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The Dayton Bone: Ethnic Intermarriage in the Ninth Century Maya Lowlands

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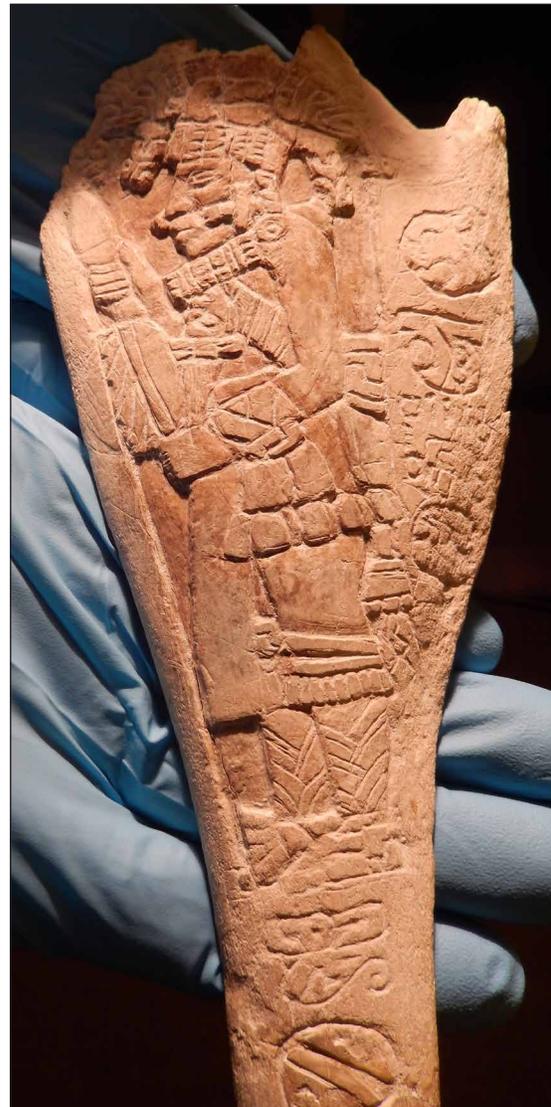


Figure 1. Detail of the Dayton Bone (photo courtesy of Sally Kurtz and the Dayton Institute of Art).

The Dayton Art Institute is home to an unusual and little-studied bone carved with a human figure and an accompanying Maya hieroglyphic text (#1973.5¹) (Figures 1 and 2). It is relatively large for this kind of object, standing just over 30 cm in height and 9.2 cm at its widest point. The material is the rarely seen mandible of a cetacean, a porpoise, or dolphin, which has been modified by filing in some areas. The flat portion of the *ramus* carries the image and the first four glyphs, while the *body* that once held the teeth—which is particularly narrow in these aquatic mammals—bears the remaining four glyphs.² The provenance is allegedly Jaina, Mexico, although even if true it was not necessarily made there (Von Winning 1968:294).

Image

The standing male figure wears a headdress featuring a decorated band surmounted by two rattlesnakes that are knotted together (Von Winning 1968:Figs. 487, 488) (Figure 2). Both of their heads have prominent crests which, as with the form of their rattles,

¹ <https://daytonart.emuseum.com/objects/868/ritual-object-with-ruler-as-warrior-holding-a-spear?ctx=318ffd723d4c1346a4e761b5c6c3a48b25ca9412&idx=2>

² On the reverse side of the *ramus* there is an isolated and crudely rendered “Ahau” glyph.

