

# A Late Preclassic Distance Number

MARIO GIRON-ÁBREGO<sup>1</sup>

California State University, Los Angeles

This paper explores the possibility that a partially preserved glyph on the San Bartolo stone block, recently published by Saturno et al. (2006), might represent a Late Preclassic Distance Number (DN). The block in question is designated “pA4” (Figures 1 and 2) and is part of a longer text of at least ten glyph blocks in length. The possible identification as a distance number is made on the basis of what might be a numerical coefficient to the left of the block, as well as a few other suggestive features of glyphic morphology and syntax, to be discussed below.

To contextualize pA4 for the purpose of this analysis, I refer the reader to *Wayeb Notes* 42 (Giron-Ábrego 2012). In that paper, I argued that glyphs pA1-pA3 represented a period ending clause (PE), drawing particular attention to the early **TZUTZ** logogram (at pA2), and its similarity to a PE notation on the Dumbarton Oaks Jade Celt (Figures 3 and 4). Schele and Miller (1986:82-83) noted that the latter recorded a PE celebration, albeit with unusual glyphs<sup>2</sup> and an uncommon structural form.<sup>3</sup> They tentatively identified the date as 8.4.0.0.0 or July 15, AD 150. Given the pronounced similarities between these two texts, I argued that the San Bartolo block represents a similar “unusual” form of recording PEs, and suggested that this may simply have been the standard practice during the Late Preclassic.

There is some reason to be cautious about these suggestions, however, as I was unable to identify a clear numerical coefficient for the proposed katun glyph.<sup>4</sup> On the basis of the dating of the San Bartolo block to ca. 300 BC (Saturno et al. 2006), which is when the text was presumably painted, as well as the future form of the **TZUTZ-ma** glyph (for *tzuhitz-[alj]-oom*, “it shall be completed”), the PE should have fallen sometime between 7.3.0.0.0 and 7.5.0.0.0 (i.e., between 294 and 255 BC), or perhaps somewhat later. I should mention that previously I did not consider the possibility that the katun block might read **TA-5-“katun,”** if analyzed in the

following manner:

- Rather than **TA** and “1,” the superfix on pA3 might instead represent a bipartite **TA** glyph, in similar fashion to the third variant of T53/3M3, typical of other early inscriptions (see Mora-Marín [2001:18] for an example on the Jade Museum plaque, No. 4441).
- Rather than part of a katun glyph, the thick horizontal line of the main sign might instead represent the ubiquitous bar for the number

<sup>1</sup> The author would be happy to receive comments or suggestions, which can be addressed to: mario.giron-abrego@hotmail.com.

<sup>2</sup> Fields and Tokovinine (2012:188) have pointed out some homologies between glyph B2 on the Dumbarton Oaks Jade Celt and early examples of the Initial Series Introductory Glyph (e.g., Tikal Stela 4), and have also identified the former as a katun glyph. With respect to its U-shaped elements, presumably representing the number four, they point out that there is at least one fifth-century example with a similar number on Tikal Stela 31 (D17), and still another example on a jade bead from the Chichen Itza cenote.

<sup>3</sup> The unusual format of the period ending on the Dumbarton Oaks Jade Celt refers to the use of two consecutive **TZUTZ** logograms. One, partially erased, comes before the baktun, followed by a second one preceding the katun. In Classic Period texts, the **TZUTZ** glyph normally occurs once, followed by the corresponding baktun, katun, or tun. The Dumbarton Oaks Jade Celt text therefore seems to have a redundant recurrence of **TZUTZ** prior to at least two of these temporal units (see Figure 4b, A1-B2).

<sup>4</sup> I did however note that we ought to consider the possibility that the superfix on pA3 is a numerical coefficient spelled syllabically, as is the case in the Dresden Codex, page 9b, where the syllables **o-xo** spell *ox* ‘three’ (see Thompson 1960:137, Fig. 25, number 51). This is difficult to reconcile with what seems a reasonably clear prepositional **TA** in the upper left of the sign, however. Perhaps this, coupled with the semicircular element to the right (**JUUN** “one?”), merely reads *ta juun* “in/on one.” This certainly seems to be the case for a numerical coefficient on Tikal Stela 31 (D14), which provides *ta juun ajaw* “on 1 Ahau.” If so, this would make the reading of pA3 *\*ta \*juun* “k’atun” in proto-Ch’olan, placing the proposed period ending on 7.1.0.0.0 (February 18th, 334 BC). But that is perhaps a bit too early for this text.



