The idiom of Phaistos disc seems to be a relative of Hattic language

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Abstract

Language of the disc has reduplication of root (blocks A3, A15) and well elaborated prefixation; it means that Minoan can probably be relative of Anatolian languages, or Hattic, or Sumerian (languages which also have well elaborated prefixation). Having attached readings of some known signs I discovered that certain syllables inside Minoan verbs are distributed in very alike positions as certain grammatical markers inside Hattic verb. For example: all verbs of the disc have se in terminal right positions that correlates with Hattic particle aš which is placed in the same position; there are many verbs with -qe- suffix that correlates with Hattic -e- suffix (supposedly a marker of tense/aspect); blocks A3, A15 have syllable te placed in the same position as Hattic orientation/location marker -te-; block A22 has syllable te in terminal left position that correlates with Hattic optative expressed by the same prefix in the same position.

Key words: Phaistos disc; Minoan language; Hattic language

1. General notes on the disc

Phaistos disc (pic. 3) was found by expedition led by Halbherr in 1908 in Phaistos upon the island of Crete (pic. 1); the disk is dated about 1800 – 1600 BC (Duhoux 1977); the disc is supposed to be an artifact of Crete origin (Duhoux 2000; Trauth 1990). Its writing system is syllabary (Ipsen 1929); writing system is of Cretan origin; and its immediate continuation is Linear A (Timm 2004).

Pic. 1. Map of Crete representing main Minoan sites (source: Kommos Excavation Crete)
Pic. 2. Crete and neighbor Mediterranean region (source: Background of ancient Greek history)

Pic. 3. Phaistos disc drawing (source: Phaistos Disk)
2. Some notes on the structure of the inscription

2.1. Directionality

Evidences that the disc is read from center to periphery are the following: in any Minoan inscriptions anthropomorphic signs never ‘look’ in the beginning of inscription (Pendlebury 1939); signs are placed closer in right part of blocks/cells: it can be only if signs were placed from center to periphery (Otkupshchikov 2000).

2.2. Borders of sentences

2.2.1. Some important trivia

a) The inscription is supposed to be a text, i.e.: a chain of connected sentences. If the inscription is just word list it hardly can be deciphered at all.

b) The inscription represents a complete text; text of each side has a beginning and an end.

c) All signs are signs of syllabary; there are no determinatives or logograms.

d) Each block/cell contains a word.

e) It doesn’t matter what side of disc is its face side.

2.2.2. Word order

All languages of ancient Mediterranean region and neighbour areas had SOV word order, so it’s completely logical to suppose the same word order for the idiom of Phaistos disc.

2.2.3. Positions of predicates

Since the text is read from center to periphery and word order is SOV, so the last blocks on each side are predicates/verbs.

2.2.4. Verbs as markers of sentences borders

Blocks upon the ends of both sides have been identified as verbs; they have plumed head sign (pic. 4) in their ends (A31, B13; pic. 5, pic. 6). Thus, this sign is considered to be marker of verb, and so other blocks with the same characteristic feature also are verbs.

Pic. 4. Plumed head sign

Thus it’s possible to determine borders of sentences since verbs are always placed in the end of sentences.
Pic. 5. Text of A side.
2.3. Some notes on structure of verb: reduplication of root prefixes and suffixes

It seems that blocks A3 and A15 (pic. 7) represent forms with reduplication.

Reduplication usually takes place in root so in current case it’s a marker of root and it’s possible to single out prefixes and suffixes.

I suppose that there are three prefixes in A3 and A15, but these prefixal signs also can actually be one prefix that consists of three syllables or two prefixes one of which consists of two syllables.
3. Attaching of some known readings

Reading of some signs can be reconstructed through comparison with corresponding signs of so called linear A and linear B.

<table>
<thead>
<tr>
<th>signs of disc</th>
<th>signs of linear A</th>
<th>reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>i</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ja</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ku</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ma</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>me</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>na / to (?)</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ni</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>pi</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>qe</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ra</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ru / re (?)</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>sa</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ta</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>te</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ti</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>wa</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>ze (?)</td>
</tr>
<tr>
<td>! [Image]</td>
<td>! [Image]</td>
<td>zu</td>
</tr>
</tbody>
</table>

Pic. 8. Signs known through linear A (the table compiled after Phaistos disc)
Pic. 9. Sign read through linear B (reading reconstructed after Chadwick 1976)

Pic. 10. Verbal blocks of A side with some known readings attached

In current text all sings which readings are unknown are marked by X without any special distinctions.
Pic. 11. Verbal blocks of B side with some known readings attached

Probably there can be also other verbal forms in the text of the disc, but upon current stage it’s not possible to detect them; only undoubtedly identified verbal forms are considered in current text.

