Glyphs for “Handspan” and “Strike” in Classic Maya Ballgame Texts

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Part ritual, part recreation, and almost wholly mysterious, the ancient Maya ballgame has long been regarded as an enigmatic entity. Literally dozens of ballcourts are known; untold hundreds of pieces of ballgame paraphernalia are housed in museums; and yet we know frustratingly little for certain about the rules of the ancient game, its purpose or its origins.

Recently, however, the veil of obscurity has begun to lift from these most intriguing of all relics of the Mesoamerican past. Archaeological investigations have revealed the construction history of ballcourts, disclosing their Preclassic origins and convincingly embedding them in cultural, historical and political trajectories of which they form an integral part. Further, anthropologists’ and historians’ diligent sifting of ethnohistoric documents and careful comparison with surviving ballgame traditions have begun to reveal something of the rules, purpose and underlying rationale of the game.

The aim of this paper is to further refine our understanding of Classic Maya ballgames (ca. A.D. 250-900) through an exploration of two previously undeciphered logographs. The first represents a right hand shown palm down and with thumb and forefinger spread (Figures 1b, 1c, 5a and 5b). The second represents a left hand tightly grasping a semi-spherical stone object (Figures 6, 7c, 8-11, 13a and 13b). While both appear with some frequency in ballgame scenes and associated texts, and while each has seen a fair amount of discussion by scholars, satisfactory readings and explanations of these important glyphs have yet to materialize. This is no doubt due at least in part to the eroded state of a number of key examples of these signs at Yaxchilan, Copan and El Peru, coupled with the unavailability of a sufficiently large number of painted examples prior to the publication of Justin Kerr’s corpus of unprovenanced ceramics. Nevertheless, sufficient evidence now exists to read these glyphs, respectively, as NAHB “handspan” (in reference to the size of the ball) and JATZ’ “to strike, hit” (in reference to the ball’s role in play). Despite such prosaic meanings, it will be seen that a better understanding of these logographs allows us to identify a number of important ballgame-related texts in contexts not directly associated with ballgame imagery. These previously unrecognized texts shed substantial new light on core ballgame myths, and therefore on the underlying mythological rationale of ballgame ritual.

The Ball Compound

Nicholas Hellmuth (in Mayer 1980:46, and Robicsek and Hales 1981:172) first noticed that the large balls typical of Classic ballgame scenes were frequently labeled with a complex glyphic compound composed of a prefixed set of bar-and-dot coefficients. Mayer interpreted these compounds as “naal” (i.e., “number”, as in “number of players” or “number of rounds”). Later researchers have interpreted them variously as “naal” as a positional modifier (e.g., “naal one, naal two” or “naal four”), a “marker” (e.g., “large ball,” “small ball”), a “suffix” (e.g., “blue ball,” “red ball”) or a “symbol” (conventionally transcribed as “nahb”). When used reflexively, however, these compounds undoubtedly indicate the number of players and rounds of play, given the numerous painted examples of such “number”-nahb compound labeled balls within the ballgame imagery (Figures 1a-c). Additional data from Classic period monumental and painted contexts are being collected, which will further refine our understanding of the role of these compounds in ballgame ritual.

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variable elements (Figures 1 and 2). Although he didn’t attempt either a reading or a translation, Hellmuth supposed that the compound might refer to the “final score” of the game depicted, a suggestion which has influenced much subsequent thinking on the subject (e.g., Boot 1991:237-9; Macri 2000:29; Macri and Looper 2000). Linda Schele and Mary Miller (1986:252, 255 and note 22) were the first to notice the phonetic significance of the variant spellings of this compound—often simply na-ba (Figure 1a), though occasionally with an undeciphered “hand” sign either followed by ba (Figures 1b, 2) or, more rarely, appearing alone (Figure 1c). They took this to signal nab, which they linked to Maya terms for “water-lily” and “standing water”, though they acknowledged that the term seemed of dubious significance in these contexts.