Figure 1. The San Bartolo stone block in the context where it was found. Photo by Boris Beltrán, courtesy of William Saturno.



Figure 3. The Dumbarton Oaks jade celt. Drawing by Linda Schele, courtesy of David Schele.

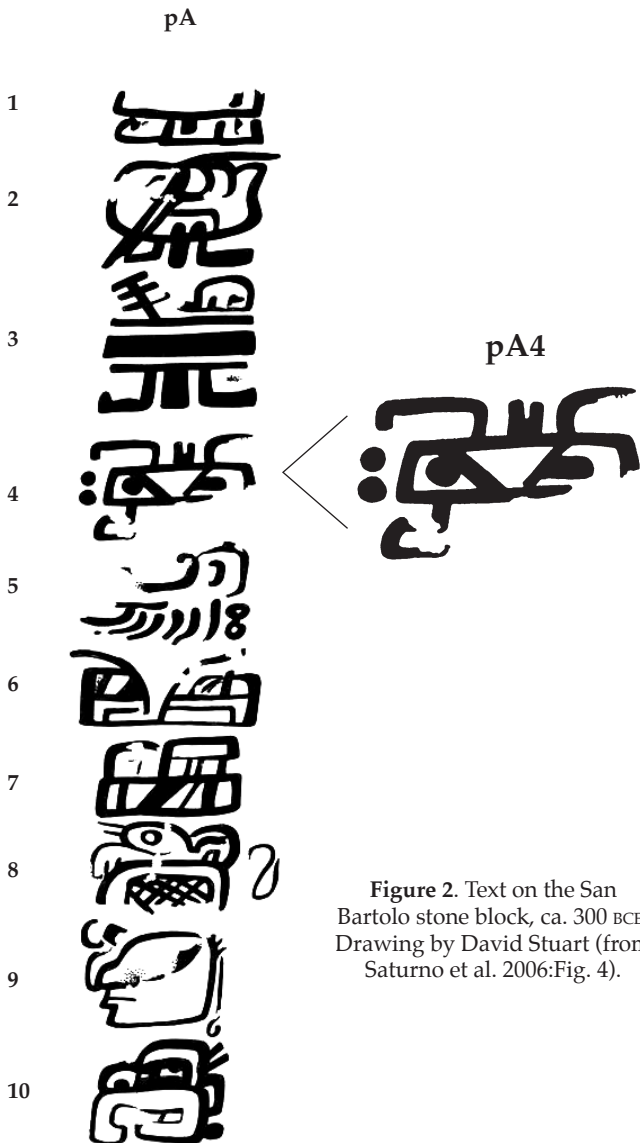


Figure 2. Text on the San Bartolo stone block, ca. 300 BCE. Drawing by David Stuart (from Saturno et al. 2006:Fig. 4).