4. Perspective direction of searching for Minoan relatives

Discovering of a relative of Minoan would be very helpful for further decipherement. The fact that Minoan seems to have well elaborated prefixation means that Minoan hardly can be relative of Etruscan since Etruscan has no prefixation (Rix 2008) or Hurro-Urartian languages since they also have no prefixation (Wilhelm 2008a; Wilhelm2008b). Language that has well elaborated prefixation can’t be relative of language with badly elaborated one (Akulov 2015a).
Despite it’s impossible to estimate Prefixation Ability Index of Minoan, but following general idea of Prefixation Ability Index method it is possible to say that Minoan can probably be a relative of one of the following stocks: Hattic, or Anatolian, or Sumerian.

5. Comparing structure of Minoan verb with that of Hattic verb

To prove relatedness of two languages we have to compare lists of grammatical meanings expressed in verbs and positional implementations of common meanings (Akulov 2016; Akulov 2015b).

In the case of Minoan it’s impossible yet to make definite conclusion since we have too little information about Minoan verb. However, it’s possible to make certain assumptions since in Minoan verbs there are some syllables which look much alike certain grammatical markers of Hattic verb and are placed upon very alike positions inside word form.

All forms identified as verbal forms of Minoan language have se syllable in their end (pic 10, pic 11). I suppose that this se hardly can be marker of an actant or a tense or a modality, but it can be certain particle. Se looks much alike Hattic aš/at (table 1, slot 2). Meaning of this aš/at is unknown (Kassian 2010: 180). I suppose that this se can probably be something alike sentence final particle. Anyway, both Minoan se and Hattic aš/at are placed in terminal right position.

<table>
<thead>
<tr>
<th>-9</th>
<th>-8</th>
<th>-7</th>
<th>-6</th>
<th>-5</th>
<th>-4</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>taš</td>
<td>šaš</td>
<td>teš</td>
<td>šeš</td>
<td>tušu</td>
<td>h, k, m, n, p, š, t, w(a), wa,</td>
<td>ta, za, še, te, tu</td>
<td>h(a), haš, kaš, zaš?, pi,</td>
<td>k(a), f(a)</td>
<td>R</td>
<td>u</td>
<td>e</td>
</tr>
<tr>
<td>ma, fa, pi (=fi?), aš/at</td>
<td></td>
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</table>

Table 1. Scheme of positional distribution of grammatical meanings inside Hattic verbal word form (Kassian 2010: 178); (Neg. – negation; Opt. – optative; Sb. – subject; Ref. – reflexive; Dir. Ob. – direct object; Loc. – location; Prtcl. – particles)

In the text of disc there are many verbal forms which end with -qe-se (pic 10, pic 11). I suppose that this -qe- can correlate with Hattic e (table 1, slot 1). This e is interpreted as marker of future tense, however, it isn’t sure yet, and it can be marker of an aspect (Kassian 2010: 180). Anyway, both Minoan -qe- and Hattic -e- are placed upon very similar positions.

Then, it is possible to say that te- (pic 10, A22) looks much alike Hattic optative (table 1, slot -8).

In block A22 (pic. 10) also there is syllable -sa- that looks alike Hattic marker of direct object -š- (table 1, slot -5), or Hattic marker of location/orientation -za/-še- (table 1, slot -4).
Blocks A3, A15 (pic. 10) and B3 (pic. 11) seem to contain another marker of location/orientation, i.e.: -te- that probably correlates with Hattic te (table 1, slot -4).


6. Cultural evidences: Çatal Höyük and Minoan Crete

Evidences of linguistics correlate with some evidences of cultural anthropology. Minoan Crete can probably be connected with Çatal Höyük (proto-city that exited in 7500 BC to 5700 BC).

Pic. 13 Location of Çatalhöyük (source: Cessford)

In both cultures existed well elaborated cult of bull and cult of female goddess (Marinatos 2013; Mellaart 1967).
It seems highly possible that Minoan culture could be continuantion of Çatalhöyük culture. Also they both probably could be connected with certain cultures of prehistoric Spain, for instance: Iberian or Tartessian and so Iberian or Tartessian language (pic. 12) probably can be relative of
Minoan. It’s possible to suppose serious Minoan influence in prehistoric Spain since from the very ancient times bullfighting has been an important element of culture while it is unknown in Greece or in Italy which are closer to Crete geographically.

References


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