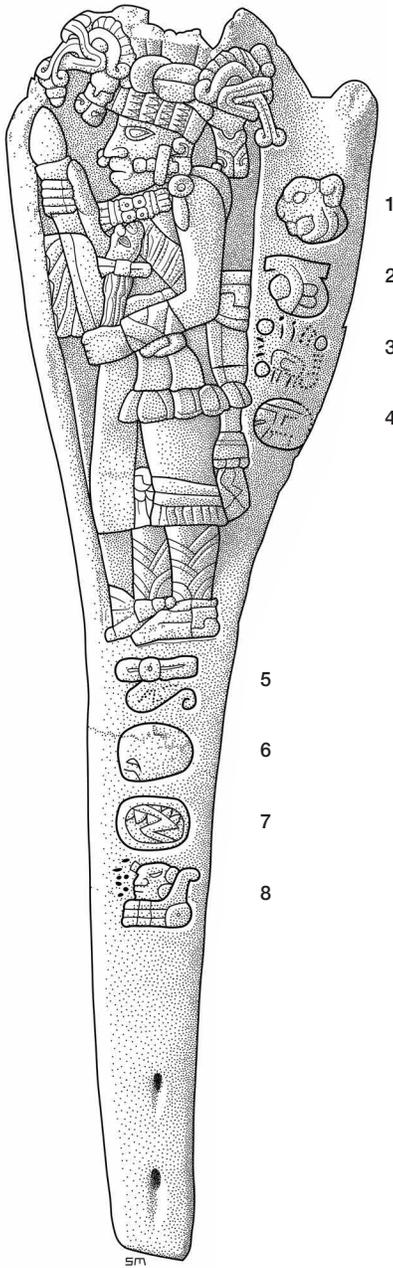


Figure 2. The Dayton Bone (drawing by the author).

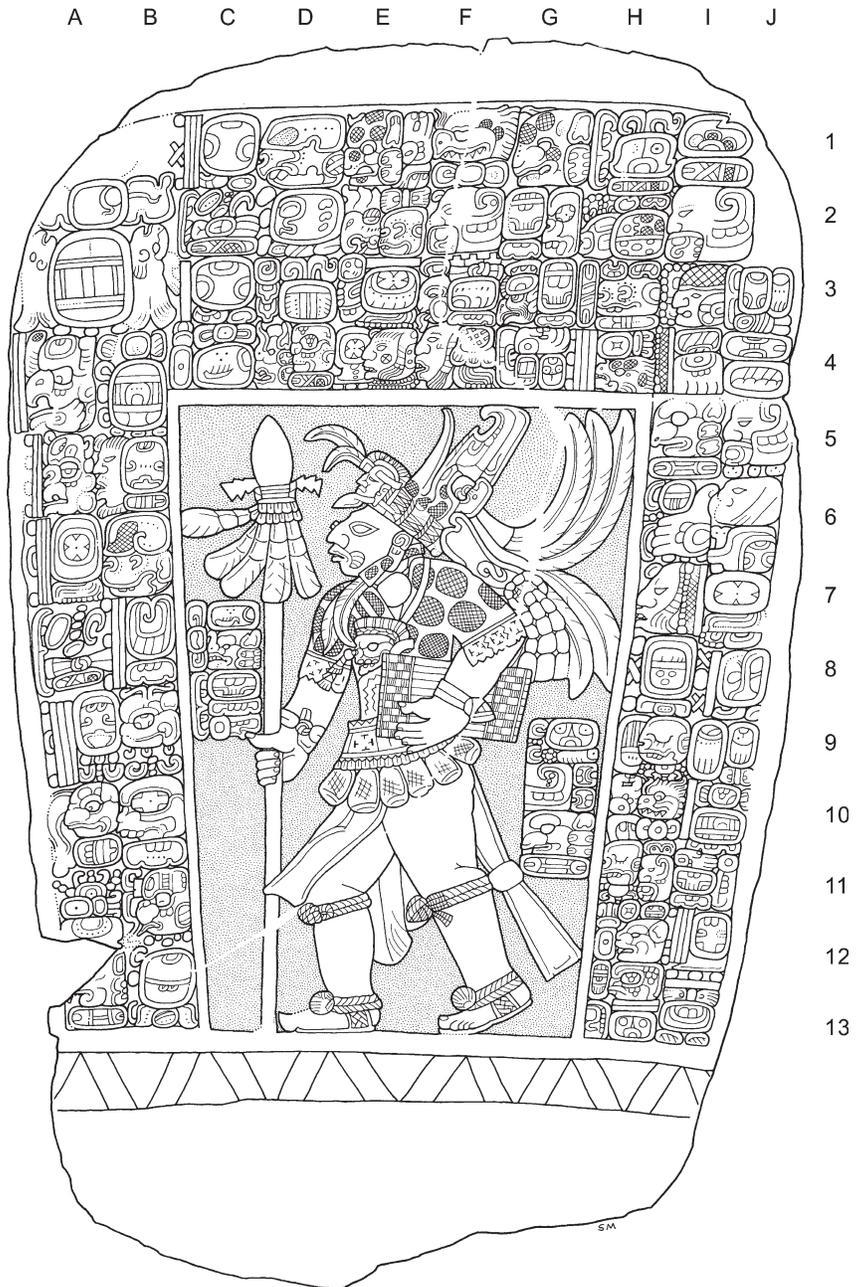


Figure 3. Unprovenanced stela from the Sak Tz'i' region (drawing by the author).

evince clear Teotihuacan inspiration. The crests alone may be sufficient to identify them as representations of the god Quetzalcoatl. Around the neck of our pictured lord hangs an inverted human head, likely that of a war victim preserved in shrunken form. From his belt hang a row of *Oliva* shells, and he wears leggings and wristlets of bound cloth. In one hand he holds a stone knife with a handle, in the other what seems to be a fan or small banner in side view. A few items, such as the shells, were regular accoutrements of the Classic Maya elite, but the overall appearance of the figure is “non-Classic” and

suggests both a late timeframe and external cultural influences.

