

# Beans and Glyphs: A Possible IB Logogram in the Classic Maya Script

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Although the pace of the decipherment of the Maya writing has markedly slowed in the past ten years or so, hundreds of logograms remain to be read. The present paper offers a set of arguments in support of the decipherment of the variant of the character T709 in Thompson's catalogue (Thompson 1962) as a logogram **IB** "lima bean" (*Phaseolus lunatus*). The identification of textual references to lima beans provides the first evidence of their use in Classic Maya cuisine before 750 C.E.

There is probably no epigrapher who has never pondered the fascinating labels on two polychrome plates deciphered by Marc Zender more than a decade ago (2000). In addition to the curious reference to venison tamales with calabash seeds (Tokovinine 2013:294), these inscriptions mention a distinct category of Classic Maya ceramic vessels—"eating utensils" or *we'ib* in Classic Ch'olti'an or Hieroglyphic Mayan. Three years after the publication of the article, Eric Boot spotted a third plate with a reference to *we'ib* in an obscure auction catalogue (Boot 2003:Figs. 1, 3a; Galerie Wolfgang Ketterer 1991). Boot (2003) suggested that the spelling in the dedicatory text on the vessel contained **u-WE'-i-bi-li** for *uwe'ibil* "the eating utensil of" (Figure 1a) which could be compared to **u-WE'-i-bi** spellings discussed

by Zender (Figure 1b, c) except that the new example featured an *-il* suffix at the end. Yet while there could be no doubt about the overall reading of the word, the sign identified as a variant of T679 **i** by Boot did not quite look like any other example of the **i** grapheme. In fact, the sign seemed to be a head variant of T709 (Figure 2a). Consequently, it could be a previously unknown allograph of **i** or a logographic sign which was either acrophonically reduced to **i** or functioned as a phonetic spelling of the *-ib* suffix. In the latter case, the reading of the sign would be **'IB**. The use of logograms to spell suffixes is uncommon, but examples like **CHAN-NAL** for *chanal* "celestial" or **AK'-TAJ-ja** for *ak'taj* "he dances" suggest that Maya scribes occasionally adopted this approach.

The variant of T709 in question shares some of its elements with a number of graphemes. The **ABAAK/SABAAK/SIBIK** "ink/soot" logogram (Stuart 2012) is one of the closest (Figure 2b), but it has a distinct upper element which resembles T174 and dots on the main body which probably represent ink or soot splashes. The **TI'** "edge/mouth" variant that is particularly common at Tonina (e.g., Monument 146:I, Monument 159:B1; see Graham et al. 2006:79, 94) has two antenna-like upper elements and a different lower section of the main body

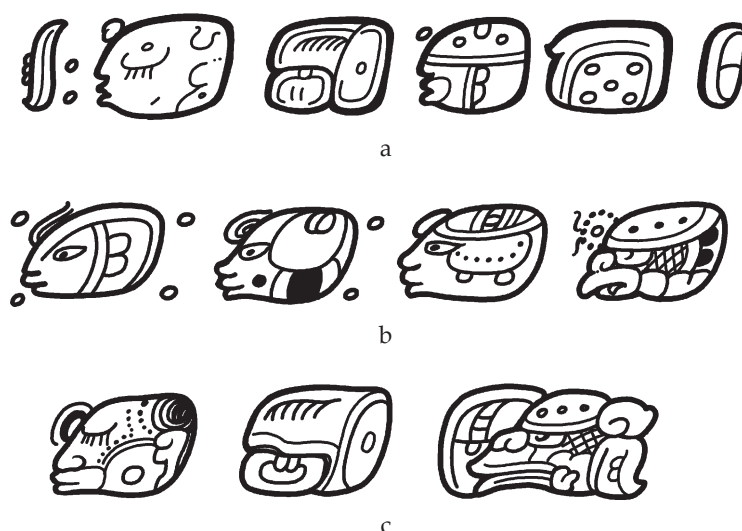


Figure 1. T709 in the spelling of *we'ibil*: (a) detail of a Late Classic vessel (after Boot 2003:Fig. 3a); (b) detail of a Late Classic vessel (K5460, after Zender 2000:Fig. 9a); (c) detail of a Late Classic vessel (K6080, after Zender 2000:Fig. 9b). All drawings by the author.

