This is consistent with the chronology derived from ceramic evidence, both in terms of types recovered from sealed deposits within the building and those depicted in the paintings. Together these data suggest a placement between 620 and 700 (Boucher and Quiñones 2007:47).

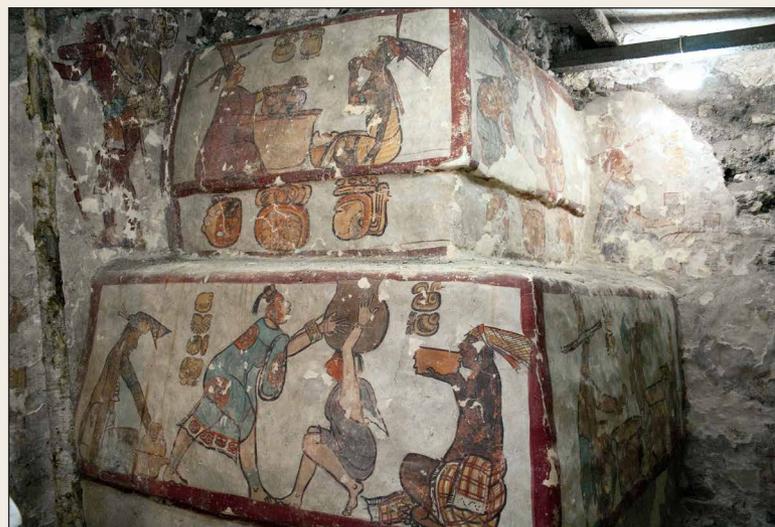
The captions differ from those we normally see in Maya art in that they identify people by means of generic titles rather than by personal names. In most cases they follow a consistent formula and begin with **AJ** in one of two logographic versions. In an inversion of the normal pattern, it is the rare form—the ‘Flaming Ak’bal’ in which the sign *ak’ab* “darkness” sprouts fiery volutes (Zender 2005a)—which is the more common on the murals. In modern Mayan languages *aj* is a male agentive that can be translated as “He of ...,” but in the Classic period it was gender-neutral and applicable to both men and women (see Jackson and Stuart 2001:222). “Person” is therefore a suitable translation for us. Following *aj* in the formula comes the word for a particular object or material. These terms usually have direct counterparts in the painted scenes, making their role as identifying titles explicit. The following description begins at the southeast corner (Figure 3) and describes each corner in sequence moving in a counterclockwise direction around the building. Scenes are described from left to right beginning on the bottom-most tier.

### Southeast Corner

On the east side of the south stairway at **EsS-LtE1** we see a single standing male (for photos see pages 20, 21, and 50 of this volume). Most of the visible scene is from Phase 3, but where the surface has flaked away there are sizeable areas of Phase 2 showing through. There it is just possible to make out

the outline of a seated woman with a raised hand. Phase 3 is very different and shows a man holding a textile in front of his body; this is woven in wide stripes of white and orange with a decorative border along both its long sides. Such edging is typical of personal apparel and appears on the hip-cloths of many of the men in these murals. His left hand clutches a corner of the material and his right can be made out further along its length. It is unclear if the extension of the cloth to the left (see the bottom edge) implies the presence of a second, now-destroyed figure supporting the other end. There is a tiny portion of a Phase 3 caption—identifiable from its tan fill—above his head and to the left. Much more noticeable are the exposed, but rather damaged, Phase 2 glyphs in blue beneath. Here the only legible element is the number nine (Rogelio Valencia Rivera, personal communication 2010).

The scene of **SE-S1** was the first to be uncovered in 2004 and remains the iconic image of the Structure Sub 1-4 murals (Carrasco Vargas and Colón González 2005:40) (Figure 4; for photos see Figure 1 and pages 8, 24-25, and 36-39). Here a striding woman wearing a diaphanous blue huipil—decorated with roundels filled by zoomorphic heads and a row of hemline hieroglyphs in red and orange—reaches out to put, steady, or take a large pot on the head of another female. This second woman or girl is much more simply dressed, with a plain garment wrapped around her body and over her shoulder. Her whole face is colored bright red, much like the face-paint most women in the murals wear but in this case possibly a humorous reference to the effort of bearing her burden. This pair is flanked by two seated men. The one at right brings a bowl to his lips; the one at left handles an unidentified object (possibly a calabash



**Figure 3.** The southeast corner, showing the bottom two of the three tiers of Structure Sub 1-4. Photo: Simon Martin/PAC.



Figure 4. SE-S1 scene. Drawing: Simon Martin/PAC.

vessel) in a bowl at his feet.

The hieroglyphs on the hem of the decorated huipil include at least one recognizable sign (*k'e*) and resemble a readable text. Nevertheless, the remainder are so cursive as to probably constitute pseudo-glyphs designed only to give the appearance of writing. The literate texts on **SE-S1** consist of two captions. The one on the right side provides an example of the 'Flaming Ak'bal' prefix **AJ**, followed by paired **u** and **lu** syllabograms (Figure 5a). Spelling *ul* "atole," this term was first recognized on the rims of ceramic vessels designed to hold this mashed maize drink (Stuart 1989:152) (Figure 5b). The full caption therefore reads *aj ul* "atole person," the first of three appearances on the Structure Sub 1-4 murals. It would seem logical to suppose that the text refers to the man who drinks from the vessel, but for reasons that will become clear as we progress around the scenes, it more likely refers to the women who handle the weighty pot, the "blue lady" in particular.

A four-glyph inscription on the left of **SE-S1** is one of the longest of the whole mural program (Figure 5c). It can be understood as individual elements for the most part, but the overall sense is elusive. The first three blocks provide the sequence **lu k'u ba-na**, which most likely renders *luk'ban*. Lexical entries for the root *luk'* are largely restricted to the Yukatekan language branch, with *luk'/luuk'* as "mud, clay," "to swallow, gulp," "to leave," and "to free, save" (Barrera Vásquez et al. 1980:464-466; Bricker et al. 1998:174-175; Hofling and Tesucún



a

Figure 5. (a) SE-S1 caption 1 (photo: Juan Ignacio Cases Martín/PAC); (b) spelling of *yuk'ib ti ul* "his drinking vessel for atole," from K4387 (Kerr and Kerr 1991:487) (drawing: Simon Martin); (c) SE-S1 caption 2 (photo: Juan Ignacio Cases Martín/PAC).



b



c

1997:423-424).<sup>3</sup> The last of these is reflected in the causative forms *luk'-s* and *luk'-es* “to remove” (Bricker et al. 1998:174), as in *luk'-es u-kuch* “¡Quitale la carga! Unload it! Take off his load!” (Hofling and Tesucún 1997:424). The *-ban* part is an unusual formulation in the script but most likely a verbal suffix. Kerry Hull (personal communication 2008) notes that in Ch'orti' a *-ba-n* ending combines a suffix that derives positional roots into transitive ones with a terminal imperative marker. If the phrase is indeed verbal and the suffix has that role here, our passage could refer to the taking of the heavy pot from the bearer's head—echoing the spirit of the aforementioned *luk'-es u-kuch* statement. However, *luk'* may simply be a variant of the intransitive verb root *lok'* “to leave” that is attested in several Western Mayan languages (e.g., Hull 2005:79; Kaufman 2003:420, 1318). Since the possible development of *luk'* from *lok'* cannot be dated, it remains unclear if the Classic-era *luk'* bears any relationship to the lexical entries at our disposal. The role and reading of the final glyph in the passage is also opaque, although it is probably a personal identifier of some sort. Prefixed by *i* and suffixed by *ti*, the main sign is an unknown glyph that has the head of an old man with a dotted motif on his temple, very similar (but not identical) to the portrait form of the syllable *ye*. In sum, this text is a puzzle with

<sup>3</sup> Given the general theme of consumption, the sense of “to swallow, gulp” is a tempting interpretation. However, the caption is on the opposite side of the scene from the depiction of drinking and should refer to the actors or events closest to it.

no firm resolution yet in sight.