The closest comparison in terms of form comes on an unprovenanced stela (Figure 3). This diminutive monument, only a meter high, was created for a noble of the *sajal* rank, a client of the king of Sak Tz'i' “White Dog” polity (Miller and Martin 2004:190-191)—which was probably then based at Lacanja-Tzeltal in the Lacandon region (Golden et al. 2020). The patterned headband is closely similar to that on the Dayton Bone and we can also note the unusual ovoid shape of the blade shared

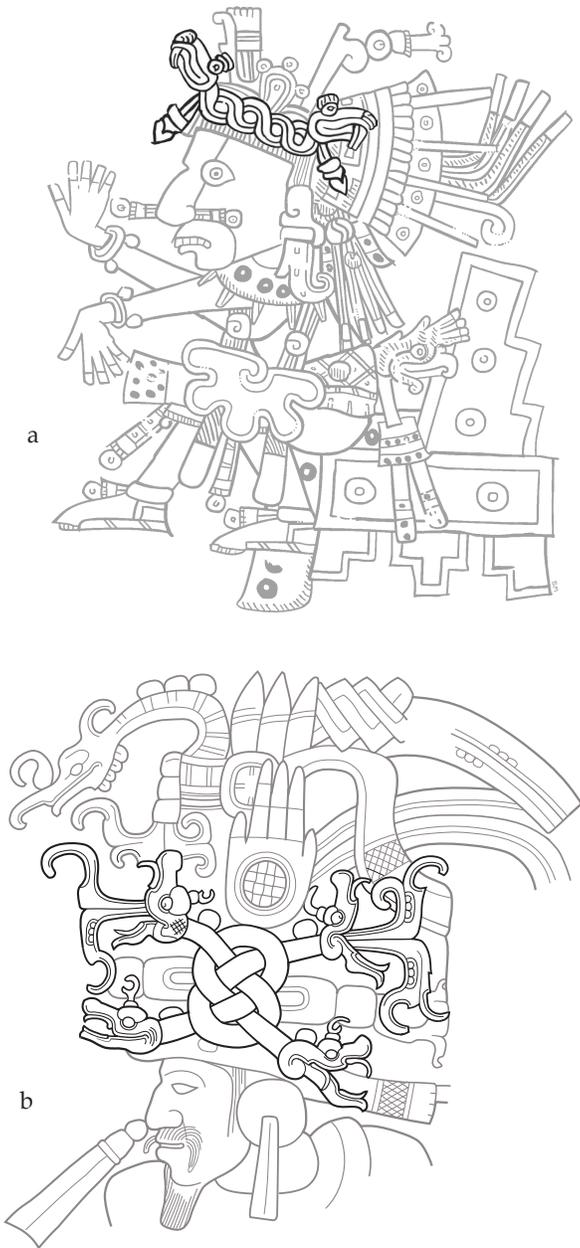


Figure 4. (a) Quetzalcoatl in the Codex Borgia (p. 62); (b) the headdress from Ceibal Stela 1 (drawings by the author).

by both. Equally, the renderings of their eyes, with a doubled outline, are a match and known to be a late feature from occurrences elsewhere. The lack of naturalistic body proportions and their somewhat awkward postures offer other parallels between stela and bone. There are even some similarities in the paleography of the two texts (Marc Zender, personal communication 2024), where one might note the flattened **yu** sign (compare #5 with C4 and K1) and the bent-back thumb of the **(Y)AL**

sign (compare #8 with I6).³ The stela is inscribed with the Long Count 10.1.14.9.17, falling in 864 CE, and this offers us a decent yardstick for the date of our carving, which might even be from the same Lacandon region.

The entwined serpents motif appears in 16th-century Central Mexico, where we see it within the headgear of the aforementioned Quetzalcoatl deity (Figure 4a). It is extremely rare in Classic Maya portraits but one case I am aware of is on Ceibal Stela 1 (Graham 1996:13) (Figure 4b). There we have two double-headed serpents, one of each breathing fire from its mouth, which are tangled in a complex knot. Although more naturalistic in form they are distinctly mythic, with the antlers on their heads identifying them as versions of the Maya *chij chan* “Deer-Snake.” The date of Stela 1 is fixed to the 10.2.0.0.0 Period Ending of 869 and, together with the parallels on the Sak Tz’i’ monument, we can estimate that the Dayton Bone was made in the mid- to late ninth century CE.