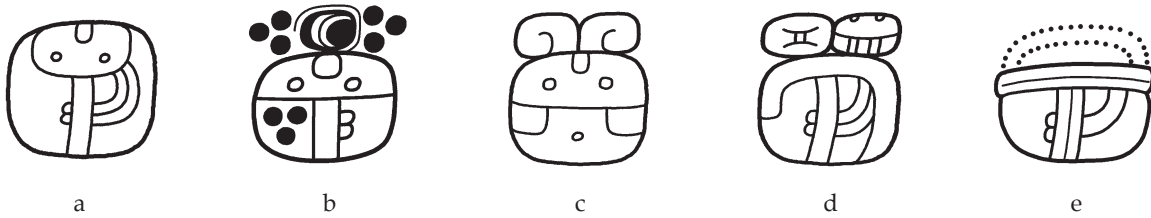


Figure 2. T709 and similar signs: (a) T709; (b) SIBIK/ABAAK; (c) TI'; (d) AJAW; (e) CH'AAJ.

(Figure 2c). The lower part of the T709 variant discussed here—a possible reference to straps or other means of attachment—resembles those of the T168:518 logogram AJAW “lord” (Figure 2d), which may have originally represented a strapped headdress (Davletshin 2006), and a somewhat rare (e.g., Copan Stela 6:A6) glyph that was possibly read as CH'AAJ “liquid incense” (Figure 2e), which looks like a bowl or an open bundle full of incense. Interestingly, all these comparable graphemes are containers, even the headdress as it wraps around one’s head.

The hypothesis that this T709 variant is a mere allograph of *i* is refuted by an inscription on a Late Classic Codex Style vessel from Calakmul (Schmidt et al. 1998:Cat. 448). The painted scene shows a baby-like maize god emerging from a split T533 sign that probably stands for a flower or bud of some sort or simply corresponds to one of the SIH “birth” logograms. The caption to the nascent maize deity reads 1-IXIIM

i-T709-?la-AJAW (Figure 3). Here, a common syllabic *i* sign serves as a phonetic complement to the same variant of T709 as on the plate analyzed by Boot. Therefore, the T709 should be a logogram with the initial *i*-vowel and not an allograph of *i*, because the *i-i-la* spelling would be very unlikely.

Two key contexts for the reading of the T709 variant are provided by the captions to a



Figure 3. Detail of a Late Classic vessel, Calakmul (after photograph by Alexander Safronov).

*wahy* demon on the unprovenanced vases—K791 and K1901—in Justin Kerr’s data base at www.mayavase.com. That particular *wahy* looks like a death deity with a conch shell. The caption on K791 reads u-ku-li chi-CHAM-ya u-WAHY-ya K’UH-T709-AJAW (Figure 4a). The caption on K1901 is nearly identical except for a full phonetic substitution for T709: u-ku-li chi-CHAM i-bi-li (Figure 4b). The words *uwahy* and *ajaw* are abbreviated in the inscription on K1901, but other captions to *wahy* demons on the same vessel show comparable abbreviations and a tendency to spell-out the place names phonetically. For example, the caption to the *wahy* of Kanuul lords, *chijil tal chan*, known from several

depictions and captions on Classic Maya pottery (Grube and Nahm 1994:693) is **chi-hi-li TAL-CHAN-na ka-nu-la**, also omitting *uwahy* and *ajaw*. The omission of *uwahy* and/or the final word in the place-incorporating title of the *wahy* owner (*ajaw*, *winik*, *baah tuun*, etc.) occurs in captions to *wahy* creatures on many other vessels. Moreover, extensive abbreviations may be found in other kinds of Late Classic period captions (Houston and Martin 2011).

The only way to interpret this T709 variant in the inscription published by Boot, in the caption to the maize god on the Calakmul vessel, and the caption to the *wahy* on K791 and K1901, is that it is a logogram that can be read as **IB** (‘**IB**’). However, this reading is based on the phonetic substitution alone. None of the three contexts would be very helpful in figuring out the meaning of *ib* or in explaining why the grapheme looks the way it does: the first inscription uses the character for its phonetic value alone and the other two examples feature **IB** as part of the spelling of a place name (“a place of *ib*”).