As we turn the corner of the building we come to **SE-E1**, a scene with three participants (Figure 6; for photos see pages 15 and 44-49). The first character in a fine woven hat embraces a large pot and pours liquid from a spoon into a dish set atop a basket. The high hip-cloth is the kind worn by males, but this figure also wears the red face-paint usually applied to women in these murals. The next is a male drinker, this time imbibing from a vessel painted in a vivid blue. Finally a woman with a closely matching spoon, dish, and basket looks on. The caption at left repeats the **AJ u-lu** formula of the previous scene, describing another “atole person” (Figure 7). At right we see a different formula, consisting of the female classifier **IX**—translated as “Lady” or sometimes “She of”—followed by an uncommon and still-undeciphered hieroglyph (Figure 8). We will turn to a discussion of this important sign where it recurs elsewhere in the murals.

There is, in fact, one more text on **SE-E1**—a minutely incised inscription on the rim of the

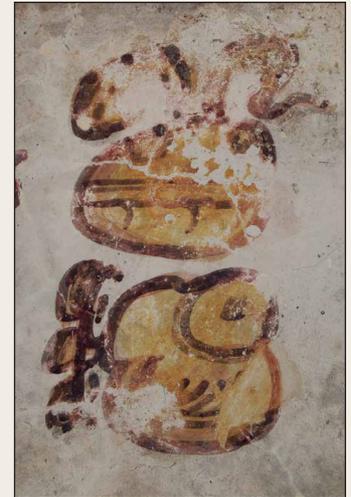


Figure 7. SE-E1 caption 1. Photo: Juan Ignacio Cases Martín/PAC.



Figure 6. SE-E1 scene. Drawing: Simon Martin/PAC.



Figure 8. SE-E1 caption 2. Photo: Juan Ignacio Cases Martín/PAC.



Figure 9. EsE-LtS1 caption. Photo: Rogelio Valencia Rivera/PAC.

blue drinking vessel (see photo, page 48). This graffito features three glyphs, although only the last of them, consisting of **yu-li**, is legible. The similarity of this form to the *ul* described in the caption suggests that *yuul* “his atole” is intended. The preceding

two signs in all likelihood once supplied the opening glyphs of the dedicatory phrase on Maya vessels called the Primary Standard Sequence (Coe 1973; Stuart 1989).

Little survives of the last scene on the bottom tier of the southeast corner, **EsE-LtS1**. We can make out the figure of an old man, with what seems to be a thin cigar in his mouth. To the right we see the remains of a taller individual. There is an accompanying caption, but beyond the outlines of the by-now-familiar **AJ** introduction, it is too ruined to read (Figure 9).

We return to the sidewall of the south stairway as we move up to the second tier and come to the scene designated **EsS-LtE2**. This carries a detailed image of a bearer carrying a large pot using a tumpline drawn over his forehead (for photo see page 22). Tied to the neck of the vessel is a net bag containing round objects of an unknown nature, but possibly small gourd containers. Surmounting this is a hat in the form of a long-snouted mammal, probably an opossum. There is no surviving caption, but the narrow-necked pot is similar to those in the scenes featuring atole, and he may be carrying this foodstuff.

Crossing to **SE-S2**, we encounter a woman in the same broad hat seen on **SE-E1** and a basket containing large hieroglyphs for **WAAJ** “tamale” (Figure 10). This iconographic representation of maize bread is familiar from the Postclassic Maya codices, where we find such glyphs set in plates with various meat fillings—fish, iguana, or turkey—sometimes protruding from their tops (Figure 11). On **SE-S2** the woman offers a platter of small breads to a



Figure 10. SE-S2 scene. Drawing: Simon Martin/PAC.

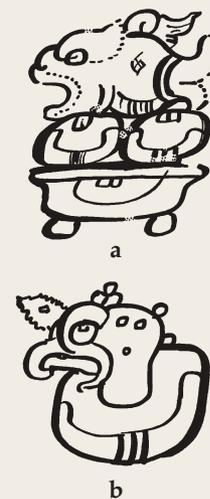


Figure 11. Tamale glyphs in the Dresden Codex: (a) with fish on top, page 27; (b) with turkey, page 28. Drawings: Simon Martin.

**Figure 12.** SE-S2 caption. Photo: Rogelio Valencia Rivera/PAC.



man who takes one and brings it to his mouth. The caption reads **AJ wa-WAAJ-ji** *aj waaaj* “tamale person” (Figure 12).<sup>4</sup>

Food is an important topic in the murals, and well represented in the surviving captions, but at least as many scenes refer to other kinds of material. **SE-E2** shows a male holding a short stick or spatula in one hand, a small pot in the other (Figure 13; for photos see pages 40-43). A second male faces him, leaning forward by taking his weight on his arms, his head down and his teeth bared. A series of painted splashes fall from his open mouth. It is noteworthy that his profile was first outlined by a deep scratch made in the stucco. The caption spells **AJ ma-ya** for *aj mahy* “tobacco person” (Figure 14).<sup>5</sup> The \**mahy* root has been reconstructed for Proto-Mayan, and *may* is widely distributed in modern Mayan languages (Kaufman 2003:1144). The small pot on **SE-E2** closely resembles one depicted on a painted cylinder vase that has the glyphs **ma-ya** written on it—a scene in which the same kind of spatula is used to apply a wad of the processed

leaf to the back of a toad (Figure 15).<sup>6</sup> This might evoke the medicinal uses of tobacco among the Maya, who prescribed it as an ointment for a variety of bodily ills (Roys 1931:259; Thompson 1979:118-120; David Stuart, personal communication 2007). However, it is also possible that this illustrates a method by which the hallucinogenic excretions of the *Bufo marinus* toad were blended with tobacco to enhance its effects (John Justeson, personal communication 2011). The reaction of the man on **SE-E2**, who seems to be spitting or vomiting after taking *mahy* from the spatula, suggests a powerful effect whether it was recreational or curative in purpose.<sup>7</sup>

The next painting, on **EsE-LtS2**, appears on the south side

<sup>4</sup> The double complementation of **wa** and **ji** is unusual but far from unprecedented. It is seen, for example, in spellings of **wa-WAHY-ya** *wahy* “co-essence” (Houston and Stuart 1989:3, Figure 1h, i). It might be motivated in part by the bivalency of the T506 sign (see Thompson 1962) as not only **WAAJ** but also **OHL** “heart.” The iconic relationship between these values suggests some kind of conceptual tie, possibly a ritual connection to bread as an offering in place of human hearts.

<sup>5</sup> The form *mahy* is preferable to *may* given its Proto-Ch’olan reconstruction and the complexity of the word in many modern Mayan languages (Alfonso Lacadena, personal communication 2007).