Text

The overall style of the bone’s hieroglyphic inscription is not inconsistent with that era. By then both paleography and spelling conventions were edging away from Classic Period norms, even though this text remains broadly legible (Figure 5). The initial section of four blocks close to the figure opens at #1 with the gopher head **BAAH**. Despite the lack of the required possessive pronoun **u-**, this is surely the familiar introductory statement for captions of *ubaah* “(it is) his image/self.” The omission of pronouns is an occasional feature of Maya writing, often used as a space-saving device.

Next comes the “water pot” version of the **u** sign, here filling its own glyph block. Grammatically, this possesses the object in #3, which is the logogram **PAKAL** “shield” in its central pendant variant. Names that include “The shield of” were popular during the Classic Period, usually followed by

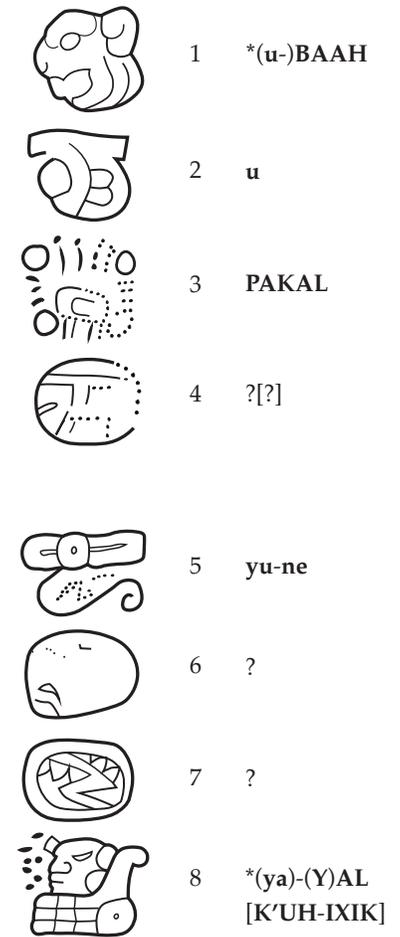


Figure 5. The Dayton Bone with text transliteration (drawing by the author)

³ For a discussion of this hieroglyph see Note 5.

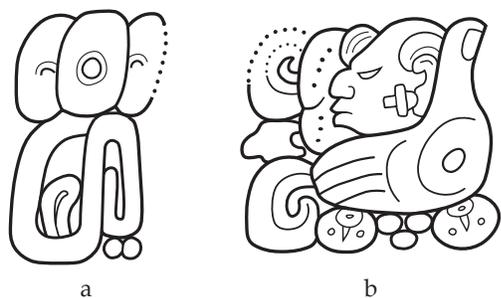


Figure 6. Parentage terms: (a) *yu-ne² yunen* “child of (father)” on La Naya Stela 1; (b) *ya-(Y)AL[K’UH-IXIK]-la yal k’uhul ixik* “child of (mother) holy woman” on an alfarda from the Temple of the Cross at Palenque (drawings by the author).

the sun deity *K’inich* (*upakal k’inich*) or, at Chichen Itza, in a longer formula that includes “Fire” and the personified lightning bolt *K’awiil* (*k’ahk’ upakal k’awiil*). Neither is evident here and instead the poorly preserved glyph #4 somewhat resembles a conflation between **CHAN** “sky” and the shell of **AHK** “turtle”—though no great confidence can be placed in either identification. To momentarily accept these values, this whole phrase would read *ubaah upakal chan ahk* “It is the image/self of Shield of Sky Turtle.”

The text continues into the body of the mandible at #5 with *yu-ne*, the standard under-spelling of *yunen* “the child of (father)” (Stuart 1985, 1997:3; Zender 1999). There are some marks within the loop of the *ne* tail sign, but they do not appear to be the “doubler” diacritic that sometimes specifies that this syllable should be read twice (Figure 6a).

The first sign of the father’s name at #6 has been damaged by a break, inexpertly repaired before it reached the Dayton Art Institute (see Von Winning 1968:Fig. 488). The rounded border is original but one or both of the diagonal lines seen today could be modern



Figure 7. Detail of the Dayton Bone showing the non-Maya glyph (photo courtesy of Sally Kurtz and the Dayton Institute of Art).

