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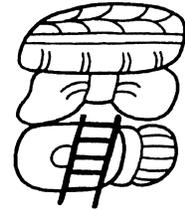
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# Glyph Dwellers



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## *The Cascajal Block: Sign Ordering*

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A stone block from the site of Cascajal, Veracruz, Mexico bearing incised signs, probably constituting a written text, was recently reported by Rodríguez Martínez et al. (2006). What follows is a brief presentation of preliminary observations on the sign ordering of the text. A more detailed analysis of the text is currently in preparation. Any attempt to identify the function of the signs (as logographic or syllabic) or to associate the text with any language or language family would seem ill-advised.

First of all, I agree with Rodríguez Martínez et al. in their proposed orientation of the text. In addition to their remarks on the orientation of individual signs, the signs at the top are larger and spaced farther apart than the smaller more crowded signs at what they propose is the bottom of the text. I realize that the authors numbered the signs of the text sequentially without intending to infer a reading order. Based on the presence of several sign sequences, I suggest here that the signs probably do not constitute a continuous text, but more likely represent discrete segments. That is, rather than containing an unbroken series of complete sentences, the text seems more likely to consist of individual words or phrases, perhaps names of persons or places, though at this time, the meanings of these segments remains purely a guess.

Figure 1 shows a proposed segmentation. Some of the segmentation is based on the relative size of the signs, and on the spatial grouping of signs. Some groups, such as *h* and *i*, *j* and *k*, and *l* and *m* may constitute sign sets. Other segments, such as *p* may consist of more than one segment. The figures that follow demonstrate that several repeated sequences of signs further support of some of the proposed divisions. The drawings of the signs in this paper are modified from figure 4 in Rodríguez Martínez et al. (2006).

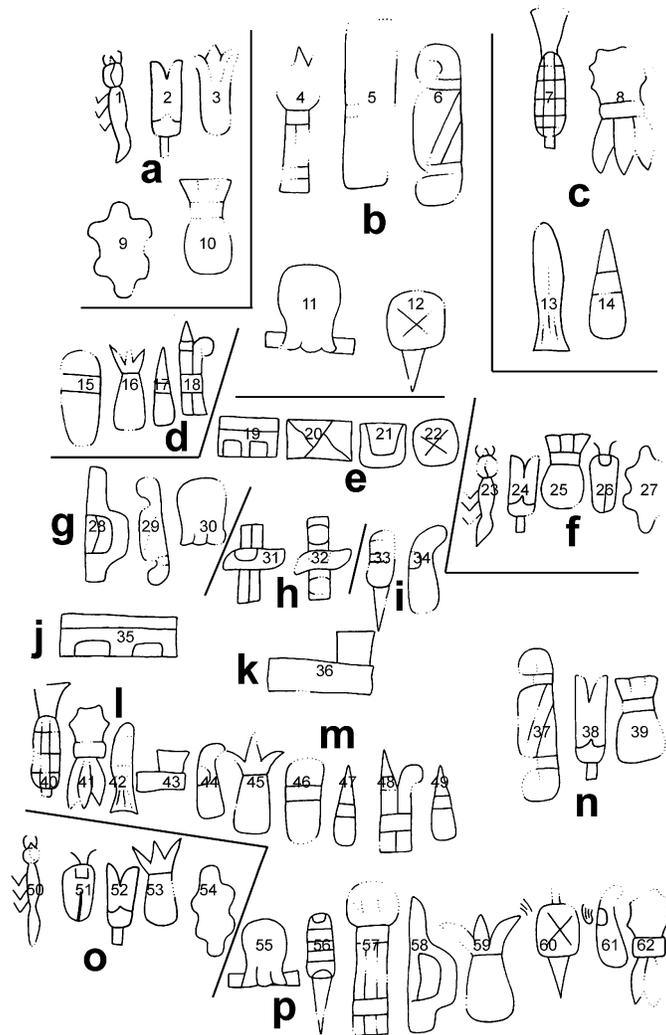


Figure 1. Proposed segmentation of the Cascajal text.

Segments *a*, *f*, and *o* shown in figure 2 each consist of five signs, though only three occur in all of the segments. Three signs occur only in two of the segments, and each shows a slightly different in ordering. This pattern supports the identification of segment *a*, rather than “reading” these signs as the leftmost signs of the first two lines of text.