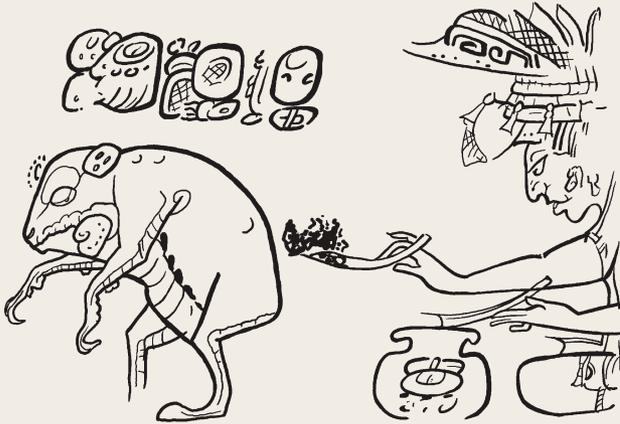
<sup>6</sup> I am grateful to David Stuart for sending me a photograph of this vessel.

<sup>7</sup> See Landa (1941:94) for a mention of professional curers, while Starr (1900-1901:71) and Thompson (1970:110) describe the use of spatulas with powdered tobacco. Two streaks of paint converge on the nose of the leaning man on **SE-E2**, as if to indicate that he is sneezing. Since there are accidental splashes elsewhere in this scene, it is hard to know if these instances are contrived or not.



**Figure 13.** SE-E2 scene. Drawing: Simon Martin/PAC.

**Figure 14.** SE-E2 caption. Photo: Juan Ignacio Cases Martín/PAC.



**Figure 15.** Detail from an unprovenanced polychrome vessel. Drawing: Simon Martin.

of the east stairway. It shows a woman holding a banded object in her right hand, with two or three more of the same visible in the basket in front of her (Figure 16; for photo see page 15). The accompanying text, legible with the aid of multi-spectral imaging, reads **AJ ja-yi**, making *jaay* the object in question (Figure 17b). This word is familiar from dedicatory phrases on ceramic vessels. Many texts on Chochola-style incised cylinder vases, for example, use the possessed form *ujaay* “his/her *jaay*” to introduce the names of their owners (Grube 1990:322) (Figure 17a). *Jaay* has been lost from most Mayan languages but survives in Mopan (Ulrich and Ulrich 1976) and in Tzotzil (Delgaty 1964) as “clay bowl, tecomate” (Hull 2003:419; Lacadena 1997).<sup>8</sup> The woman’s caption can therefore be read as *aj jaay* “clay vessel person.” **EsE-LtS2** occupies a rather narrow space constrained by the slope of the stairway (established

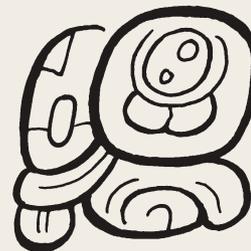
<sup>8</sup> In his ethnography of southern Belize, Thompson (1930:96) describes *hai* as “a drinking cup” and illustrates it as a walled bowl (on Plate 18, although captioned there as an “eating dish”). In Tzotzil the entries for *jay* include “tecomate grande para tortillas” (Delgaty 1964) and “gourd, tortilla gourd” (Laughlin 1975). The modern-day Mopan of Guatemala translate *jaay* as “plate,” although these vessels are usually used for drinking and sometimes referred to as a *taza* “cup.” I am indebted to Kerry Hull (personal communication 2008) for describing the wider context of this term and its contemporary use among communities in Belize and Guatemala—compiled as part of his dissertation research in the 1990s.



**Figure 16.** EsE-LtS2 scene. Drawing: Simon Martin/PAC.

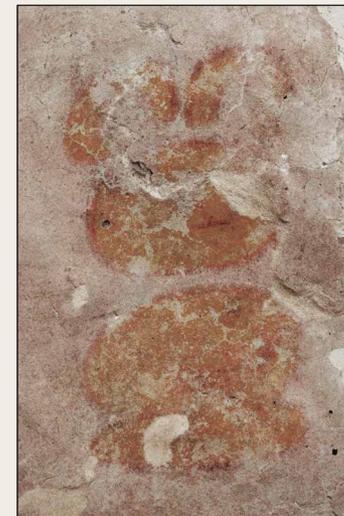
by the corner of a single red-painted step to the right of the caption) and could not have accommodated a second figure. This is significant because it establishes that the captions refer to the providers of the materials in the scenes, as well as confirming that the *aj* term can be applied to women as well as men.

An initial investigation of the third tier of the southeast



a

**Figure 17.** (a) Example of *ujaay* “his clay vessel,” from Chochola-style cylinder vase K4333 (Kerr and Kerr 1990:304) (drawing: Simon Martin); (b) EsE-LtS2 caption (photo: Juan Ignacio Cases Martín/PAC).



b



Figure 18. (a) SE-S3 caption; (b) SE-E3 caption. Drawings: Simon Martin/PAC.

corner from above revealed three scenes in good to moderate preservation (for photo see page 11). The restricted space available for **EsS-LtE3** is filled with a seated bearer carrying a bound pot on his tumpline—in much the same manner as **EsS-LtE2**, which lies directly below it on the eastern flank of the south stairway. No identifying caption was exposed. **SE-S3** is more informative. Its image features a seated woman in a decorated huipil that closely parallels the colors and designs of that on **SE-S1** (for which see Figure 1), here with the addition of a broad-brimmed hat slung over her back. Equipped with the spoon, dish, basket, and drinking cups of the “atole person” we saw on **SE-E1** (Figure 6), she serves a male drinker.

The text confirms that atole is indeed the beverage in question. The first compound, **u-BAAH**, provides the standard introduction for illustrative captions, reading *ubaah* “(it is) the image of” (Figure 18a). Its appearance here on the highest tier of the building could be seen to imply that this is the notional beginning of the painted program, providing a formal text formula omitted in all other surviving captions. The second compound on **SE-S3** combines **AJ** “person” (this time in its more common affix form) with the paired syllabograms **u** and **lu**, repeating the formula from **SE-S1** and **SE-E1**. The full caption therefore reads **u-BAAH AJ-u-lu ubaah aj ul** “(it is) the image of the atole person.” That this woman is dressed in very similar fashion to the one on

**SE-S1** (Figure 1) may be an important clue to the significance and role of the latter. Despite her elegant garb, the “blue lady” is evidently no more than another “atole person,” there shown unloading her pot of corn gruel.

Turning the corner to **SE-E3**, we find another image featuring a pair of actors. On the left is a poorly preserved woman in a dark red huipil, and on the right a man who holds a white pointed object, perhaps a stone pestle. There is a text between them, but only the first sign, the ubiquitous **AJ**, can be recognized (Figure 18b). The final scene on the third tier, **EsE-LtS3**, is now almost entirely destroyed.

### Northeast Corner

This corner opens with **EsE-LtN1**, a scene that can be safely assigned to Phase 1 on stylistic grounds, featuring a standing man and seated woman. The painting of the male is inept even by the rather low standards of other Phase 1 works, with a greatly enlarged head and feet, although the proportions of the woman are more naturalistic. They are engaged in manipulating (perhaps rolling or unrolling, twisting or untwisting) a decorated ribbon or cord. No caption is visible.

An especially significant text is found on **NE-E1** (Figure 19). There we see a man who sits on a rounded white stone (identified as such by its “kawak” markings) holding a spoon above a large basket, his other hand outstretched and open as if giving or receiving something. Facing him is a woman wearing a plain blue huipil who holds a rounded, green object marked with wavy lines. The text between these actors shows the narrow affix version of **AJ** followed by the vowel **a** and then a sign that at first sight resembles the syllable **tza**, but is actually two signs: a partly overlapped **tz’a** and a version of **mi** (Figure 20). Together they spell *atz’aam*, the word for “salt” in almost all Mayan languages spoken today (Kaufman 2003:1240-1241; Kaufman and Norman 1984:116) and the full caption therefore reads **AJ-a tz’a-mi aj atz’aam** “salt person.” This is the first time this



Figure 19. NE-E1 scene. Drawing: Simon Martin/PAC.