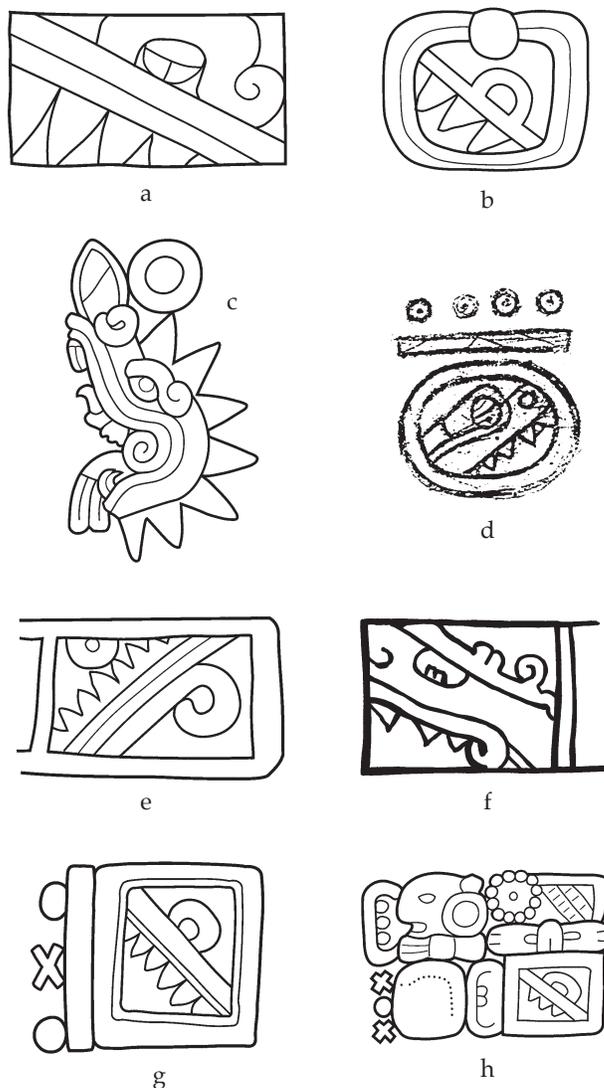


Figure 8. Reptilian signs in the tradition of Western Mesoamerica: (a) motif from a pillar at Tula; (b) day-sign on a sherd from El Tajin; (c) “1 Crocodile” on a stela from Castillo de Teayo; (d) day-sign on the vessel K319; (e) sky-band motif from the House of the Phalli at Chichen Itza; (f) sky-band motif in the Dresden Codex, page 52; (g) day-sign on Ceibal Stela 3 (A1); (h) female name on Jimbal Stela 1 (A8) (drawings by the author).

inventions (see Figure 1). Without a fresh examination by a conservator, it will be hard to know.

The next position, #7, is a strange sign consisting of an acute “z”-like shape whose upper portion sprouts sharp triangular elements (Figure 7). It has no good parallel in the Maya hieroglyphic inventory and, as far as one can tell, is not part of that system. Casting a wider net, it is reminiscent of a sign of western origin, one that shows an abstracted reptilian head that is oriented diagonally. This has sharp angular teeth and an

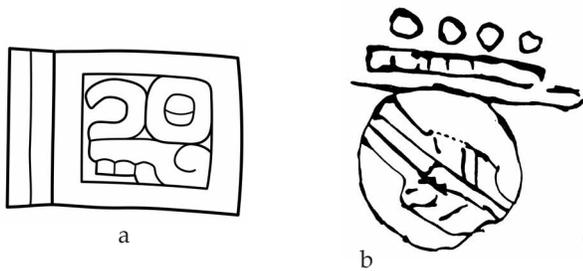


Figure 9. Foreign day-signs in the Maya area: (a) “10 Storm,” Jimbal Stela 1 (C2) (drawing by the author); (b) “9 Reed,” graffito from Tikal Str. 5E-58 (from Orrego and Larios 1983:Pl. 16b).

upper loop that the more elaborate versions show to be a simplified eye and brow-ridge (Figure 8a).