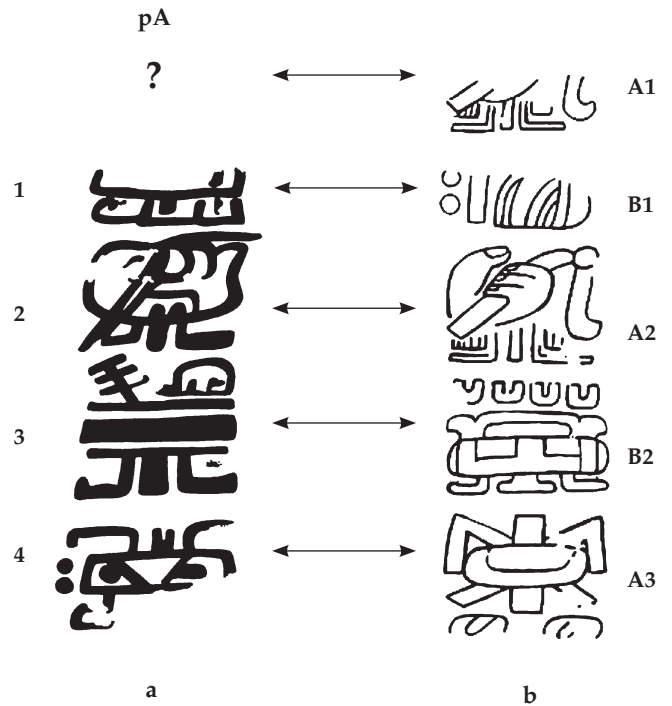


Figure 4. Comparison of San Bartolo glyphs with Dumbarton Oaks Jade Celt: (a) glyphs pA2-pA4 from San Bartolo stone block (drawing by David Stuart); rearranged glyphs A1-A3 of Dumbarton Oaks Jade Celt from double column to single column (drawing by Linda Schele, courtesy of David Schele).

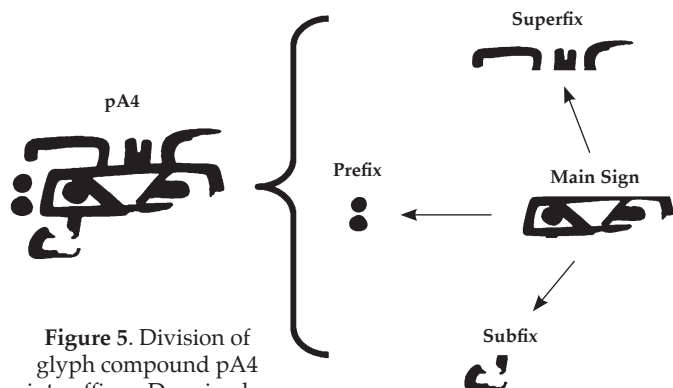


Figure 5. Division of glyph compound pA4 into affixes. Drawing by David Stuart.

“5.”<sup>5</sup>

The pedestal-like subfix would categorize the glyph compound as a unit of time, a *katun* in this case, but not meant to be read phonetically, similar to the subfix on the Dumbarton Oaks Jade Celt (B2).

If pA3 indeed records “on (the) fifth *katun*,” it would suggest that the PE on the San Bartolo block falls on 7.5.0.0.0 (255 BC).

In my earlier paper, I also suggested that block pA4 in the San Bartolo text (the focus of this paper) may have served a similar syntactical function as block A3 on the Dumbarton Oaks Jade Celt (Figure 4), noting some graphic similarities between the two glyph blocks and observing that both compounds are still undeciphered.

Fields and Tokovinine (2012:188) have recently suggested that the PE clause on the Dumbarton Oaks Jade Celt (A1-B2) is self-containing, and that A3 may represent the beginning of a new sentence (or clause), perhaps providing an underspelled verb, or a stative construction such as “it is,” “there is,” etc.

Along a similar line of thought, I propose that pA4 functions as a transition between two distinct clauses. As I discuss below, its prefix and superfix might represent numbers, hence the suggestion that it may represent a DN. As is well known, DNs can occur after PE clauses in order to move the narrative forwards or backwards in time (Kettunen and Helmke 2011:50; Thompson

1950:157-180). To pursue this line of thought, I’ve subdivided block pA4 into units corresponding to our understanding of Classic Period DNs (Figure 5).

The potential prefix apparently consists of two dots. Rather than the syllable-doubling diacritic (not otherwise attested until the fourth century AD), these dots are suggestive of the coefficient “2,” following the pervasive bar and dot notation of Maya hieroglyphs (Thompson 1950:130-131). The superfix, where a second number would usually be expected in a Classic Period DN, apparently extends over both the main sign and the prefix. It does not appear to fall into the bar and dot numerical classification. Instead, its overall shape is a silhouette of two squared arches with rounded corners and a smaller detail infixed between the two. Bearing in mind the logosyllabic diversity that corresponds to the “zero” in Maya writing (Blume 2011), I suggest that this may represent either a calligraphic variant or an early allograph of T173, perhaps presenting only a portion of its full form in the *pars pro toto* principle (Coe 1976). T173 is of course commonplace in Classic Period texts, where it can be read as **MIH/mi** “zero.” It is employed as the number zero in calendrical and mathematical instances, and as a syllable and negative marker in word formation contexts (Blume 2011; Grube and Nahm 1990).

