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The Arkalokhori Axe Inscription in Relation to the Diskos of Phaistos Text.

The cave of Arkalokhori is situated ca. 30 km south-east of Heraklion and about 4 km south-east of the newly found palace of Galatas. The cave consists of a gallery leading into the hill of St. Elias and is 30 m long. It partially collapsed at the end of Late Minoan I, possibly due to an earthquake. Some deeper parts of the cave were plugged and, thus, even valuable gold- and silver-specimens were conserved up to our time.

Even in earlier times a part of the cave was known as a finding spot of metal objects. This fact had already led to an investigation by Hazidakis, 30 years before the fruitful and complete uncover of the cave by Marinatos¹. The latter campaign was triggered by reports about children perchance finding some gold objects and peasants plundering the cave. Indeed, some 20 golden double-axes could then be confiscated by the Greek Archaeological Service.

Marinatos in 1934 had even to apply gunpowder in order to open the blocked parts of the cave, and the yield was overwhelming. Besides a larger number of (ca. 30) gold and silver double axes found on one small altar, the end-part of the gallery contained hundreds of bronze long-swords, knives and double axes, some as dedication similifacts, some in usable form. As the whole ensemble bore a definite military character, also double axes seem to have sometimes been applied in this field (as missiles?). In any case, the findings give the impression of the remains of a military sanctuary.

Most interestingly, three of the found double-axes were inscribed. One small gold and one silver axe (ca. 5 cm side to side) show one and the same scratched-in word written in LinA, the phonetic transcription² of which is "IDaMaTe" (see Fig. 1).

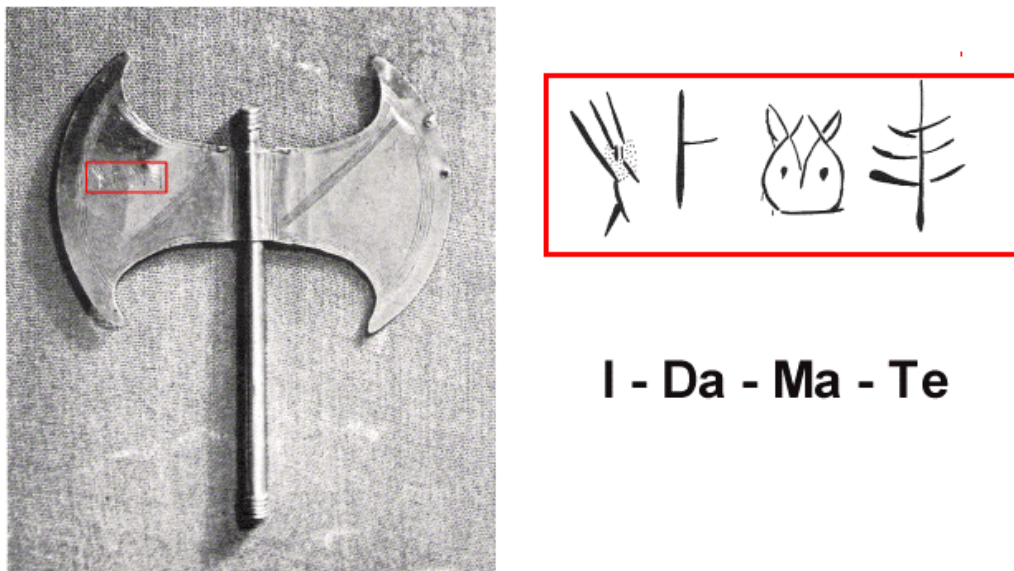


Fig. 1: Small gold-axe from Arkalokhori Cave and its inscription (after GORILA³)

¹ Marinatos, S.: Ausgrabungen und Funde auf Kreta 1933-1934, Archäologischer Anzeiger, 1934

Marinatos, S.: Ausgrabungen und Funde auf Kreta 1934-1935, Archäologischer Anzeiger, 1935

² Younger, J. : Linear A Texts in Phonetic Transcription, non Hagia Triada,

<http://www.people.ku.edu/~jyounger/LinearA/>

³ GORILA 4, Godart, L., Olivier, J.-P. :Recueil des inscriptions en Lineaire A, Geuthner Paris 1982

Further, a rather big devotional bronze-axe (ca. 30 cm side to side), called **"The" Axe of Arkalokhori**, bears in its middle part a short text, articulated in three vertical columns as shown in **Fig.2** . The Axe is now kept in the Heraklion Museum show-case 91.