Figure 20. NE-E1 caption. Photo: Simon Martin/PAC.

important foodstuff, flavoring, and preservative has appeared in Maya writing, and we can take it that the man's basket held granular salt. Although the green object held by the woman looks like a vegetable, it is probably best explained as a ball of salt wrapped in leaves, an ethnographically attested packaging for this commodity (Ana García Barrios, personal communication 2009).<sup>9</sup>

The scene on NE-N1 features two individuals, a man to the left and a woman to the right (Figure 21; for photo see pages 16-17). He holds an object between thumb and forefinger, painted dark red and in the ovoid shape of an oversized bean, and is

<sup>9</sup> In Coto's dictionary of Colonial Kaqchikel <*patal aq'am*> *patal atz'am* is given as "load of salt that they bring wrapped in leaves" (Coto 1983:504). A similar association between salt and leaves recurs in Xinka, where Maldonado de Matos gives *piya szogue* as "la hoja con que aforran la sal [leaf for measuring(?) salt]" (Sachse 2004:133).



Figure 22. NE-N1 caption. Photo: Simon Martin/PAC.

open-mouthed as if he is about to consume it. Before him there is a dish with a splayed rim, and within it a large rounded object in a pale tan color. At its top is what seems to be a missing section, colored the same dark red as the object in the hand. The rounded shape could suggest a container of some kind, perhaps one with a small opening—conceivably the man holds its lid. Alternatively, the shape could be a ball of something soft that is red on the inside and tan-colored outside. This time the object in the hand would be material "pinched" from the top. The woman holds out a vessel in her right hand. It has a woven rim or platter on top and above this some substance is indicated by a red wash. Similar vessels sit on a basket behind her.

Although quite well preserved, the caption is very difficult to read (Figure 22). After **AJ**, we have three signs, the first of which is a curl motif normally ascribed the value **mu**. Here it is joined to the portrait of "God C" usually read **K'UH** "god,"



Figure 21. NE-N1 scene. Drawing: Simon Martin/PAC.

and completed by a suffixed **li**. It is strange to see the God C head in this context and we might interpret it in one of two ways. Firstly, it could be joined to the curl as part of a single compound sign. The full-form of **mu** combines the curl with a toad-like head, and it is possible that God C replaces it in a rare or idiosyncratic variant. The poorly understood overlap between **mu** and **bu** in the script might tempt us to entertain **bu** as another possible value. While **mu-li** is not meaningful in this context, **bu-li** would yield *bu'ul* “bean,” of potential relevance to the bean-shaped object in the male’s hand. However, another Phase 3 text, from **SO-O1** (Figure 38), shows **bu** in its more conventional form—casting the “bean” reading into the realm of wishful thinking.<sup>10</sup> This leads us to the second option, a spelling strategy in which logograms lose their semantic function and are used for their sound value alone. Although the God C portrait works as logographic **K’U** “god” in Postclassic Yukatek (Ringle 1988), this is only because this is a language in which terminal aspirants have been lost. In Classic times it always carries the glottal aspirant and was read as **K’UH** (Stuart et al. 1999:41). No viable contender for the sequence as written, **mu-K’UH-li** *muk’uhil*, emerges from Mayan lexicons, but if superimposition is at work then the order could easily be **K’UH-mu-li**, setting up a possible tie to *k’u(h)m / ch’u(h)m* “calabaza” (David Stuart, personal communication 2006). An even better option may come from an entry in Ch’orti’ of *k’ujmar* “special dough for making tamales” (Hull 2005:76; Alfonso Lacadena, personal communication 2007).<sup>11</sup> Related terms are found in Yukatekan languages, specifically *k’u’um* “nixtamal” (Barrera Vásquez et al. 1980:422; Bricker et al. 1998:159; Hofling and Tesucún 1997:401; Ulrich and Ulrich 1976:64). In this scenario **K’UH-mu-li** would produce *k’uhmil* or *k’uhmuul*. Whatever material is involved here, it is the same as that mentioned on **NE-E2** (see below).

**EsN-LtE1** is an engaging scene in which we see an elderly woman with a jutting, toothless jaw, struggling under the weight of an enormous, wide-necked pot (Figure 23; for photo see page 54). She is simply dressed in a blue textile wrapped around her midriff, with a similar cloth draped over her shoulder (perhaps as padding for her burden). Standing to the right and evidently helping her is a taller male. A two-glyph caption appears above her head (Figure 24). The first, formed of a main sign and suffix, is

<sup>10</sup> In their full, digraphic forms both **mu** and **bu** consist of curls attached to a toad-like head. The **bu** version is distinguished by the addition of two or three lobes attached to the curl. Although this is fairly consistently applied during the Late Classic period, in earlier times the same lobed form can represent **mu** (for an example at Calakmul see Martin n.d.b), while **bu** appears without lobes where space was limited.

<sup>11</sup> A supplemental entry for Ch’orti’ mentions how this dough could be tinted with annatto, a red seed pulp used to color food (Hull 2005:76)—reminiscent of the red substance in the woman’s dish.



Figure 23. EsN-LtE1 scene. Drawing: Simon Martin/PAC.

too damaged to read. The second consists of the female classifier **IX**, which has been painted so as to half-obscure the same unknown hieroglyph we encountered on **SE-E1** (Figure 8). We will again defer discussion of this sign to a little later in this study.

The second-tier scenes would normally begin on the stair-wall with **EsE-LtN2**, but only the faintest traces of paint are to be seen on its plastered surface. This effaced image seems to have continued on to the far left edge of the adjoining **NE-E2** (María Cordeiro Baqueiro, personal communication 2010), where perhaps a knee or thigh is visible. **NE-E2** otherwise features two men facing left (Figure 25). The first of them is aged, wears a



Figure 24. EsN-LtE1 caption. Photo: Harri Kettunen/PAC.



Figure 25. NE-E2 scene. Drawing: Simon Martin/PAC.

wispy beard, and carries a large pack by means of a tumpline. One arm reaches back to steady the load, while the other uses a walking staff. At first sight he seems to be kneeling, as if lifting himself from the ground, but his legs may have once extended into the inset molding. The second man sits on his pack and brings a hand up toward a head that is now destroyed. His legs and pack break the plane of the panel and must originally have descended into the inset molding. A very damaged caption appears between the two NE-E2 characters (Figure 26). Its tan

coloration indicates that it belongs to Phase 3, and enough of it survives to show that it repeats the one from NE-N1 (Figures 21 and 22). If caption and figures belong together, then the unknown material from NE-N1 is one that can be transported in sacks.

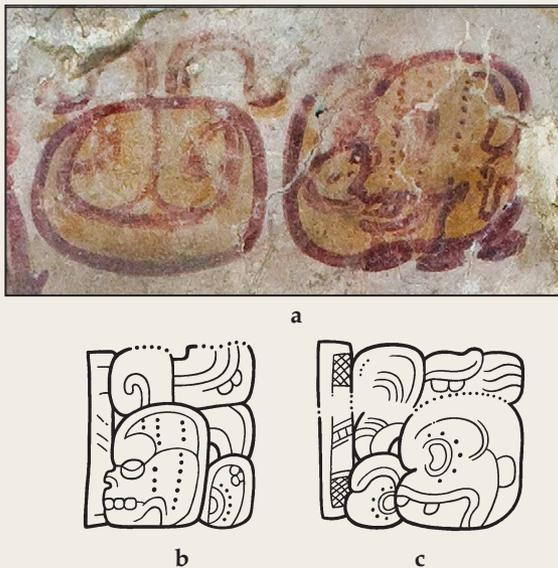
The next image not only follows the same lower ground-line we saw on NE-E2 by expanding into the inset molding, but it also continues onto the adjacent sidewall of the north stairway—making NE-N2 and EsN-LtE2 another continuous scene (Figure 27). The former shows a man, woman, and child,



Figure 26. NE-E2 caption. Photo: Simon Martin/PAC.