Importantly, they also noted that the numerical coefficients were limited to the numbers 9, 10, 12, 13 and 14. This restriction to a small set of coefficients—coupled with the persistent absence of any secondary notation—led them to doubt Hellmuth’s suggestion that they recorded a score. Instead, they proposed that the coefficients may have referred to the number of “captives” or “human sacrifices” at stake in the game, a suggestion motivated in part by their martial interpretations of Classic ballgame imagery. There are problems with this interpretation as well, but suffice it to say that the na-ba spellings remain unexplained in their hypothesis, and many scholars still consider the term effectively undeciphered (Colas and Voss 2001:188; Freidel et al. 1993:357).

More recently, and building on the key substitution with na-ba spellings first noted by Schele and Miller, a number of scholars (including the present author) have come to the conclusion that rather than nab “waterlily”, a quite different but either partially or completely homophonous root nahb “handspan” may have been intended instead (Lacadena and Wichmann, in press; Macri 2000:29; Macri and Looper 2000:2; Zender 2002:404). Such an interpretation would certainly explain the logographic substitution for these na-ba spellings, a palm-down right hand with thumb and fingers outstretched (Figures 1b, 1c, 5a, 5b). Lexical support from relevant languages is equally encouraging:

<table>
<thead>
<tr>
<th>Language</th>
<th>Word</th>
<th>Meaning</th>
</tr>
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<tbody>
<tr>
<td>Ch’ol</td>
<td>-ñajb</td>
<td>“sufijo numeral para contar cuartas de la mano (numerical suffix for counting handspans)” (Aulie and Aulie 1996:79)</td>
</tr>
<tr>
<td>Tzeltal</td>
<td>-nahb</td>
<td>“medida del pulgar al dedo del corazón (measure from the thumb to the middle finger)” (Slocum et al. 1999:80, 318)</td>
</tr>
<tr>
<td>Yucatec</td>
<td>náab</td>
<td>“handspan” (Bricker et al. 1998:192)</td>
</tr>
<tr>
<td></td>
<td>&lt;naab&gt;</td>
<td>“palmo (span); la cuarta parte de la vara castellana (fourth part of the Spanish vara)” (Barrera Vásquez et al. 1980:545; Thompson 1970:330)</td>
</tr>
<tr>
<td>Mopan</td>
<td>naab</td>
<td>“cuarta” (Ulrich and Ulrich 1976:136)</td>
</tr>
<tr>
<td>Itzaj</td>
<td>naab</td>
<td>“cuarta (vara)/quarter-rod, measure from outstretched thumb to little finger (8-9 inches)” (Hofling and Tesucún 1997:468).</td>
</tr>
</tbody>
</table>

2 The most divergent suggestion is surely that of Marvin Cohodas (1991:261-3), who advocated reading these compounds as “#-chaan”, and related them to the Classic depictions of God L and his owl familiar. Nevertheless, there is no support for any such reading of the well-known na and ba signs in these contexts.
There can be little doubt that these forms are related, for all are the expected reflexes of an ancestral form *nahb “handspan”. This finds further support in the morphology of numerical classifiers, which are typically derived from positional and transitive roots through the infixation of -h- (Berlin 1968:20-23; Hironymous 1982:14-27). Indeed, Bricker et al. (1998:192) suggest that the Yucatec term nááb (< *nahb) “handspan” may itself have been derived from the transitive verb nab “place near, lay aside” via historical infixation of -h-.

So what are we to make of these compounds? While some are still tempted by Hellmuth’s suggestion to see these as ball-game scores—perhaps as “the number of slaps or blows of the hand allowed in the course of the ballgame” (Macri and Looper 2000:3; see also Macri 2000:29)—I prefer a more literal interpretation of the “handspan” term. Given that the single most common context of these compounds is as a label for balls, it stands to reason that it should provide either a personal name or some generic designation for the ball itself. As such, I have argued that these numerical compounds provide us with a circumferential measure of the size of these balls in “handspans”.