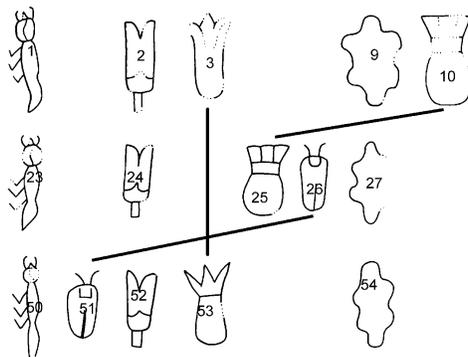


Figure 2. Related sequences of five signs (segments *a*, *f*, and *o*).

Segments *c* and *l* each contain identical sequences consisting of three signs. Segment *l* contains one additional sign. These sequences of three signs, in addition to the spatial grouping, justify identifying the four signs in *c* as a single unit, and not as being the two far right signs in the first two horizontal lines from the top of the block.

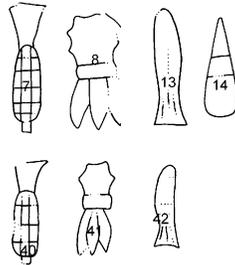


Figure 3. Related sequences of three signs (segments *c* and *l*).

Two sequences of four signs with slight variation in ordering show that *d* and *m* constitute some sort of grouping (figure 4).

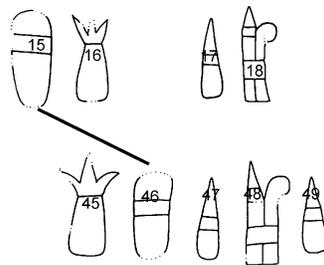


Figure 4. Related sequences of four signs (segments *d* and *m*)

However, the segments shown in figures 3 and 4 suggest the possibility of longer segments of two linked sequences.

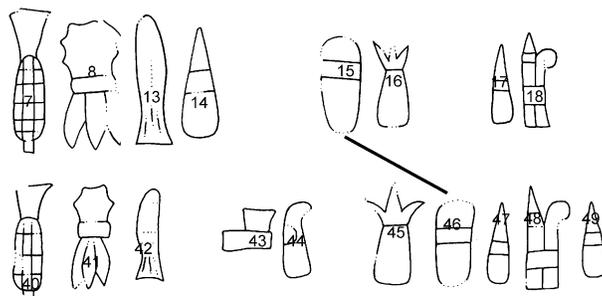


Figure 4. Possible linked sequences (segments *c-d*, *l-m*)

Figure 5 shows sequences of two signs. In the sequences from *f*, *n*, and *a*, the second and the last signs are the same. The initial sign of the example from *n* is different from the other two, and there are two intervening signs in the sequence from segment *a*.

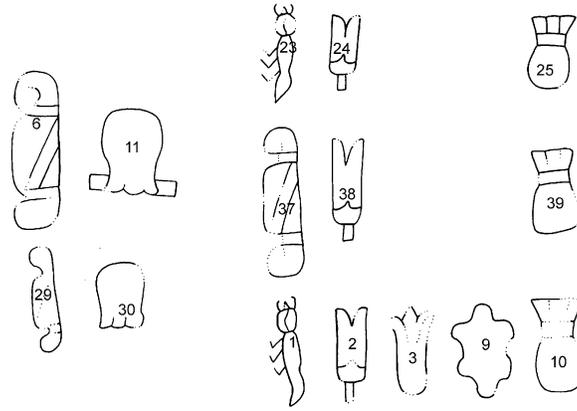


Figure 5. Sequences of two signs (from segments *b* and *g*; from *f*, *n*, and *a*).

The substitution patterns in figure 6 do not contribute to the divisions proposed in figure 1. It is possible that the signs from segments *p* and *i* support a division of segment *p* into two groups of five and three signs respectively.

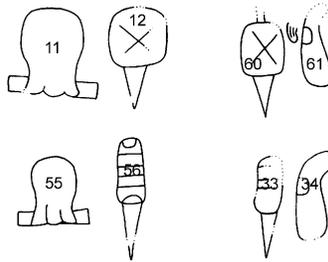


Figure 6. Substitution patterns (from *b* and *p*; from *p* and *i*).

The purpose of this discussion is to show that repeated sequences of signs can be recognized when the text is viewed as independent blocks, rather than as a purely linear arrangement of signs.

#### REFERENCE

Rodríguez Martínez, Ma. del Carmen, Ponciano Ortíz Caballos, Michael D. Coe, Richard A. Diehl, Stephen D. Houston, Karl A Taube, Alfredo Delgado Calderón  
 2006 Oldest Writing in the New World. *Science* 313:1610–1614.