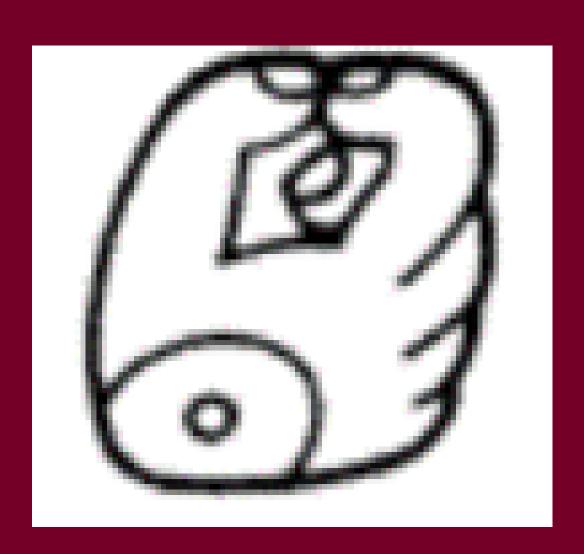
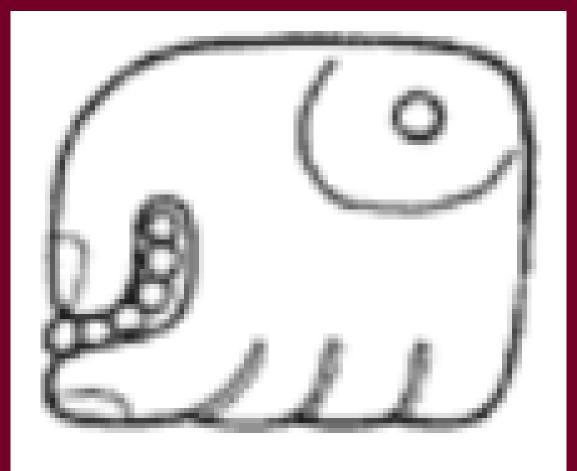
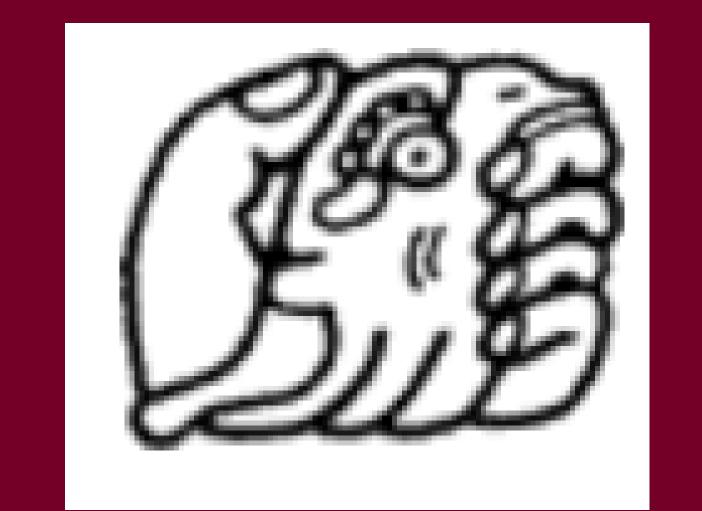
Significance of Hand-Shaped Glyphs of Mayan Hieroglyphic Script





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Introduction

Mayan hieroglyphic script is a writing system used by the ancient Mayan civilization of Mesoamerica. Mayan civilization flourished in the Yucatan Peninsula, an area which spans across the borders of Mexico, Guatemala, Honduras, and Belize (Fig. 1). This complex writing system remained a mystery for decades and despite many breakthroughs in its decipherment, much work still needs to be done to fully understand it. Mayan hieroglyphic script is a logophonetic system, having both logograms – characters which represent entire words – and syllabograms – characters that represent a single syllable. One of the many mysteries that still exists is the significance, if there is any, behind the interchangeable use of these characters, called glyphs, that appear to represent the same sound value (Fig. 2). Some believe simple aesthetics may be the cause, but I would like to investigate this, focusing on hand-shaped glyphs. I believe that gesture, and the hands which make those gestures, have a cultural significance to the ancient Maya. Hands are so carefully and consciously depicted in Mayan art in addition to the dozens of hand-shaped glyphs that exist.