While not all of the lexical sources agree on the precise manner in which this measure was taken, it is intriguing that the Colonial Yucatec and modern Itzaj sources agree in equating the nahb measure to about 8 or 9 inches (21-23 cm). If we accept a median measure of 8.5 inches, we can quickly calculate the circumference and diameter of the ball sizes encountered in Maya art:

<table>
<thead>
<tr>
<th>No. of Handspans</th>
<th>Circumference</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>76.5 inches (194.3 cm)</td>
<td>24.4 inches (61.9 cm)</td>
</tr>
<tr>
<td>10</td>
<td>85 inches (215.9 cm)</td>
<td>27 inches (68.7 cm)</td>
</tr>
<tr>
<td>12</td>
<td>102 inches (259 cm)</td>
<td>32.5 inches (82.5 cm)</td>
</tr>
<tr>
<td>13</td>
<td>110.5 inches (280.7 cm)</td>
<td>35.2 inches (89.3 cm)</td>
</tr>
<tr>
<td>14</td>
<td>119 inches (302.3 cm)</td>
<td>37.9 inches (96.2 cm)</td>
</tr>
</tbody>
</table>

If these measurements are valid, then Classic Maya ballgame balls would have measured from just over two feet to well over three feet in diameter (62 to 96 cm), with an average of 2.5 feet or about 80 cms. These measurements tally well with the observed size ranges of balls portrayed in iconography, at least as compared with associated ballplayers (Figure 2), and thus provide some measure of support for this hypothesis. Moreover, the largest sizes—13 and 14 handspans—also correlate well with the occasional depictions of captives trussed up and rolled into balls almost a meter in diameter (Figure 12). But there is still

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3 Just as this article was going to press, I became aware that Michael Coe (2003:199-200) has also linked the na-ba spellings to the Yucatec term for “handspan”, arguing as I have that it most likely refers to a measure of circumference.

4 The Spanish vara measured some 83.6 cm, a quarter of which would have been 20.9 cm or some 8 1/4 inches. This agrees well with Hofling and Tesucún’s (1997:468) “8-9 inches”.

345x279 Figure 3. The king of La Amelia dressed as a ballplayer. La Amelia Panel 2. Drawing by Stephen Houston (1993: fig. 3-21).
further support for the notion that these ball compounds provided a specific reference to the ball itself, rather than to an abstract score or count of sacrificial victims.

La Amelia Panel 2 (Figure 3) is one of two panels erected to either side of a sacrificial stairway in the site center, both depicting the early ninth-century potentate Lajchan K’awil Ajaw Bot in the characteristic paraphernalia of a ballplayer (Martin and Grube 2000:64-5). As first recognized by Linda Schele (Freidel et al. 1993:361; Schele and Grube 1990), the associated text kens the sacrificial death of a captive as the “throwing” of a ballgame ball (Figure 4):

\[
\text{ya-la-ja U-CHAN-na BAHLAM-NAL U-K’ABA-a 9-na-ba}
\]
\[
yahlaj uchan bahlamnal uk’aba’ baluun nahb
\]
\[“\text{is thrown, the Master of Bahlamnal, (which is) the name of the nine-handspan (ball)”}\]

Intriguingly, the text goes on to clarify this reference to the size of the ball with a statement to the effect that the “nine handspan (ball)” is itself the namesake of the “rubber ball” and “rope” of the king:

\*ye-te-k’a-ba-IL U-“rubber.ball”-“rope”
\*yetk’aba’il u-?-?
\[“\text{(which is) the namesake of his rubber ball and rope”}\]

While the precise meaning of “names” and “namesakes” in such instances is admittedly a bit difficult to penetrate, it nevertheless highlights the usage of the ball compound—baluun nahb or “nine handspsans” in this instance—as a specific reference to the ball itself. Beyond supporting the hypothesis that these compounds truly do provide designations for the balls they label, however, they also make possible the identification of a number of hitherto unrecognized ballgame texts, as well as the unmasking of a divine patron of the Maya ballgame.