It has long been associated with the mythic crocodile that represents the first day in calendar systems spanning Highland Mexico and the Gulf Coast, known as Cipactli in Nahuatl (e.g., Proskouriakoff 1950:153; Kristan-Graham 1989:217-242). This linkage was initially inferential, since the Crocodile day-signs employed by the Mexica and other Late Postclassic cultures take a more naturalistic form. However, the abstracted reptilian was always likely to be a day-sign based on its partnering numerals, while convincing evidence that it was Crocodile emerged from sherds excavated at El Tajin. On these it carries the number “1” and joins versions of the days Serpent, Water, Reed, and Movement—a series in which each is set four days apart in the 20-day *tonalli* (Pascual Soto and Velásquez García 2012:209, Figs. 5, 6, 7, 9) (Figure 8b). “1 Crocodile” was especially important as the start-date of the 260-day *tonahpohualli* and served as the calendar-name of the mythic founder of that count, Cipactonal. We find this same date inscribed on a stela from Castillo de Teayo, a Huastec site, where we see the spiny skin so typical of the Late Postclassic representations of crocodiles (Figure 8c). Conceivably, these spines relate to the upper triangles on the Dayton Bone mystery sign.

The same crocodilian can be recognized on an incised travertine vase, K319, an object of Maya manufacture that depicts people who are decidedly non-Classic, where it again functions as a personal calendar-name (Figure 8d). During the Early Postclassic Period apparent variants of our spiny and toothy crocodile turn up in sky-bands at Chichen Itza and the Dresden Codex, where it might have replaced the curl-snouted “Zip Monster” in that role (Figure 8e, f).⁴ The crocodile day-sign appears on earlier monuments at the Classic Maya centers of Ceibal and Jimbal, again as components of personal names in the western Mesoamerican tradition (Figure 8g, h).⁵ Usually, such signs are paired with a numeral but, as the Jimbal example demonstrates, this was not always the case. These intrusive calendar signs are

part of wider ninth century phenomenon that appears not only on monuments but on ceramics and scratched graffiti. They are usually set within distinctive square frames, although they can appear within rounded ones as well (Figure 9a, b).⁶ Though it is hard to be sure, the mystery #7 sign is probably a Maya scribe’s effort to replicate a foreign day-sign within a lordly name.

The Dayton Bone inscription concludes at #8, where we might expect to find a reference to the subject’s mother. What we encounter is a conjoined form that includes a hand sign, surely the one we see in the *ya-(Y)AL yal* “the child of (mother)” expression. As in the case of #1 the required possessive pronoun, in this case *y-* in the form of *ya*, has been omitted and must be read by context.⁷ Comparable spellings of “child of (mother)” only emphasize the unusual deletion of the pronoun (Figure 6b).⁸

⁴ While Figure 8e might appear to be inverted, a recurrence of this motif within a longer sky-band sequence from the same structure demonstrates that this orientation is correct.

⁵ A rather similar sign appears in a drawing of Moral-Reforma Stela 5 (pA6) (Lizardi Ramos 1961:126). However, having examined unpublished photographs of this monument, I am confident that this is misdrawn and the sign is in fact a version of T586 *pa* suffixed by T126 *ya*.

⁶ My thanks go to Karl Taube (personal communication 2025) for pointing me to the latter example from Tikal Group G.

⁷ One might note that such an omission was not possible with the *yu* pronoun at #5, since there it contributes the opening vowel of the root *unen*.

⁸ Some more detailed discussion of the hand sign seems warranted here. Two related but separate logograms are used in the *y-al* “child of (mother)” formula based on *al* “child” (Kaufman 2003:97-100), its function first identified by Christopher Jones (1977:41-42) and later read phonetically by Schele, Mathews, and Lounsbury (1977). One logogram is now designated T1919 (“Ben-in-Hand”) and the other T1548 (“Curl-in-Hand”) (these revised Thompson numbers have been instituted by the Textdatenbank und Wörterbuch des klassischen Maya project <classicismayan.org>). Both consistently appear with *ya-* prefixes, are commonly suffixed with *-la* complements, and receive full syllabic substitutions with the pairing *ya-la*. With some frequency, *-la* is infixated into the hand, where it obscures the diagnostic that distinguishes T1919 from T1548.

Given these compositional patterns, both T1919 and T1548 have been read as *AL* “child,” with support for this coming from a single example of *ba*-T1548 at Tonina that has been read as *baah al* “head child,” which seems to semantically stand in the place of *ch’o-ko ch’ok* “youth” on the same monument (Stuart 1997:2-3, Fig. 2). This *AL* interpretation works in another context, the homophonic *al* “to say (it)” (Kaufman 2003:762), as in *yaljiiy* “it is said (by),” which can be rendered in fully syllabic form as *ya-la-ji-ya* or as *ya*-T1548-*ji-ya*.