The linguistic data summarized in Table 1 indicate that there are several candidates for the translation of the **IB** grapheme. One gloss is *ib* for “armadillo” which is reconstructible all the way to proto-Mayan \**iib*. The problem is that, with the exception of Ch’ol, the Ch’olan gloss is *ibach*. There is also a corresponding hieroglyphic spelling **i-ba-?cha** *ibach* “armadillo” in the Dresden Codex on page 21 (Boot 2009:72), although there is no accompanying picture to make sure that the intended

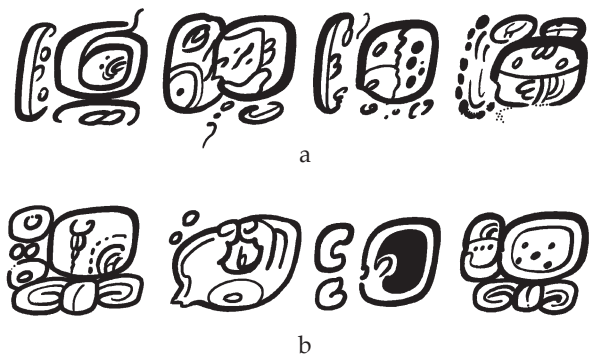


Figure 4. Substitution of T709 by *i-bi-li*: (a) detail of a Late Classic vessel (K791); (b) detail of a Late Classic vessel (K1901) (after photographs by Justin Kerr).

Table 1: Possible cognates of the *ib* gloss in Hieroglyphic Mayan

pM	<i>iib</i>	armadillo	(Kaufman and Norman 1984:120)
	<i>*ib</i>	foundation, root	(Wichmann and Brown n.d.)
	<i>*iib</i>	bean plant	(Wichmann and Brown n.d.)
pWM	<i>*ib</i>	armadillo	(Kaufman 2002:599)
	<i>*iib</i>	bean plant	(Wichmann and Brown n.d.)
pEM	<i>*ibooy</i>	armadillo	(Kaufman 2002:600)
pCh+YUK	<i>*ibach</i>	armadillo	(Kaufman 2002:600)
CHU	<i>ibach</i>	armadillo	(Diego et al. 1998:76)
	<i>ibnh kapey</i>	coffee bush	(Diego et al. 1998:76)
YUK	<i>iib</i>	lima bean ( <i>Ph. lunatus</i> ), bean vine	(Bricker et al. 1998:10)
	<i>ibil</i>	bean field	(Bricker et al. 1998:10)
	<i>ibach</i>	armadillo	(Barrera Vásquez et al. 1995:261)
ITZ	<i>ib</i>	lima bean ( <i>Ph. lunatus</i> ), cultivated vine	(Hofling and Tesucún 1997:247)
MOP	<i>ib</i>	black lima bean	(Ulrich et al. 1976:90)
TZO	<i>ibes</i>	runner bean ( <i>Ph. coccineus darwinianus</i> )	(Breedlove and Laughlin 1993:2:121-122, 297; Delgaty 1964:20; Laughlin 1975:53, 112)
	<i>ibel</i>	root, tooth, plant, vine, tree	(Delgaty 1964:19; Laughlin 1975:53)
	<i>ib</i>	armadillo	(Delgaty 1964:19; Laughlin 1975:53)
TZE	<i>ghib</i>	armadillo (original spelling)	(Ara 1986:290)
TOJ	<i>iboy</i>	armadillo	(Lenkersdorf 1979:125)
	<i>ibel</i>	below	(Lenkersdorf 1979:125)
	<i>ibe</i>	bush, shrub	(Lenkersdorf 1979:125)
CHL	<i>ib</i>	armadillo	(Aulie and Aulie 1978:58)
	<i>ebal</i>	below	(Aulie and Aulie 1978:142)
CHR	<i>ibach</i>	armadillo	(Wisdom 1950:484)
	<i>ebar</i>	below	(Wisdom 1950:467)
CHN	<i>ibach</i>	armadillo	(Keller and Luciano 1997:115)
HUA	<i>ibiil</i>	root	(Larsen 1981:32)

Abbreviations: pM – proto-Mayan; pWM – proto-Western Mayan; pEM – proto-Eastern Mayan; pCh – proto-Ch’olan; CHU – Chuj; YUK – Yukatek; ITZ – Itzaj; MOP – Mopan; TZO – Tzotzil; TZE – Tzeltal; TOJ – Tojolabal; CHL – Ch’ol; CHR – Ch’orti’; CHN – Chontal; HUA – Wastek

meaning is indeed “armadillo.” The “armadillo” reading also fails to explain the iconography of **IB**. The graphemes which stand for the names of animals in Maya writing usually look like those animals or their body parts. Typically, it is the head, which may be reduced to a smaller element like a feather, an eye, or an ear. Animal heads are usually shown in profile. The **IB** sign looks nothing like an armadillo head in profile or any other part of its body.