As first recognized by David Stuart and Stephen Houston (Houston and Stuart 1996), and discussed more recently by Alexander Tokovinine (2002), deity impersonation is a central theme of ballgame scenes and associated texts. Like the dramatic ritual reenactments staged in the Aztec teotlachtli or “divine ballcourt” (Nicholson and Quiñones Keber 1991), Classic Maya kings and nobles played ball in the guise of their tutelary gods as a powerful means of reiterating and reifying the founding myths of the polity. Thus, on a number of unprovenanced vessels and on a fragment of the hieroglyphic stairway of El Peru, kings take on the guise of an entity known variously as 7-? (Figure 5a) or 7-TE’?-wa (Figures 5b, 5c, 5d). I will return to the issue of this god’s name presently, but it is important to note that in at least two instances the text goes on to clarify the act of impersonation as occurring ti lajchan nahb or “with the 12 handspan (ball)” (Figures 5 a, b). While the two other texts make no mention of this deity’s signature size 12 ball, both refer to the impersonation as taking place either ti pitziil “in the act of ballplaying” (Figure 5c) or while the king pitziij “plays ball” (Figure 5d). Whatever his name, then, the association of this deity with ballgames and ballgame implements is undeniable.

As to the identity of this enigmatic ballgame patron, while Tokovinine (2002:4-5) saw this figure as related to the deer god Huk Sip or “Seven Sip”, I believe he misinterpreted the eroded TE’ infix appearing in a number of examples as the diagnostic of a distinct entity known as the patron of the month “Pax”. In point of fact, this entity—itself the head-variant of the sign TE’—is conflated here with the youthful “Chicchan” head. Given the occasional crossover between this head and AJAW in a number of early texts (Stephen Hous-

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5 For etk’aba’ as “namesake” see Zender and Guenter (2000).
6 The second text (Figure 5b) goes on to implicate two further balls, including a lajuun nahb or “ten handspan (ball)” and just possibly a huk nahb or “seven handspan (ball)”, though damage to the vessel makes the rest of the phrase and its articulation with the name of the impersonator somewhat difficult to assess.
ton, personal communication 2003)—coupled with the final and apparently non-obligatory
-wa in at least one instance (Figure 5c)—it is tempting to read the TE' simply as a numerical
classifier and the whole as Huk Ajaw or Hukte' Ajaw “Seven Ajaw”, perhaps the Classic cognate of Vucub Hunahpu of the K’iche’ Popol Vuh (see Tedlock 1996:91-98). This would in turn suggest that the “Chicchan” head is itself the portrait glyph of “Seven Ajaw”, and would have the benefit of explaining the aforementioned formal distinction between it and the more common AJAW sign. Moreover, as the brother of Hun Hunahpu and a ballplayer of no mean skill, Vucub Hunahpu would certainly have made a suitable patron of the Classic ballgame.

The “Stone-in-Hand” Glyph

Somewhat rarer and unfortunately less variable in its spelling and complementation than the NAHB logograph, the “stone-in-hand” sign has been much slower to yield to decipherment. Grube and Nahm (1994:688-9, 708-9) were the first to describe the major contexts of the sign and to outline its salient features, pointing out that it represents a left hand tightly grasping a stone (Figures 6, 7c, 8-11, 13a-b). Based on a unique spelling on an unprovenanced vessel (Figure 6)—where the sign is prefixed by ja- and suffixed by -ma—they tentatively proposed a reading of JAM (or HAM) for the sign, though they readily acknowledged that the reading made little sense in any of the sign’s contexts (Grube and Nahm 1994:689).

More recently, Timothy Knowlton (1999) has proposed a reading of TOK “to burn, to take”, based on the to- signs occasionally prefixed to “stone-in-hand” in the names of jaguar spirits depicted on a number of Codex Style vessels (Figures 8c, 10-11). However, given that the putative to prefix never appears outside the context of this “jaguar” name, it seems unlikely that it functions solely as a phonetic complement. Rather, the prefix is probably meant to be read as a fully functioning part of the jaguar’s name phrase—perhaps as TOK, a value the to syllable is known to carry elsewhere, and possibly a reference to the writhing coils of the snake that envelop...
him, features frequently marked by **TOK** signs in these and other contexts (Figure 8c; see also Miller and Martin 2004:102-3; Taube 1989:fig. 24-17). In any event, the **to/TOK** prefix in these contexts probably has little bearing on the phonetic reading of the “stone-in-hand” sign itself.