Figure 27. NE-N2 + EsN-LtE2 scene. Drawing: Simon Martin/PAC.



**Figure 28.** (a) NE-N2 caption; (b) Copan Stela 7 (D7); (c) Copan Stela 13 (E4). Photo: Gene Ware/PAC; drawings: Simon Martin after Barbara Fash.

each holding a vessel, with the child seated on a bound sack (for photo see page 51). The caption follows the recurring **AJ** with three syllabic signs (Figure 28a). The first and last are **i** and **ma**, and between them is a human skull distinguished by a string of dots running down its forehead and cheeks. This sign has a logographic function in several contexts, where it represents a place-name linked to the Underworld, perhaps reading **XI'** or **XIIW**.<sup>12</sup> However, we also see it in free substitution with the very similar-looking **xi** syllable—a skull with a ring of dots around its eye—and it is sure to have that function here (Figure 28b, c). The full spelling is thus **AJ i-xi-ma** for *aj ixiiim* “maize-kernel person.” The head of the Maize God has recently been read as logographic **IXIM** (Stuart 2006a:197), but this would be both the first syllabic rendition and the first reference to maize grain as a foodstuff.

<sup>12</sup> For example, the death god Akan seems to be titled as a **XI' / XIIW-AJAW** on Naranjo Altar 1 (at N) (Graham 1978:104). The skull sign in question is designated T1046 in the Thompson (1962) system, and although it is graphically distinct from T782—a skull with a ring of dots around its eye that has the value **xi** (Stuart 1987:31-33)—the two share a close relationship and substitute for one another on Copan Stelae 7 and 13. The precise development of these signs, and the single or bivalent values carried by each, is still unclear.

Additionally, the mural text makes clear that it has vowel complexity, probably producing the long vowel **IXIIM**.

The adjoining **EsN-LtE2** supplies the image of an adolescent male who is intermediate in height between the adults and infant of **NE-N2** (see Figure 27 for the composite scene). His age is confirmed by his caption of **ke-le-ma** for *keleem* “young man” (Figure 29). The fact that he shares the same ground-line and looks into the other scene—and that he is not involved in any activity of his own—all indicate that he is part of the “maize family.”

### Northwest Corner

The fine preservation that distinguishes much of the eastern side of the building disappears when we cross to the western. Here the outer layer of stucco and its Phase 3 painting have often decayed to a powdery residue, leading to the exposure of underlying phases. In places this produces mixed, barely coherent images in which it is hard to discern which element belongs to which program. Few captions survive in legible condition and the epigraphic record is correspondingly meager.

Since no readable texts survive on the first tier we can pass over its scenes with brief descriptions. The image of **EsN-LtO1**, on the sidewall of the north stairway, supplies a standing male with a large parcel or sack, together with a partially preserved seated female. **NO-N1** features two men and a woman in a drinking scene, with traces of a Phase 1 image to the extreme right. The dress worn by the woman, her dish with its basket base, the large pot, the use of a spoon (whose outline is deeply incised in the stucco), and what may be sectioned gourds for cups, replicate the atole-drinking scenes of **SE-E1** (Figure 6) and **SE-S3**. No caption is now visible. The scene on **NO-O1** shows the remains of two seated figures facing a Phase 1 caption and, to the right, a pole stand on which a scarlet macaw is perched (for photo see back cover of this volume). The four-glyph column cannot be read in its current condition (Figure 30). The final image on this tier, **EsO-LtN1**, is a Phase 3 painting in relatively good preservation and shows a man stretching a decorated cord between outstretched arms (for photos see



**Figure 29.** EsN-LtE2 caption. Photo: Simon Martin/PAC.



**Figure 30.** NO-O1 caption. Photo: Rogelio Valencia Rivera/PAC.

pages 52-53). Below is a seated woman who adopts a rather deliberate hand gesture, a dish at her feet. The activity resembles that from the Phase 1 scene of **EsE-LtN1**, but here appears to be one of measuring. The woman is clearly one of the providers, perhaps casting the male into the role of recipient. We should note the blue-green diadem he wears, evidently a “Jester God” motif—similar ones occur on **SE-E2** (Figure 13) and **SO-S2**. This is always a mark of elite status, carried not only by royalty but a wider noble class.<sup>13</sup> Portions of an earlier phase are visible where the surface has broken away. No caption has survived.

Moving up to the second tier, the stair-wall of **EsN-LtO2** we see today is a plain plastered surface. On the adjacent **NO-N2** we find a probable Phase 1 scene with two seated males that have a tied package set between them (Figure 31). There is some wrapped object on top of the package and the figure on the right holds a matching one, perhaps examining or receiving it from his companion. The “receiver” wears a patterned headdress that seems to represent an armadillo—although an oversized oliva shell with a green-headed snake looking out would be another possibility. He is mostly obscured by two overlying Phase 3 figures. One is seated and possibly female, the other a male who adopts a strange crouching pose while holding two

<sup>13</sup> See Stuart (this volume) for the Jester God as the animate form of *huun* “paper.” For an independent realization of this sense see Martin (n.d.a).



Figure 32. NO-N2 caption. Photo: Rogelio Valencia Rivera/PAC.

unknown objects. The oversized design behind him, a **MAN** hieroglyph, is a caption belonging to the earlier phase. The blue-green-filled caption above the “supplier” is difficult to make out in normal light, but rather clearer in a multi-spectral image (Figure 32; for multi-spectral image see page 22). The first of two compounds is the ‘Flaming Ak’bal’ version of **AJ**, but the next glyph is unfamiliar, consisting of a humanoid head with an extended mouth area and three large spots in its upper portion—resembling, but not matching, the rare portrait form of **ni** (David Stuart, personal communication 2006). The final sign, marked by a simple diagonal line, is also hard to tie to a known counterpart. The remains of an illegible Phase 3 caption appear below it.

**NO-O2** presents an even more overt mixture of painting



Figure 31. NO-N2 scene. Drawing: Simon Martin/PAC.



Figure 33. NO-O2 scene. Drawing: Simon Martin/PAC.

layers (Figure 33). A Phase 1 image consists of a standing male with one vessel cradled in his left arm and a rather larger one in front of him. The held vessel contains two unidentified objects (one may be an ear ornament), while the lip of the large pot features a tied object of cloth or palm and a miniature figure, seemingly a rabbit (for photo see page 34). As fellow project members have noted, this is reminiscent of the “rabbit scribe” seated in front of an open codex on a vase now in the Princeton Art Gallery (Coe 1973:91) and presumably a figurine made from clay or wood. Above the pot we see a hand that is all that remains of a second Phase 1 figure—although it is easily mistaken for that of a seated female who, along with the male seated on a mat behind her, belongs to Phase 3. The woman wears her hat over her back, but the activity she was once engaged in is now lost.