Yet, as Marc Zender (personal communication 2024) points out, T1548 is likely a pictogram showing a rubber ball in the act of being thrown, suggesting that it originated as *YAL yal* “to throw (something)” (Kaufman 2003:162). That it indeed had this value is demonstrated on the codex-style vessels K521 and K4013, where we see *ya-la* replacing the T1548 employed in matching contexts on K1152 and K2207. The same substitution occurs at Yaxchilan, where a name is given as *AJ*-T1548 in one case and *AJ-ya-la-ni* in another (Christian Prager, personal communication 2025).

Reading T1548 as *YAL* conflicts with the Tonina example, since

The hand cradles two other logograms that obscure the diagnostic element that distinguishes different (Y)AL signs, just as infixes -*la* often does elsewhere. The infixes here are K'UH and IXIK, which spell *k'uhul ixik* "holy woman," a near-ubiquitous title or honorific associated with royal females. Normally this would introduce the personal name of the mother but here it stands alone, thus leaving the mother unidentified. Since there is room on the bone for at least one more glyph, this omission is plainly deliberate.

Discussion

The era of the Dayton Bone's carving was one of profound and irreversible change in the Maya lowlands. The monumental record shows that many major cities fell silent at the beginning of the ninth century, as the whole Classic Maya world experienced a crisis so serious that the majority of ruling regimes did not survive it. A number of the centers that did endure, or even thrive, begin to show cultural and stylistic shifts, with a wave of previously unseen developments in architecture, ceramics, costuming, personal nomenclature, and religious traditions. Many of these features have antecedents in Central Mexico and along the Gulf Coast, giving this period an increasingly "non-Classic," even "non-Maya" character.

In the 1960s a group of scholars saw these phenomena as linked, proposing that a violent intrusion from the west and/or north had a traumatic impact on Classic Maya society, sparking its demise (Adams 1964; Cowgill 1964; Vogt 1964). One center on the Río Pasión had a major influence on this scenario. Excavations at Altar de Sacrificios showed a sudden ninth century appearance of temperless fine paste ceramics traditionally associated with the Gulf Coast (Adams 1964, 1971). Their mold-made versions, a type dubbed Pabellon, were decorated with scenes whose style falls well outside Classic conventions, with individuals identified by

those same square day-signs used as names in various parts of western Mesoamerica. Similar finds of fine paste ceramics and "foreign" iconography were soon made at nearby Ceibal (Sabloff 1970, 1973). There, a rich corpus of ninth century monuments showed non-Maya themes and styles, including representations of non-Maya deities, "foreign" physiognomies, and more western day-signs (Graham 1971, 1973). Among new architectural features was a large circular, three-tiered platform, the substructure for a perishable building—a design that rapidly appeared at all of the most vibrant late centers. The excavators of Ceibal proposed their own, more comprehensive model for the destabilization and destruction of Classic Maya society by intruders (Sabloff and Willey 1967).

Yet, by the 1990s serious doubt had been cast on this scenario. Trace element analysis demonstrated that some fine paste wares in the Río Pasión region were not imports from the Gulf Coast but rather locally made (Rands et al. 1982). Moreover, the reading of one important Ceibal inscription strongly suggested that the site's late innovations came not from the west but from the east (Schele and Matthews 1994). These revelations fitted neatly into the theoretical currents of the time. The then-dominant processualist thinking in Americanist archaeology took a broadly skeptical view toward ancient population movements, preferring local evolution as the engine that drives cultural innovation. It was the meeting of new data with an existing paradigm that forged the modern, near-universal consensus that internal rather than external factors were responsible for late changes in Maya society. Elements of unquestioned external heritage, such as the western day-signs, were explained as a form of foreign emulation.

In recent years I've come to question this view. New data, and the reinterpretation of old data, demonstrates not only that anomalous "foreign" elements were more widely distributed than previously realized but that they were more politically significant (Martin 2020:277-299,

"head child" could only work if it were AL as well as YAL—which is to say that the scribes thought these values sufficiently similar that one could be swapped for the other. To date, instances of T1919 only occur in "child of (mother)" and not the "throw" or "say" contexts. This potentially leaves T1919 as AL and T1548 as YAL. But Zender suggests that T1919 is simply a variant form of T1548, where the ball has been replaced by the T584 Ben glyph that equates with "reed" and, by extension, "arrow" in analogous Mesoamerican calendar systems (Kaufman 1989:31-32). Ben would here represent a graphic version of "arrow/dart" and thus another object that could be thrown.

If T1548 could only be YAL then in the "child of (mother)" sense it would necessarily read *ya-YAL* or *ya-YAL-la*. Since the semi-vowel *y* sound required for the possession of *al* is part of the logogram there is a part-redundancy here. The normally ubiquitous *ya-* prefixes demonstrate that this *y* in the logogram was not seen as a functional element and that overt marking for possession was necessary. That said, Zender highlights underspellings in which the

initial *y* could well have been exploited, as on K8076, where two cases of T1548 with the sense of "it is said" lack the grammatically required *y-* pronoun.