The subfix, although almost entirely erased, may simply be a complementary part of the rectangular main sign, without qualities that are meant to be read phonetically, but perhaps identifying the glyph compound as a unit of time as in the case of the proposed *katun* sign.

The main sign is unfortunately rather obscure. Its internal features include only a central triangle with a dot to its left and a small horizontal line to its right. Nonetheless, I am inclined to contemplate that it represents a suppressed glyph for a unit of time, such as the “kin-uinal” combination well-known in Classic Period DNs. In the majority of kin-uinal combinations, the kin glyph is suppressed and is only inferred by the presence of its coefficient (Thompson 1950:159). As a general rule,

...the *winik* coefficient only takes the same space horizontally or vertically as the *winik* sign, whereas the *k’in* coefficient occupies the whole extent (length or vertical space) of the remaining glyph block. A worthy piece of advice is to look at the upper left corner of the glyph block: whatever number occupies that position is the coefficient of the *k’in* period. (Kettunen and Helmke 2011:54)

Assuming these Late Classic conventions can be traced back to a significantly earlier period, the numerical

<sup>5</sup> If so, the lack of a glyph for *katun* itself would perhaps correspond with the way the earliest contemporaneous Long Count dates are recorded on monuments such as Chiapa de Corzo Stela 2, Tres Zapotes Stela C, El Baúl Stela 1, Takalik Abaj Stelae 2 and 5, La Mojarra Stela 1, and the Tuxtla Statuette, where the units of time are represented only by their corresponding numerical coefficient.

coefficient for days on the San Bartolo block would be the potential “zero” superfix just discussed, as it appears to extend into the left corner, covering both the main sign and the prefix or the whole horizontal space of the glyph block. The two dots in the prefix, a graphically reasonable “two,” would correspond to the uinal portion of the DN, since it covers its vertical space. In other words, the morphological segmentation of pA4 and the analysis of its affixes suggests that it begins a new sentence, with the narrative projected either backwards or forwards in time.<sup>6</sup>

A further clue in support of the presence of both a PE and a DN on the San Bartolo block might come from the glyph that immediately follows (Figure 6a). This glyph has a pronounced formal similarity to the so-called “Bearded God” glyph (Figure 6b-d). Although pA5 is partially erased at its upper left, its most prominent characteristic includes the characteristic descending curved lines of the Bearded God’s “beard.” The sign remains undeciphered, but several scholars have analyzed its contexts and suggested that it represents either a possessive pronoun or a dedicatory verb (Chinchilla and Fahsen 1991; Fahsen 1988; Mora-Marín 2008a:1062-1064).<sup>7</sup> A DN followed by a possessive pronoun or a verb falls well within the expected parameters of later Classic-period texts (Kettunen and Helmke 2011:50).

As matters stand, the segmentation of pA4 into affixes is suggestive of the probable presence of coefficients. One of these is almost certainly “two,” another somewhat less certainly “zero.” Additionally, pA4 may fall between a PE clause (pA1-pA3) and a Bearded God glyph providing either a possessive pronoun or a verb



**Figure 6.** Comparison of Glyph pA5 to other inscriptions: (a) glyph pA5 of the San Bartolo stone block (drawing by David Stuart); glyph A1 from the Yale Jaguar Figurine from the Peabody Museum (drawing by David Mora-Marín, from Mora-Marín 2008:Fig. 2a); (c) glyph A4 from the Museo del Jade Fidel Tristán spoon (drawing by David Mora-Marín, from Mora-Marín 2008:Fig. 2b); (d) glyph A1 from an unprovenienced jade pendant, no. 753 in Justin Kerr’s Mesoamerican Portfolio at MayaVase.com (drawing by David Mora-Marín, from Mora-Marín 2008:Fig. 2c).