The Phase 1 caption shows the remains of four glyphs, of which the first two are almost completely erased (Figure 34). The third shows internal details consistent with the *ak’ab* sign and shows a volute beneath it that could be flames (conceivably this is a variant composition of the ‘Flaming Ak’bal’ sign **AJ**, although only if the four-glyph block we see is in fact two closely spaced captions). The final sign is the head of a supernatural character, not unlike some divine monkeys. The remains of a Phase 3 caption, noticeably larger in size, appear just above the woman’s hat (Figure 35). The second of the two signs seems to be a head of some kind, but no other details can be discerned.

The second tier of the northwest corner concludes with **EsO-LtN2**. This features a seated woman in a dramatic blue huipil decorated with groups of

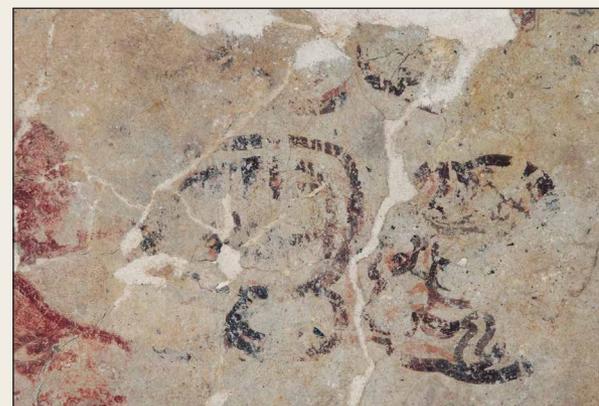


Figure 34. NO-O2 caption 1. Photo: Rogelio Valencia Rivera/PAC.

triple spots. She holds her arms out in front of her, reaching over what seems to be a pot set on a coil of cloth; unidentifiable objects appear on top of it. A two-glyph caption is visible to the upper right (Figure 36). From its tan fill we can associate it with Phase 3, but although the first sign is clearly yet another ‘Flaming Ak’bal’ form of **AJ**, the referent is too damaged to recognize.

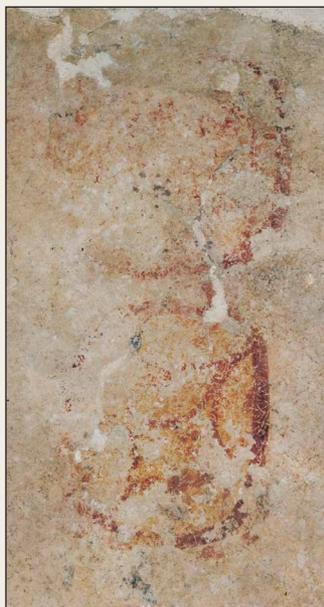


Figure 35. NO-O2 caption 2.  
Photo: Rogelio Valencia  
Rivera/PAC.

### Southwest Corner

The poor preservation of the northwest corner continues on the southwest, although more in the way of epigraphic data survives. Much of the west stairway was torn down in the construction of later versions of Structure 1 and little of the sidewall carrying the **EsO-LtS1** scene is now in place. We can make out a standing male, although closer inspection reveals that there are in fact two overlapping figures from different phases of painting. No caption survives.

**SO-O1** is another scene in which the Phase 3 painting was badly damaged, and what we see today is the Phase 1 image uncovered beneath. In Phase 3 there were once as many as three seated figures, a bowl or dish loaded with small, rounded objects painted red, and a glyphic caption. The Phase 1 scene shows three standing figures, two of them facing a large pot set on a cloth ring support, still wrapped in the bindings used to transport it (Figure 37). One of the facing pair, wearing a domed hat, looks over his shoulder toward the third figure.

The caption from Phase 3 was found in only moderate condition (Figure 38). The first sign was plainly **AJ** in its affix form, and the internal details of the next resemble syllabic **chi** in normal light but



Figure 36. EsO-LtN2 caption.  
Photo: Rogelio Valencia  
Rivera/PAC.



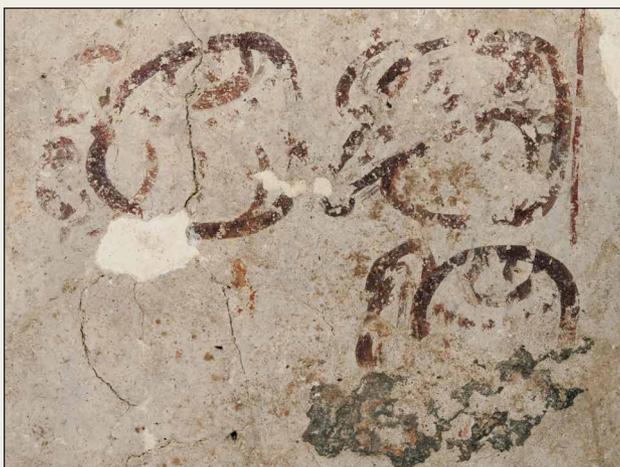
Figure 37. SO-O1 scene. Drawing: Simon Martin/PAC.



**Figure 38.** SO-O1 Phase 3 caption: (a) photo; (b) drawing. Photo and drawing: Simon Martin/PAC.

are more like logographic **IHK'** "black" in multi-spectral imaging. The second compound begins with **bu**, but it is unclear if this should be taken together with the next element—a zoomorphic head of some kind—as part of the full **bu** glyph, or whether this second sign has its own value. Given the limited preservation of these glyphs and the lack of a surviving scene it is hard to know what to make of this text, other than to note a possible relationship to the next scene, **SO-S1**, whose referent also begins with **IHK'**.

The underlying caption from Phase 1 is very different (Figure 39). It begins with the same cursive flame motif that we find in the 'Flaming Ak'bal' version of **AJ**, although here it is attached to what looks like syllabic **ba**. Given



**Figure 39.** SO-O1 Phase 1 caption. Photo: Rogelio Valencia Rivera/PAC.

the flames and its position at the head of a caption we might wonder if this is some alternative version of **AJ**. Reason to believe so emerges on **SO-O2** and the identification will be examined when we reach that text. The second glyph on **SO-O1** consists of a bird-head with a second, now-damaged sign in its mouth. The most common glyph of this kind has a *winik* "person" sign in this infixed position, but there is currently no reading for this combination. The preponderance of syllabic spellings on these murals could suggest that it is employed as a syllabogram here. The final compound is spelled **na-ba** or just possibly **ni-ba**. Whatever the sense of this caption, it presumably relates to the contents of the large vessel depicted in the Phase 1 scene.

On **SO-S1** we find three figures, two men and a woman, with two baskets set between them (Figure 40). The woman at right handles a thin stick with a splayed end, and 13 similar objects are seen projecting from the baskets, as if set into some pliable material as a deliberate display. Some look rather like paintbrushes but others have decorated ends in different styles (see photo, page 55). One, the leftmost in the basket to the right, looks like a crudely rendered head of the deity K'awiil. Bloodletters carved from bone are often embellished in this way, but the size of these objects suggests that they are larger pins for the hair, or possibly weaving picks. Even today, weaving picks have decorative carvings at their ends (Karl Taube, personal communication 2006). Some portions of Phase 1 painting are visible in the inset area below the panel, specifically the leg of a standing figure (not shown in the drawing). Some portions of the central male character seem to include a different layer, while the "ghosting" of his outstretched arm could be a trial underpainting or the remains of a separate phase.

The extant caption has blue-green-filled hieroglyphs which it shares with those on **NO-N2** (for which see Figure 32) but no others on the still-surviving portions of the paintings (Figure 41). After the affix form of **AJ** we get logographic **IHK'** "black," before a mostly effaced second sign. Multi-spectral imaging helped to define its internal details but could not identify it. This could be a reference to the pins/picks depicted in the scene, which were originally painted a black-brown color. However, further analysis of the phase sequence is required before the scene and caption can be positively linked.