The other *ib* gloss is “foundation, lower part, root.” The examples of this lexical item come mostly from Eastern Mayan and Greater Q’anjobalan languages

(Wichmann and Brown n.d.). The Western Mayan languages where *ib* for “root” is reported are Tzotzil and Wastek. *Ib’el* in Tojolabal means “below.” The words for “below” in Ch’ol (*ebal*) and Ch’orti’ (*ebar*) could be related to pM *\*ib* but they have a different initial vowel.

The third *ib* gloss is “bean plant.” The more restricted meaning of “lima bean” (*Ph. lunatus*) along with a general “cultivated bean vine” may be found in the Yukatekan languages. This gloss is not present in Ch’olan languages, but there is no shared Ch’olan lexical item for *Ph. lunatus*. For example, lima beans are just



Figure 5. Detail of the lid of an Early Classic tripod vessel (K1446; after photograph by Justin Kerr).

called “large beans,” *nukta’ buur*, in Ch’orti’ (Wisdom 1950:546). The gloss *ibes* designates runner beans (*Ph. coccineus*, ssp. *darwinianus*) in Tzotzil, whereas *ibel* means “root.” As pointed to the author by Terrence Kaufman (personal communication, 2013), this bean species is distinguished, among other traits, by its large, starchy and eatable roots and hypogeal (cotyledons remain below ground) germination (Freytag and Deboucq 2002:60). There may be, therefore, a connection between “root” and *Ph. coccineus* glosses in Tzotzil, but this is just a speculation. Redfield and Villa report that Lima bean roots were also eaten (Redfield and Villa Rojas 1934:38). Chuj and Tojolabal glosses apparently denote a broader category of plants (bush/shrub), which may comprise beans.

The inscription on the lid of an Early Classic tripod vessel from the Rio Azul region (K1446) offers additional evidence in support of the identification of the **IB** logogram with the *ib* gloss for “bean plant” or “lima bean.” The text labels the vessel as **yu-k’i-bi ta-?IB-li** (the **li** reading is a bit problematic because Early Classic **la** looks very similar) **ka-[ka]-wa y-uk’ib ta ibil kakaw** “his drinking utensil for *ib-y* cacao” (Figure 5). It is unlikely that the text refers to “armadillo cacao” or “root cacao.” In this context, the *ib* gloss should rather stand for a specific plant ingredient that can be mixed with and give a certain flavor to a cacao beverage. A *pinole* drink may indeed be made out of toasted and ground bean seeds. Even wild varieties of lima beans are still used for cooking in parts of Mesoamerica (Zizumbo Villarreal et al. 2012:332, 336). Diego de Landa mentions ritual drinks made of beans and squashes (Tozzer 1978[1941]:158). Redfield and Villa Rojas describe a paste from cooked lima beans and ground squash seeds that is then dried to be stored for later consumption (Redfield and Villa Rojas 1934:40). Therefore, “lima bean cacao” seems to be the best fit for a translation of the label on the lid, although there is no direct ethnographic analogy of this particular mixed drink (cacao and lima bean *pinole*). It must have been rare even for the Classic Maya because this text is the only known reference. Some rare mixed drinks mentioned in Classic Maya inscriptions have no direct ethnographic analogies (Beliaev et al. 2009), so there is nothing unusual in yet another one.

The Early Classic **IB** grapheme on K1446 offers additional visual clues to its meaning. The “straps” in the

lower part are already present, but the overall contour of the sign looks like a type of bead and also like a common representation of part of a flower. Early Classic images of the maize god like the one on the Dumbarton Oaks stone bowl (PC.B.209) typically show his head adorned with such beads, often with strands of hair or some plant stalks coming through and out of them (Figure 6a). As suggested by Martin (Martin 2006, 2012a), the Classic Maya maize deity was perceived as a source of all cultivated plants, sometimes depicted growing out of his body. It may seem a bit far-fetched, but these **IB**-like beads with stalks or vines might as well represent bean pods/flowers and vines on the maize god’s body just as real bean vines which rely on the corn stalks for support in the *milpa*. Given that Classic Maya plant iconography is more abstract than animal representations, the **IB** logogram might well represent a bean plant or its part like a pod or a flower (Figure 6b). Lima beans and black beans were usually planted with corn in the *milpa* (Redfield and Villa Rojas 1934:46). A close association between corn and beans is also hinted by the maize god’s name in the caption on the Calakmul vessel discussed above (Figure 3): *juun ixim ibil ajaw* “First Maize (Seed), Bean Field Lord.”