(pA5). Because of the lack of a substantial corpus of Late Preclassic inscriptions, the present argument is inevitably exploratory in nature. It is my hope, however, that I have been able to present sufficient evidence to suggest that pA4 may represent a Preclassic Distance Number.

If pA4 indeed represents a Distance Number, then an interesting implication is the likelihood that the glyphic complexity well known from Classic hieroglyphic narratives was already in place by at least the Late Preclassic period. At the same time, if the superfix on pA4 proves to be an early version of the number “zero,” then it represents the earliest glyphic example of such a number in Mesoamerica, and arguably one of the earliest instances in the history of writing where “zero” appears as an autonomous and independently employed number (Blume 2011; Ifrah 2000; Kaplan 2000; Seife 2000).

### Acknowledgements

I thank James Brady, Stephen Houston, Brian Stross, Gerardo Aldana and the anonymous reviewers for so generously taking the time from their busy lives to read earlier drafts of this paper and for providing comments and suggestions, as well as objections, from which this work has benefited considerably. I also thank The Paul and Daisy Soros Fellowships for New Americans for their support during the preparation of this paper.

<sup>6</sup> In Classic inscriptions, DNs are of course followed by what are called “Anterior Date Indicators” (ADI) or “Posterior Date Indicators” (PDI), since they indicate either an earlier date or a later date with respect to the present narrative timeline, respectively (see Kettunen and Helmke 2011:54). No ADI or PDI glyphs appear on the San Bartolo stone block, rendering the narrative’s temporal projection difficult to discern at present.

<sup>7</sup> Stephen Houston (personal communication 2012) cautions that this sign is very similar to later glyphs for *Mam* “grandfather, ancestor,” so absent a clear decipherment all of these suggestions should be taken under advisement. Chinchilla and Fahsen (1991) argue for a connection with the “God N” glyph common in ceramic dedicatory texts, now frequently read **T’AB-yi**, *t’abaay* “ascended, raised, dedicated” (Kettunen and Helmke 2011:100). Mora-Marín (2008b) specifically relates the San Bartolo glyph to a Late Preclassic jade pendant (K763 in Justin Kerr’s Mesoamerican Portfolio at MayaVase.com), reading both as *u-ni’ pa’ chan ajaw* “the nose/tip/peak of the Split Sky lord.” Nonetheless, I am more inclined to view it as an ergative pronoun or dedicatory verb introducing nominal phrases.