Fig. 1. Map of the Mayan World. Credit: Penn Museum

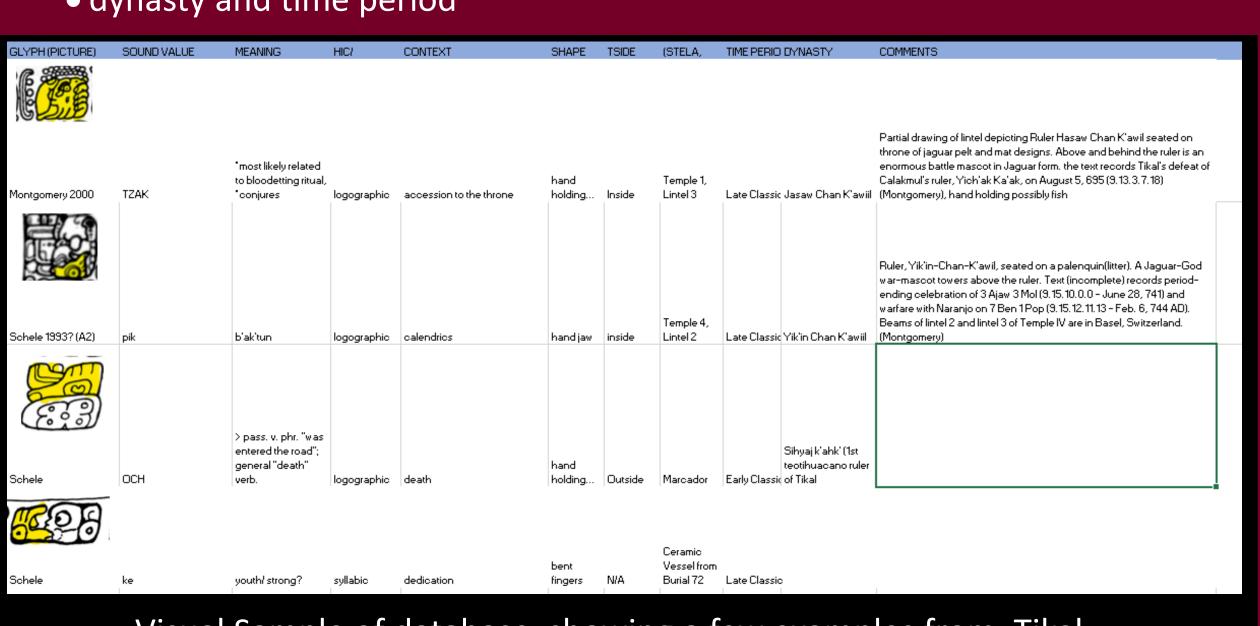
Research Question

Syllabograms are used alongside logograms to express words outside the logographic vocabulary. They exist in a supplemental relationship. Is there significance in the use of hand-shaped glyphs outside of that relationship, especially where phonetic value is concerned? Or is the use of hand shaped glyphs related to outside influence?

Methods

Methods for this project involved doing a visual survey of drawings from the Linda Schele and John Montgomery drawing collections available on the FAMSI website to find examples of hand-shaped glyphs in hieroglyphic texts on stelae, panels, and lintels (Fig. 3 and 4) at 5 different sites — Tikal, Copan, Quirigua, Palenque, and Piedras Negras, all represented by purple dots in Figure 1. The examples were collected into a database where they would be analyzed for:

- sound value
- meaning
- whether the glyph is logographic (representing a whole word) or syllabic (representing a sound value)
- context
- the shape of the glyph based on shapes used by Erik Boot (2003)(Fig 5)
- whether the text was displayed inside or outside a building
- dynasty and time period