There also seems to be a curious overlap of graphic elements between the **NAL** “corn plant” logogram (T86) and **IB**. The name of the owner in a tag on one of the earflares from Tomb 4 in Structure 2 at Calakmul (Fields et al. 2005:255, cat.no. 151) ends in a head variant of **IB** with **NAL**-like (T84) upper element above and prefixed by **K’UH** (Figure 7a). Something along the lines of *k’uhul ib ?nal [winik]* was probably intended given the frequent omission of *winik* in titles with place names. Yet even though there seems to be a full substitution between T84 and T86 in Late Classic texts, epigraphers have long suspected that the two graphemes once belonged to different compound signs, of which only T86 was **NAL**. The title on the earflare looks suspiciously like an abbreviated spelling of the *k’uhul ibil winik* “holy bean field person” title found, for example, in Drawing 29 at Naj Tunich (Stone 1995:fig. 7-8) where it is spelled in full

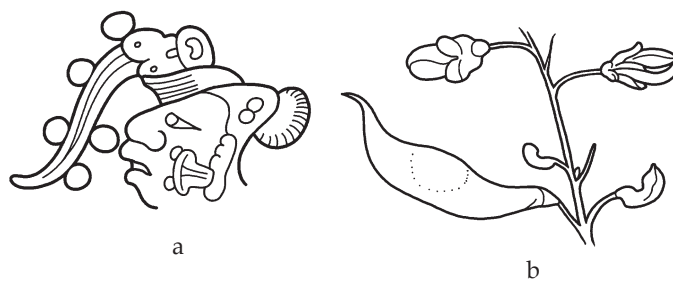
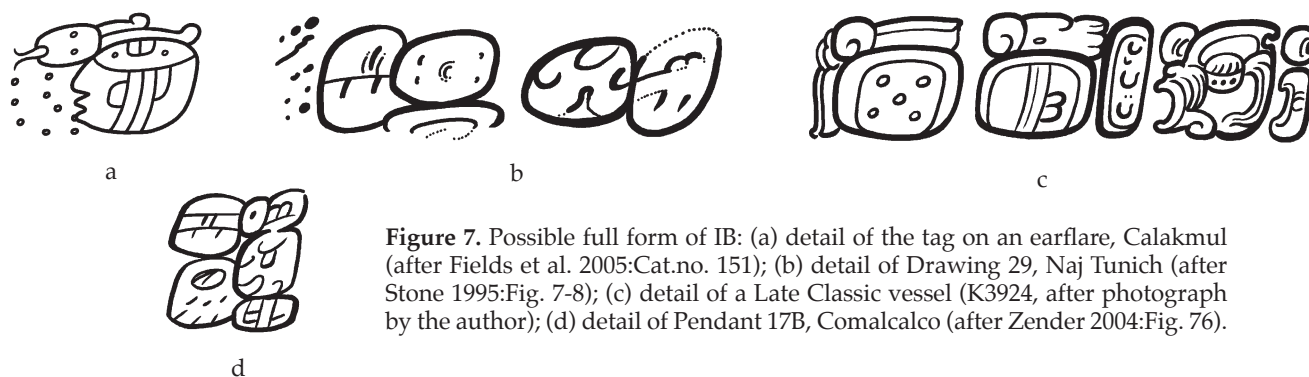


Figure 6. Iconography of beans: (a) head of the maize god, detail of an Early Classic carved stone bowl (Dumbarton Oaks PC.B.209, after photograph by the author); (b) flower buds and pods of lima bean (after Blanco 1877:370).



**Figure 7.** Possible full form of IB: (a) detail of the tag on an earflare, Calakmul (after Fields et al. 2005:Cat.no. 151); (b) detail of Drawing 29, Naj Tunich (after Stone 1995:Fig. 7-8); (c) detail of a Late Classic vessel (K3924, after photograph by the author); (d) detail of Pendant 17B, Comalcalco (after Zender 2004:Fig. 76).