The first real hint of the sign’s value appears in the context of the enigmatic “fire-striking” clauses of the Classic Maya Supplementary Series. As recognized by Grube (2000), some of these phrases are written syllabically as **ja-tz’a-la (U)-K’AHK’**, *jatz’al k’ahk’* “struck is (his) fire” (Figures 7a and 7b) or **ja-tz’a-li U-K’AHK’**, *jatz’al uk’ahk’* “struck is his fire” (as on Naachtun Stela 8; see Grube 2000:103).

Although of uncertain equivalence, a variant spelling appears wherein the “stone-in-hand” sign may substitute for the **ja** and **tz’a** syllables (Figure 7c). This raises the possibility that “stone-in-hand” actually reads **JATZ’** “to strike” or “to hit”, a well-known term with cognates in all of the Ch’olan and Yucatecan languages (Kaufman and Norman 1984:121). This possibility would certainly have the virtue of explaining the iconic origin of the sign—i.e., a hand holding a cudgel-like stone—and is further strengthened by the initial **ja**-complement first noted on “stone-in-hand” by Grube and Nahm (Figure 6). In all, the **JATZ’** value seems reasonably strong and is certainly worthy of further investigation.

The “stone-in-hand” glyph is frequently associated with *way* spirits on Maya vessels (Figure 8), where it apparently refers to the large, anthropomorphized stones held by these other-worldly spooks. As Karl Taube (2001) has shown, such fantastic scenes are perhaps best seen as mythic echoes of actual blood sports. Like Classic boxers, these figures threaten opponents with heavy stone cudgels (Figure 8c) or hold them out in combat readiness (Figures 8a and 8b). Like ballplayers,
they are frequently well protected, wearing long, heavy hipcloths and yokes to protect their kidneys and other vital organs (Figure 8a; see also Orr 2003: fig. 10), while heavy headbands and wristbands control the flow of sweat (Figures 2, 8a and 8b), keeping eyes and hands dry, thereby ensuring an unimpeded view as well as a good grip on weapons.

While there is some variation in the spelling of his name—variably given as JATZ’-AHKAN-na (Figure 9), JATZ’-no-ni a-AHKAN-na (Figure 8a) and JATZ’-ni AHKAN-na (Figure 8b)—the most common of these boxing spirits was apparently known as Jatsumoon Ahkan or even Jatznoon Ahkan, “Striking Ahkan” (Figures 8a and 8b).7 A particularly grim variant of the Bacchalian god of intoxication first recognized by Grube and Nahm (1994:708-9; see also Grube 2001:294-5), this character usually sports dark body paint and tied-back hair, and frequently wields anthropomorphic stone cudgels that reveal his additional role as a patron of Maya blood sports.

Secondary in importance only to “Striking Ahkan”, another fabulous boxing spirit represents a stone-wielding jaguar encircled in the coils of a lightning serpent as sparking or dripping star signs affix themselves to the bodies of both creatures (Figure 8c; Grube and Nahm 1994:688-89). While complex and somewhat variable in spelling (Figures 8c and 10), his name can now be read as JATZ’-la-TOK-EK’ HIIX or Jatz’ Tokal Ek’ Hiix “Striking Sparking-Star Jaguar”, a straightforward description of the associated iconography. Still relentlessly enigmatic, the name must nevertheless have carried some currency, for at least one Late Classic king seems to have taken this complicated epithet as his regnal name (Figure 11).8

Like the ballgame itself, there were probably elements of both sport and ritual in Maya blood sports. Frequent association of boxing scenes with ballcourts might suggest the former (Orr 2003; Taube 2000), while depictions of mythological characters engaged in boxing reveal an important religious component, perhaps associating combative bloodletting with agricultural

7 It’s not impossible that the occasional -ni suffixes here reflect a TUUN or “stone” sign conflated with the JATZ’ main sign. If so, a more complex name like Jatz’onuntuun Ahkan or “Stone-Striking Ahkan” might be contemplated.
8 Simon Martin (personal communication 1999) first mentioned the significance of this spelling to me (see also Martin and Grube 2000:188-189).
As Lacadena (in press) has shown, a number of modern Mesoamerican groups still practice highly-ritualized forms of boxing in times of drought. Intriguingly, ritual practitioners in Guerrero still take on the guise of rain-making jaguars perhaps not all that different from “Striking Sparking-Star Jaguar”, and square off against their heavily-padded opponents (Brody 1988; Cordry 1980; Orr 2003:90-1). The aim is to let blood, and thereby to stimulate rainfall through sympathetic magic.