Despite the very poor condition of the next scene, **EsS-LtO1**, it is possible to make out a seated male. As with **EsO-LtS1**, first impressions are a little deceptive, however, since the image is actually composed of two different phases that align only in part. The rest of the scene was destroyed when most of the south stairway was anciently demolished and there is no surviving caption.



Figure 40. SO-S1 scene. Drawing: Simon Martin/PAC.

Beginning our final visit to the second tier, the stair-wall scene of **EsO-LtS2** bears a crowded series of lines, probably the result of mixing between different phases. No recognizable figures or text can be identified.

The excavation of **SO-O2** revealed a Phase 3 painting that

was badly decomposed, but the Phase 1 painting beneath proved to have two males manipulating a large bundle bound with a cord or cloth (Figure 42). The one to the right looks at us full-face, displaying the rather “flattened” look of this convention in Maya art. The text consists of two captions with the dense black



Figure 41. SO-S1 caption.  
Photo: Simon Martin/PAC.



Figure 42. SO-O2 scene. Drawing: Simon Martin/PAC.



Figure 43. (a) SO-O2 caption 1 (photo: Simon Martin/PAC); (b) SO-O2 caption 2 (photo: Rogelio Valencia Rivera/PAC).

outlines characteristic of this phase. The first, identifying the left-hand figure, starts with a pair of signs that closely resemble those beginning the Phase 1 caption on SO-O1 (Figure 43a; for the SO-O1 caption see Figure 39). They differ only to the extent that the dark infilling at the top of the second sign is more characteristic of logographic HA' "water" than the *ba* syllabogram. A major pointer to its meaning comes from the companion caption identifying the right-hand figure (Figure 43b). Although damaged, it is clearly a version of the 'Flaming Ak'bal' form of AJ. The implication is that the two captions supply contrasting, but semantically equivalent, 'fiery water' and 'fiery darkness' compounds. An important precedent for this 'fiery water' glyph appears at Ek Balam, Mexico (Lacadena 2002, 2005:67). There its substitution with AJ in spellings of AJ-4-na-ba-ki demonstrates that it is another, until now unique, form of this agentive (Figure 44). The Ek Balam form differs in one respect by including a curved stingray spine on top of the water sign, although the



Figure 44. Spellings of AJ-4-na-ba-ki on Ek Balam Mural of the 96 Glyphs: (a) prefaced by T12 affix form of AJ (U3b); (b) prefaced by 'fiery water' AJ (W1). Drawings: Alfonso Lacadena.

Calakmul data suggest that this is optional.

As usual, the material subjects of the captions follow, although neither is easy to understand. The first begins with a series of dots resembling K'UH(UL) "god/holy." This is set above a woven motif of the kind seen in Maya representations of thatched roofs and certain types of headbands and mats. The second caption is different and shows the single syllabic sign *po*. Since this is not a viable word by itself, we might wonder if it were once modified by the "doubler" diacritic marker—a spelling strategy that elsewhere renders <sup>2</sup>*po* into *pohp* "mat" (Stuart and Houston 1994:46, Figure 57r, q). Given the kinds of materials shown elsewhere on the murals, this is a possibility worth considering.<sup>14</sup>

The visible painting on SO-S2 is almost entirely Phase 1 or 2, with Phase 3 represented only by the tops of two headdresses. Notably, however, one of these shows the jade-green head of the Jester God or personification of paper—a mark of elite status previously discussed. The single surviving hieroglyph, at the far right of the scene, belongs to this phase but cannot be read beyond the initial AJ sign (Figure 45). The underlying, now dominant, scene is the most crowded of the entire mural series, showing a group of men and women with assorted packages and containers.



Figure 45. SO-S2 caption. Photo: Rogelio Valencia Rivera/PAC.

The stair sidewall of EsS-LtO2 today carries an indistinct image of what seems to be a male. From the angle of his extended leg we can see that he was seated on something, while his outstretched arm suggests that he once held some object. Everything else is lost.

### The Inset Moldings

This survey of the epigraphic material of the surviving portions of Structure Sub 1-4 has left one text unmentioned. A number of the inset moldings that form the base of each tier also carry hieroglyphs. Those beneath SO-S1, SO-S2, SE-S2, SE-E2, SE-S3, and SE-E3 show the same three-glyph passage in varied states of preservation while, apparently for lack of space, the narrow

<sup>14</sup> It is unclear if these men are engaged in the same or different tasks. The former could suggest that the two captions supply alternative spellings of the same title, conceivably with the dots-and-woven design a compound logogram for *POHP*. This very rare sign appears on the great stucco frieze at Tonina, where it is also prefixed by AJ and captions an anthropomorphic deity shown smoking a cigar (see Yadeun 1992:113; Stephen Houston, personal communication 2012).

moldings under **NO-N3** and **NO-O3** show only the central of the three signs. All can be assigned to Phase 3 on the basis of their tan fill. The example below **SE-S2** is in the best condition and will be used to illustrate the whole set (Figure 46a).

The sequence begins with **IX**, the female classifier, followed by the same undeciphered logogram that we saw on captions from **SE-E1** (Figure 8) and **EsN-LtE1** (Figure 24). The third and final compound reads **9-TUUN-ni** *bolon/baluun tuun* “nine stones.”<sup>15</sup> It is clear that we have a female name or title here, but its meaning and significance are open to question.

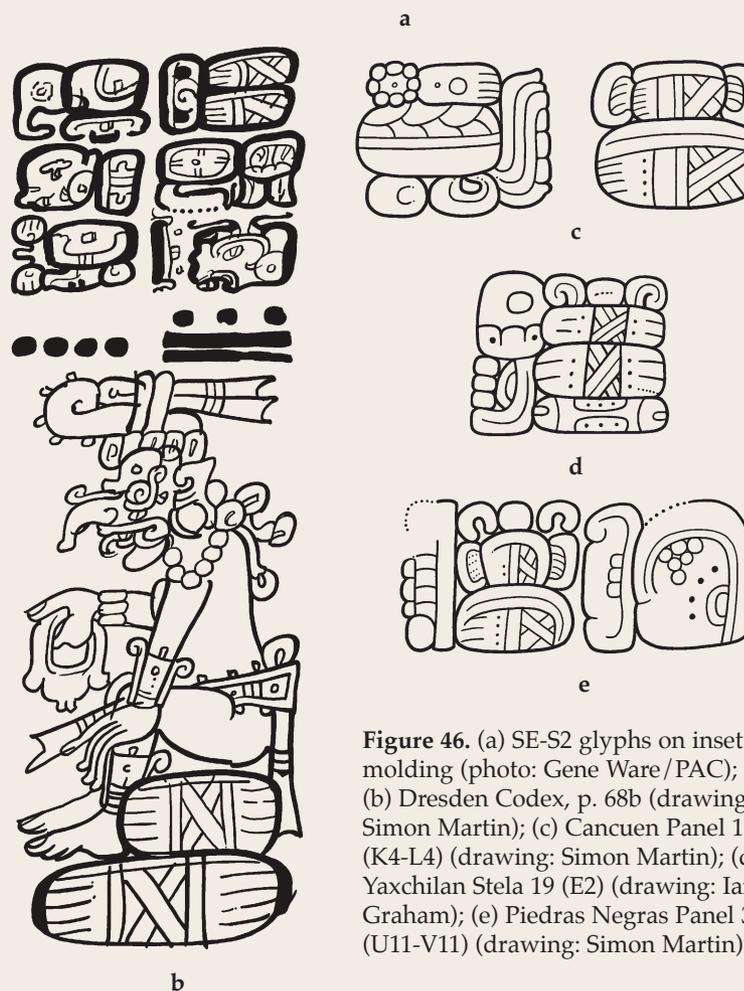
The unknown glyph is rare and restricted to just a few contexts. In a text on page 68 of the Dresden Codex a form of the same sign is introduced by the preposition *ta* “at/on,” while in the corresponding scene it serves as an iconic throne for the rain god Chahk (Figure 46b).<sup>16</sup> Here it plainly represents a location, joining others in this section of the codex where Chahk is shown on a “road,” a “cave,” and a “mountain.” On Cancuen Panel 1 it appears as the subject of the positional root *pat* “to make, form”—demonstrating that it is something that can be fashioned, constructed, or assembled in some way (for *pat* see Stuart 1998:381-384) (Figure 46c). The unknown glyph also appears at the sites of Piedras Negras, Yaxchilan, Bonampak, and Zacpeten, in a sequence that closely resembles the “count of captives” formula (Figure 46d, e). On these occasions it takes a position normally filled by a numerical unit, suggesting that it may serve the same or similar function.<sup>17</sup> No instance supplies a phonetic clue to the reading of what is clearly a logographic sign.