(Figure 7b). Could T84 on the Calakmul earflare be part of a full form of **IB**? The dedicatory text on a Late Classic vessel (K3924) substitutes a typical reference to **IXIIM TE'-le ka-ka-wa** *ixiim-te'el kakaw* with a different spelling that looks like T86-**bi TE'-le ka-[ka]-wa** (Figure 7c). The presence of the **-bi** phonetic complement indicates that **IXIIM** or **NAL** were not the intended readings, but **IB** would be quite plausible. If one accepts Martin's interpretation of *ixiimte'el kakaw* as a reference to the mythical origins of cacao from the tree-like body of the resurrected maize god (Martin 2006), then a "bean tree cacao" reference would be just as appropriate. The "bean tree" gloss is also attested in the inscriptions at Comalcalco in the name of a local manifestation of the rain deity who is mentioned on pendants 17 and 18 found in a priestly burial at the site (Zender 2004:250-263). The name is spelled as **i-ba-TE'-cha-ki** (Figure 7d) and **i-ba-TE'-CHAHK-ki** that probably stands for *ibal te' chahk* "bean tree *Chahk*."

Besides the toponym on the Calakmul vessel and the lists of *wahy* creatures on K791 and K1901, there are also historical references to "Ibil lords." A caption to a standing figure of a young lord on the side of Yaxchilan Stela 1—this part of the monument has unfortunately been lost by now, but it is visible in Morley's photographs—identifies him as a son of the "Ib[il] lord," **IB-AJAW-wa** (Figure 8a). Another mention comes from the dedicatory text on a Late Classic incised vessel, K4372 (Figure 8b). The name of the vessel's owner, *Juun Tzakab Took'*, resembles those of *Lakam Tuun* lords of El Palma and *Itza'* lords of Itzimte' (Tokovinine and Zender 2012:55), but his emblem glyph is different: **K'UH i-bi-li a-ja-wa**, *k'uh[ul] ibil ajaw* "holy Ibil lord." The third example in Caption 4 in Room 1 of Structure 1 at Bonampak is less certain because of its preservation and style.

There are no references to events at *Ibil*, one cannot be sure if it was an actual locale or some mythical first lima bean field to which a particular royal dynasty of "Ibil lords" traced itself. On the other hand, the title of "holy Ibil person" may be tentatively attributed to lords in Southeastern Campeche. The "holy Ibil person" *Upakal K'inich* mentioned in Drawing 29 at Naj Tunich (Stone 1995:fig. 7-8) also carries the titles of *sak ook* and *wak piit*

*ajaw* ("six palanquins lord"). This pair of titles is present in the name phrases of El Palmar rulers (Octavio Esparza, personal communication 2014) and individuals on a set of stylistically uniform ceramic vessels of which at least one was found at the site of Icaiche to the east of El Palmar (Cortés de Brasdefer 1996; Tokovinine 2012). However, the author is not aware of any example of the "holy *Ibil* person" title at El Palmar or Icaiche.

The decipherment of the **IB** logogram expands the list of known references to *Phaseolus sp.* in Classic Maya texts. The more common Ch'olan gloss for beans—*bu'ul* spelled **bu-la**—appears only once in tags on three bags depicted in a household scene on a Late Classic vase from the Rio Azul area (K2914). A possible reference to beans in Caption NE-N1 on the murals of Structure Sub 1-4 in the North Acropolis at Calakmul has been called into question on paleographic grounds (Martin 2012b:69-70). The specific identification of *ib* as lima bean also adds a new piece of evidence in support of its use in the Maya area during the Classic Period. The earliest archaeological evidence of the cultivation of *Phaseolus lunatus* in the Maya area at Dzibilchaltun is dated to the late 8th century C.E. (Kaplan 1965:367, fig. 4). The more recent DNA evidence, however, suggests somewhat earlier cultivation of lima beans and even a possible second Mesoamerican domestication event in the Maya area (Andueza Noh et al. 2013). As we have seen above, the reconstruction of *ib* as a term for specifically lima beans all the way to proto-Mayan is unlikely. The Classic period epigraphic data supports a more



**Figure 8.** "Ibil lords" in Classic Maya inscriptions: a) detail of Stela 1, Yaxchilan (after photograph by Sylvanus Morley, CMHI archives); b) detail of a Late Classic vessel (K4732, after photograph by Justin Kerr).

generic significance of *ib* as “bean plant” as in the maize god titles, but also a specific significance as “lima bean” in *ibil kakaw*—“lima bean cacao.”

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