Another important context of the JATZ’ glyph is in scenes of ballgame sacrifice, as on Step VII of Yaxchilan Hieroglyphic Stairway 2 (Figure 12). Here, the late eighth-century king Bird Jaguar IV assumes the guise of the Waterlily Serpent—a god of wind, water and cenotes, and the classic Maya counterpart of the Central Mexican deity Quetzalcoatl (Taube 1992:56-59; see also Robertson 1990). Bird Jaguar IV is depicted not only in the guise of this god, but also in full ballplayer apparel, including a yoke, protective hipcloth and kneepad. As dwarf servants of the god look on, the king-cum-supernatural has just dealt his captive a telling blow, sending his bound body careening wildly off the sacrificial steps. This climactic event is described in the associated text as JATZ’-na-ja 3-a-ha-li EHB or jaatz’naj uhx ahaal ehh “the three-conquests stairway is struck” (Figure 13a). Essentially the same formula is also known from the hieroglyphic stairways of El Peru and Copan (Figures 13b and 13c), the former no doubt associated with the impersonation of “Seven Ajaw” discussed above (Figure 5d). Although somewhat eroded, the Copan spelling apparently substitutes *ja and tz’i signs for the “stone-in-hand” glyph, providing further evidence of a JATZ’ value for the logogram.8

The text presents Bird Jaguar IV’s sacrificial act as a modern-day echo of the decapitations of three supernatural beings deep in mythological time (Freidel et al. 1993:356-62; Martin and Grube 2000:130). These references to ancient struggles between ancestral gods no doubt comprise the underlying mythical charter of the ballgame, distorted versions of which still survive in the seventeenth-century K’iche’ Popol Vuh (Martin and Grube 2000:130). The parallels with this foundational myth are further rounded out by the father’s and grandfather’s own impersonations of the Waterlily Serpent on two associated steps (6 and 8), wherein they also dispatch unfortunate captives. Seen in this light, Bird Jaguar IV’s ritual reenactment of this ancient myth squarely placed his actions in the context of these foundational events, thereby lending cosmological significance to these key acts of captive sacrifice.

Yet such reenactments probably played a practical role as well, usefully reminding lesser nobility and royal women of their divinely-ordained roles as servants and helpmeets of the king. Thus, while Bird Jaguar IV and his ancestors assume the guise of the Waterlily Serpent and vanquish captives kenned as ancient enemies of civilization, lower-ranking nobles appear in the guise of the arguably more servile Ik’ K’uh, or “Wind Gods”, and play not with defeated captives, but with lajchan nahb or “twelve handspan” balls (Figure 2) (Stuart et al. 1999:II-44; see also steps 4, 5 and 12). Meanwhile, queens either place balls in play (steps 1 and 11) or conjure gods of lightning and fecundity (steps 2 and 3). In this way, ballgame myths and associated blood sports served as social charters (Malinowski 1984:101), naturalizing the social order and placing its origins squarely in the numinous otherworld of the mythological past.

8 As Lacadena (in press) has shown, -n-aj endings in the hieroglyphic script probably reflect the passivization of non-CVC constituents. The disharmonic spelling of ja-tz’a-la or jaatz’ is therefore intriguing (see Houston et al. 1998), since it may point to an initial derivation of jatz’ as jaatz’, a noun meaning “whip” or “cudgel” (e.g., Yucatec jaatz’ n. “whip”, Bricker et al. 1998:93) before its re-derivation as a verb (jaatz’a?) and eventual passivization in the form jaatz’naj. In other contexts, the better known ja-tz’a-la and ja-tz’a-ja spellings probably reflect participial and passive inflection, respectively, of the unadulterated root jatz’.
Glyphs for ‘Handspan’ and ‘Strike’

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