The repeated names/titles appear to “label” the building in some manner, although their rather ad hoc placement, strongly favoring the south sides, remains unexplained. Who could this woman be? Much depends on whether the structure is predominately sacred or secular in character. If the former, she might be an otherwise unknown goddess, a priestess, or some other type of religious functionary. If the building had a more pragmatic purpose, the name/title could conceivably refer to the particular officeholder it housed. The ancient destruction of the building once supported by the painted platform (assuming there was one) makes further architectural

<sup>15</sup> For *baluun* as the term for “nine” during the Classic period see Miller and Martin (2004:281).

<sup>16</sup> The sign’s two variants are designated as T29:563b and T563b:563b respectively in the Thompson (1962) system.

<sup>17</sup> A typical count of captives would be **AJ-1-20-BAAK** *aj juun winik baak* “He of Twenty-One Prisoners,” a title borne by Bird Jaguar IV of Yaxchilan on many occasions. The mystery sign appears in a similar-looking title carried by his father Shield Jaguar the Great—as on Yaxchilan Stela 19 at E2, where we see **AJ-1-?-BAAK** (see Stuart 1985b:Figure 6). There it might work as a numerical unit (greater than 20?), possibly as a homonym. However, our understanding of this formula is too poor to draw any conclusions.



**Figure 46.** (a) SE-S2 glyphs on inset molding (photo: Gene Ware/PAC); (b) Dresden Codex, p. 68b (drawing: Simon Martin); (c) Cancuen Panel 1 (K4-L4) (drawing: Simon Martin); (d) Yaxchilan Stela 19 (E2) (drawing: Ian Graham); (e) Piedras Negras Panel 3 (U11-V11) (drawing: Simon Martin).

analysis impossible, although the limited space at the summit means that it could never have been spacious. Tiered platforms of this kind, especially those with cruciform stairways, are consistently interpreted as ritual-religious in character. The four entry stairways suggest an ideal of ready access but were surely symbolic or performative in character, for which the cardinal orientation was the key feature.

One of the few clues remaining to us comes from the appearances of the mystery glyph in the captions to the scenes. There it is a title for two women in the program, broadly in the

formula: “Lady x” (neither includes the “nine stones” element). Both are engaged in rather menial tasks and are unprepossessing in their appearance. One is an atole server, the other a bearer, and neither marked as high-status by their dress or ornamentation (indeed, judging by her simple wrap the elderly bearer is among the most humble of all the characters in the paintings). The connection nevertheless establishes a link between the activities portrayed in the murals, the identity or role of two participants, and the name or function of the building itself. A successful decipherment would clarify these relationships, but for the moment we can only recognize that this one hieroglyph offers much to the future illumination of Structure Sub 1-4.<sup>18</sup>

### Concluding Remarks

This brings us to questions about the greater meaning of the Structure Sub 1-4 murals. Firstly, it is clear that these unique artworks can only be properly appreciated within the architectural context of both the building they adorn and the wider complex for which it was once the focal point. Future archaeological investigation of this expansive enclosure and its many structures should reveal much about the activities it was designed to accommodate. There remains tremendous potential in the Chiik Nahb complex for a collaborative synergy between artistic representation and material culture.

The images portray the transport, manipulation, transfer, and consumption of various materials. Most show interactions between providers and recipients, although a number depict porters or those engaged in display. In a few cases the materials in question can be recognized, but for the most part they can only be identified with the aid of their accompanying glyphic texts. Most are practical or subsistence items, in several cases processed maize. The depictions are schematic and the interactions open to more than one interpretation, yet the profoundly social character of these activities is clear and—given the prominent setting of the paintings—we can take it that they were once of considerable importance.

Despite a generation or more of serious scholarly inquiry into the Maya economy, we lack a clear understanding of the social mechanisms by which goods and services were distributed in ancient times. Existing approaches commonly combine social theory, ethnographic or historical comparison, and excavation data—each emphasized to differing degrees. Since only the most imperishable of materials survive in the tropical lowlands, the archaeological data are impoverished and necessarily skewed. Equally, although we have fairly reliable historical information on the economic systems in use at the time of the Spanish invasion, their projection into earlier periods is rife with uncertainty given the profound changes that separate Postclassic

and Classic societies.

Significantly, the hieroglyphic texts do more than identify particular materials since, as we have seen, they consistently fix them within titles denoting the affiliations or specializations of individuals. These generic associations indicate some formal or habitual character to the activities in the scenes. I have argued elsewhere that this and other features are consistent with a market scenario, with Structure 1 comprehensible as the focus of a religious-administrative compound at its heart (Martin 2007; Martin in Boucher and Quiñones 2007:48). That position is favored here again.<sup>19</sup> Yet even if this is a reasonable description, we should remain alert to the possibility of systems of supply and exchange that blur or sidestep the contemporary dichotomy between capitalistic and non-capitalistic economies (McAnany 1993). The “pilgrimage fair” (Freidel 1981) and similar festival-based systems are examples of distributive networks in which material consumption interacts with wider issues of socio-religious performance and engagement (Boucher and Quiñones 2007; García Barrios and Carrasco Vargas 2008; Vázquez López 2006).

Precisely what the unique murals of Chiik Nahb Structure Sub 1-4 portray will continue to be debated, but there is no question that they offer tantalizing glimpses into a once-hidden domain. When their message is better understood we will know substantially more about how the ancient inhabitants of Calakmul went about their daily affairs, obtained the necessities of life, and interacted as a communal whole.

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<sup>18</sup> In response to my proposal of a market temple Stephen Houston (personal communication 2006) suggested that the mystery sign could be *ch'iwik/k'iwik* or *chohnib/kohnib* “market.” In this scenario other possibilities include *konol*, *chonlab*, or *manbal* (see Kaufman 2003:792-799).

<sup>19</sup> It is noteworthy that among the contemporary Ch'orti' Maya a maize-seller can be called simply *aj ixim* and a bean-seller *aj b'u'r* (Kerry Hull, personal communication 2009).



Figure 47. Detail of scene SE-S1 of the southeast corner, first tier.  
Photo: Rogelio Valencia Rivera / PAC.

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