One further example is relevant here. On the Tikal Marcador (H7) we find plain T1919 followed by K'UH-IXIK, in a similar sequence to that on the Dayton Bone. If this is a part of a regular parentage statement then the pronoun has been omitted, as it was on the Dayton Bone, whether as a space-saving device and/or to exploit the initial *y-* sound. However, David Stuart (2024:86, Fig. 60b) interprets this rather differently as AL K'UH IXIK *al k'uhul ixik*, with the meaning of "child (and) holy woman," thus maintaining T1919 as AL.

To conclude, there remains a debate about the precise values of T1919 and T1548 since, depending on their context, arguments can be made for both AL and YAL. Whether such specification is of greater concern to us than it was to the scribes working with near-homonyms—i.e., (Y)AL—is an interesting but perhaps unanswerable question.

2023:589-606, 2024a, 2024b). Of relevance to the present discussion, I've wondered if a more parsimonious interpretation of the late actors exclusively identified with western day-signs is that they are not Maya people appropriating foreign identities but, in fact, actual outsiders.

This is what brings us to consider the Dayton Bone. Its subject matter is unremarkable, since its lordly portrait captioned with a name and parentage statement is standard fare. However, one small detail of its text would seem to offer an unprecedented window into the dynastic reconfigurations of this last tumultuous century of the Classic Period. The strange glyph in the name of the protagonist's father remains unidentified, but its uniqueness in the Maya corpus, its uncharacteristically angular aesthetics, its similarity to a range of related glyphs and motifs from western Mesoamerica, and its appearance in an era where such signs are appearing in personal names in the Maya area for the first time, are together highly suggestive that this is a foreign hieroglyph.

Such a monicker would place this father within a group of politically ascendant actors in the ninth century Maya lowlands, each of whom uses hybridized, or at times entirely non-Classic identities. The former not only employ foreign day-signs but also regularly include previously unseen (and untranslatable) names that are spelled out in Maya syllables. I suspect that mixed names have less to do with foreign emulation and more to do with expressing mixed ancestry. This change in nomenclature was not a universal one, since these actors can be distinguished from a group of contemporaneous elites who continue to follow older, more traditional conventions—producing a complex, even confusing, heterogeneity in late political personas (Martin 2020:290-299).

The special contribution of the bone would be its evidence for a marriage between one of these outsiders (or his direct descendent) and a high-ranking Maya female. The absence of any name for her is unusual but revealing in its own way. The enthusiasm with which royal sons mention the names of their mothers likely reflects the kin relationships and status associations brought by them. In a system of elite polygyny—in which individual lords had multiple wives—such specification would be important, distinguishing an offspring from half-siblings who had been born to different mothers. But if this is an ethnically mixed marriage conducted at a time of special stress and upheaval, such connections

⁹ The same process might be seen in much earlier times, in the case of Yax Nuun Ahiin I. The son of the foreign, presumed Teotihuacano ruler Spearthrower Owl (Stuart 2000:473), his mother was most probably Maya (Martin 2002:67). That the name we know the Tikal king by is fully Maya, despite the non-Maya origin of his father, is a clear example of a selective identity that eschews any outward connection to a foreign patriline.

may have been of little relevance; it was enough to know that she was an elite Maya woman.

When it comes to their child, the commissioner of the Dayton Bone, it is notable that he does not carry an anomalous identity but rather one that conforms to regular Classic Maya naming practices. Here we would seem to witness the assimilation of mixed ethnicity offspring into late Maya culture, meaning that any parentage statement featuring our protagonist in the next generation would offer no clue to his western patriline.⁹ That said, I suspect that he could have borne other, more distinctively western, names that are not expressed here. Interestingly, it is only at mid-century that we begin to see lords whose nominal strings combine foreign and local identities, the earliest being the names of two lords on Ucanal Stela 4 from 849. The implication we could draw from this is that they represent the first generation of a binary bloodline, one conspicuously presented as a new unity.

Overall, new data from the Dayton Bone would fit within a wider body of material suggesting that ninth century cultural change in the Maya lowlands was not an autochthonous development, or a simple appropriation of foreign forms, but a phenomenon actively involving outsiders. How intermarriage with ethnic westerners would articulate with coeval processes of social, political, economic, and demographic breakdown in the Maya region has yet to be determined and will require further investigation.

Acknowledgments

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