Visual Sample of database showing a few examples from Tikal

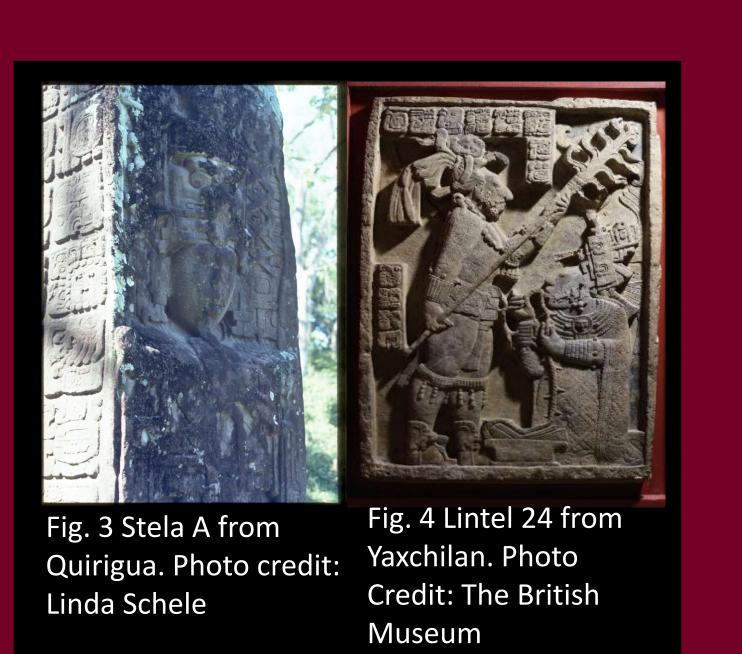
Results

• Sound Value: It quickly became apparent that the use of hand-shaped glyphs is not related to sound value. Of the 81 sounds represented in the Mayan syllabary, only 10 of them are represented by hand-shaped glyphs (Fig. 2). Many of those, such as 'chi', 'ke' and 'ho', only have a single glyph to represent them, a hand-shaped glyph. Only 18% of my dataset was syllabic signs (Fig. 6)—but this makes sense in the larger scheme of the writing system as most glyphs are logograms.

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Fig. 2 Mayan Syllabary with handshaped glyphs highlighted. Credit: John Montgomery

- **Teotihuacan Influence:** While researching the dynastic and contextual information of stelae at Tikal, I learned about the influence of Teotihuacan on Classic period (AD 250 – 900) Maya. Teotihuacan is another ancient civilization of Mexico, represented by a red dot in Figure 1. This was the most influential urban center in Mesoamerica from as early as 400 BC until 400 AD. Beginning in the Early Classic period (AD 250 – 550), Teotihuacan's influence on the Maya at Tikal can be seen in iconography and the establishment of dynastic rule. I wondered if the use of hand-shaped glyphs could be related to Teotihuacano influence. Spearthrower Owl, a Teotihuacano ruler who was named in texts describing the takeover of Tikal, has a hand-shaped glyph in his name and this glyph was one of the oldest I encountered (Fig 7). This led me to a new question: does the influence of Teotihuacan impact the use of hand-shaped glyphs? I looked at the history of the sites and its connection with Teotihuacano influence. I specifically wanted to look at how hand-shaped glyphs were used before and after a Teotihuacano ruler was seated on the throne at these sites. Nevertheless, the dataset was too small to reach any definitive conclusions. Four of the five sites I have in my dataset began with a Teotihuacano ruler seated on the throne to begin a dynastic line. The fifth site, Tikal, came under Teotihuacan influence in the Early Classic and many texts from that period are damaged from natural corruption. For those reasons I don't have enough evidence to prove the connection.
- Inside or Outside Display: Inside and outside displays have very different audiences in Mayan architecture. Lintels, panels, and other inside displays are meant for a more restricted audience. Outside displays, on the other hand, would have more open access as stelae and other outside displays can be found in public plazas. I found that the hand-shaped glyphs in my dataset were displayed almost evenly between inside and outside displays (Fig. 8). There were a few specific glyphs I expected to see used exclusively inside buildings due to context. One of those is the glyph "TZAK", a logogram represented by a hand holding a fish which means "to conjure" (Fig. 9). This glyph is commonly used to describe conjuring of ancestral spirits in bloodletting rituals which were performed by the Maya elite. Due to the context this glyph is commonly used in, I expected to find "TZAK" in textual displays inside—meant for the eyes of Maya elite but not the general public -- which turned out to be true; all the examples of "TZAK" in my dataset were from inside displays. "CHOK" (Fig. 10), another logogram which is represented by a hand scattering droplets and meaning "to scatter", is also commonly used to describe bloodletting rituals. Based on my previous assumptions and the results I found with "TZAK" I might also expect to find "CHOK" in inside displays. However, the majority of the examples of "CHOK" in my dataset were found outside.