## References

- Blume, Anna  
2011 Maya Concepts of Zero. *Proceedings of the American Philosophical Society* 155(1):51-88. Available: [www.amphilsoc.org/sites/default/files/6BlumeRevised1550106%20\(2\).pdf](http://www.amphilsoc.org/sites/default/files/6BlumeRevised1550106%20(2).pdf).
- Chinchilla Mazariégos, Oswaldo, and Federico Fahsen  
1991 Sobre la distribución de un glifo Clásico Temprano en las inscripciones mayas. In *II Simposio de Investigaciones Arqueológicas en Guatemala, 1988*, edited by Juan Pedron Laporte, Sandra Villagrán, Héctor Escobedo, Dora de González, and Juan Antonio Valdés, pp. 146-156. Museo Nacional de Arqueología y Etnología, Guatemala.
- Coe, Michael D.  
1976 Early steps in the Evolution of Maya Writing. In *Origins of Religious Art and Iconography in Preclassic Mesoamerica*, edited by Henry B. Nicholson, pp. 107-122. Latin America Studies Series 31. Ethnic Arts Council of Los Angeles, Los Angeles.
- Fahsen, Federico  
1988 Artistas y artesanos en la evolución de la escritura maya. *Anales de la Academia de Geografía e Historia de Guatemala*, Tomo LXII, Enero/Diciembre.
- Fields, Virginia M., and Alexandre Tokovinine  
2012 Belt Plaque. In *Ancient Maya Art at Dumbarton Oaks*, edited by Joanne Pillsbury, Miriam Doutriaux, Reiko Ishihara-Reiko and Alexandre Tokovinine, pp. 184-189. Dumbarton Oaks, Washington, D.C.
- Giron-Ábrego, Mario  
2012 An Early Example of the Logogram TZUTZ at San Bartolo. *Wayeb Notes* 42. Available: [www.wayeb.org](http://www.wayeb.org).
- Grube, Nikolai, and Werner Nahm  
1990 A Sign for the Syllable mi. *Reports on Ancient Maya Writing* 33:15-26. Center for Maya Research, Washington, D.C.
- Houston, Stephen D., John Robertson, and David Stuart  
2000 The Language of Classic Maya Inscriptions. *Current Anthropology* 41:321-356.
- Ifrah, Georges  
2000 *The Universal History of Numbers: From Prehistory to the Invention of the Computer*. Tr. from the French by David Bellos, E. F. Harding, Sophie Wood and Ian Monk. John Wiley and Sons, New York.
- Kaplan, Robert  
2000 *The Nothing That Is: A Natural History of Zero*. Oxford University Press, Oxford.
- Kaufman, Terrence, and William Norman  
1984 An Outline of Proto-Cholan Phonology, Morphology, and Vocabulary. In *Phoneticism in Mayan Hieroglyphic Writing*, edited by John S. Justeson and Lyle Campbell, pp. 77-166. Institute for Mesoamerican Studies Publication 9. State University of New York, Albany.
- Kettunen, Harri, and Christophe Helmke  
2011 Introduction to Maya Hieroglyphs. Workshop handbook for the XVI European Maya Conference, Copenhagen. Department of American Indian Languages and Cultures, Institute of Cross-cultural and Regional Studies, University of Copenhagen.
- Macri, Martha J., and Matthew G. Looper  
2003 *The New Catalogue of Maya Hieroglyphs. Volume 1: The Classic Period Inscriptions*. Civilization of the American Indian Series 247. University of Oklahoma Press, Norman.
- Mora-Marín, David  
2001 Late Preclassic Inscription Documentation Project. Report to the Foundation for the Advancement of Mesoamerican Studies, Inc. Available: [www.famsi.org/reports/99049/index.html](http://www.famsi.org/reports/99049/index.html).  
2004 Proyecto documentación de inscripciones del Preclasico Tardío. Report to the Foundation for the Advancement of Mesoamerican Studies, Inc. Available: [www.famsi.org/reports/99049es/index.html](http://www.famsi.org/reports/99049es/index.html).  
2008a Análisis epigráfico y lingüístico de la escritura maya del periodo Preclásico Tardío: implicaciones para la historia sociolingüística de la región. In *XXI Simposio de Investigaciones Arqueológicas en Guatemala, 2007*, edited by Juan Pedro Laporte, Bárbara Arroyo, and Héctor E. Mejía, v. 2, pp. 1056-1079. Ministerio de Cultura y Deportes; Instituto de Antropología e Historia; Asociación Tikal; Fundación Arqueológica del Nuevo Mundo, Guatemala.  
2008b Two Parallel Passages from the Late Preclassic Period: Connections Between San Bartolo and an Unprovenanced Jade Pendant. *Wayeb Notes* 29. Available: [www.wayeb.org](http://www.wayeb.org).
- Saturno, William A., David Stuart, and Boris Beltrán  
2006 Early Maya Writing at San Bartolo, Guatemala. *Science* 311(5765):1281-1283.
- Schele, Linda, and Mary Ellen Miller  
1986 *The Blood of Kings: Dynasty and Ritual in Maya Art*. Kimbell Art Museum, Fort Worth.
- Seife, Charles  
2000 *Zero: The Biography of a Dangerous Idea*. Penguin Books, New York.
- Thompson, J. Eric S.  
1950 *Maya Hieroglyphic Writing: Introduction*. University of Oklahoma Press, Norman.  
1962 *A Catalog of Maya Hieroglyphs*. University of Oklahoma Press, Norman.