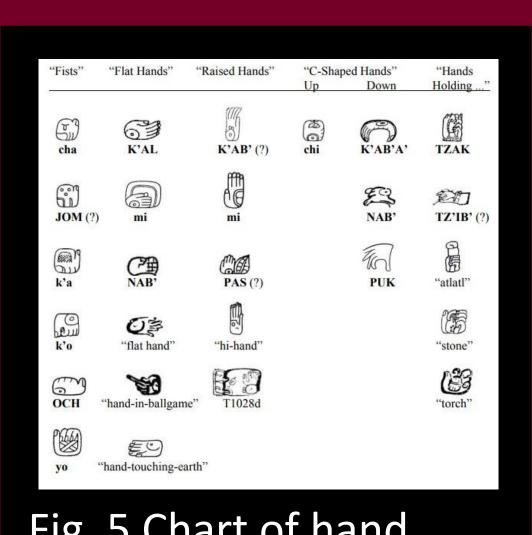
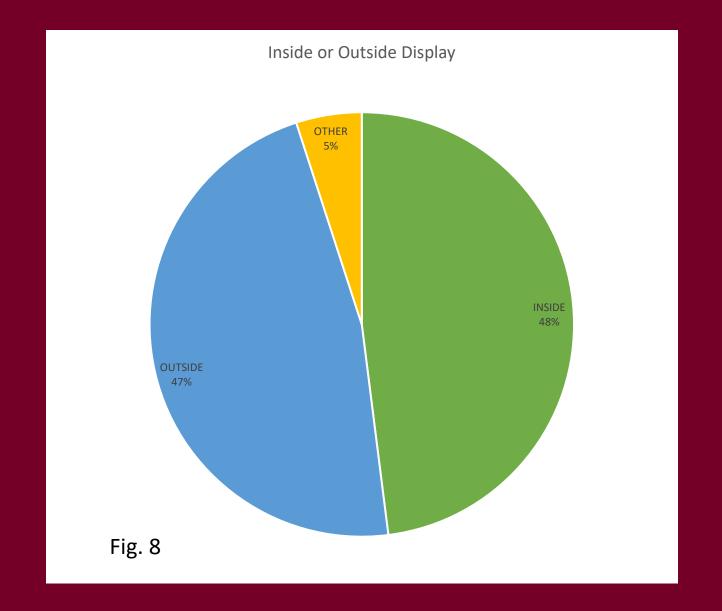


Fig. 5 Chart of hand shapes. Credit: Erik Boot



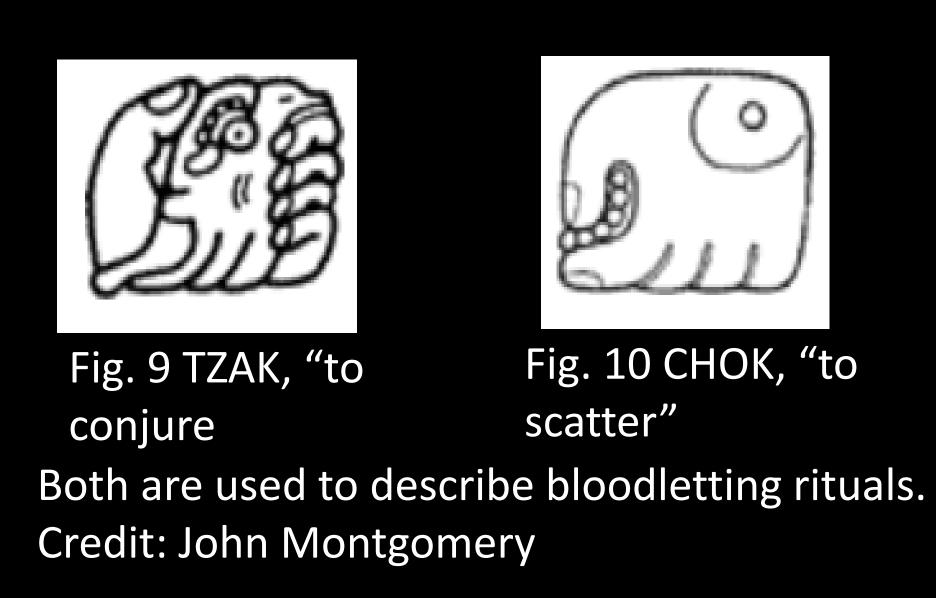


Fig. 6

Conclusions

Even though my dataset doesn't show direct correlation between hand-shaped glyphs and sound value or handshaped glyphs and Teotihuacan influence, perhaps analysis of sites with a stronger pre-Teotihuacan history could provide more conclusive results.

Further data collection and analysis concerning the use of TZAK versus CHOK may yield interesting results, particularly if this pattern is more widespread in the Maya world. Language for public (widely accessible) versus private (restricted access) consumption investigated with a larger dataset may shed light on the significance of hand-shaped glyphs.



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