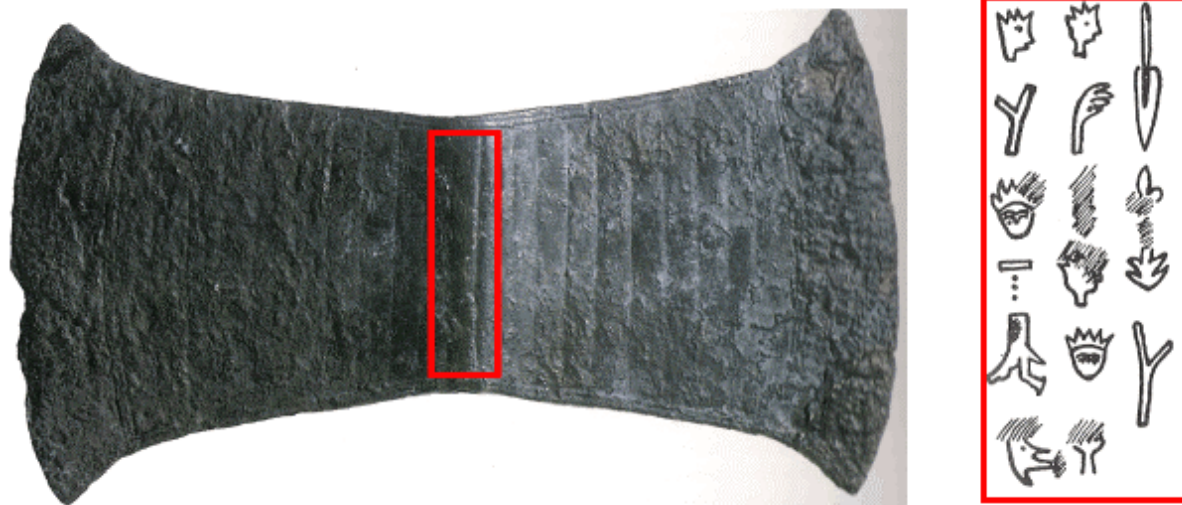


Fig. 2: Large Bronze-Axe and inscribed text. (After Godart, text after Schachermeyr ⁴)

The text on it is not punched, but incised or in-chiselled, and unfortunately rather corroded. Otherwise it is an example nearest to the script on the Diskos of Phaistos.

The usual way to cope with this text is to look for the similarity of single characters with Diskos- or LinA-characters. In that way the following three similarities were established ⁵,



but further progress was not seen. Godart ⁶ was so much frustrated by this fact, that he declared the inscription as pseudotext and its producer as illiterate.

So let us try a new approach and assume, that the Axe text indeed is - or at least was intended to be – of the same script as the Diskos of Phaistos.

The first question then is, whether we have to expect a great number of new characters, not present on the Diskos. Let us do a short estimation. The quantitative evaluations in the paper Rumpel 1994 ⁷ contain in its Fig. 5 the token-frequency of the 45 Diskos types after reduction; that is: after elimination of the text repetitions present on the Diskos, which would of course impair the statistic. This graph was extrapolated to the maximally expected 65 types. In our present **Fig 3** this graph it is approximated by an exponential function. Here the area under the curve between the type-numbers 45 and 65 corresponds to the cumulative probability of tokens additional to the Diskos set. It comprises about 10% of the total area. This says – under the assumption above - that each type on the Axe has a 10% probability to be a new one. For

⁴ Schachermayr, F.: Die minoische Kultur des alten Kreta, Kohlhammer Stuttgart, 1979

⁵ Neumann, G.: Zum Forschungsstand beim "Diskos von Phaistos", Kadmos Bd 7, 1968.

⁶ Godart, L.: Der Diskus von Phaistos, Editions Itanos 1995. ISBN960-7549-01-5

⁷ Rumpel, D.: Some Quantitative Evaluations of the Diskos of Phaistos Text, Journal of Quantitative Linguistics, No2, 1994, pp.156-167

the whole set of 11 Axe types we get 110%. This means that we could expect perhaps one new character in the Axe set, but not an overwhelming number.

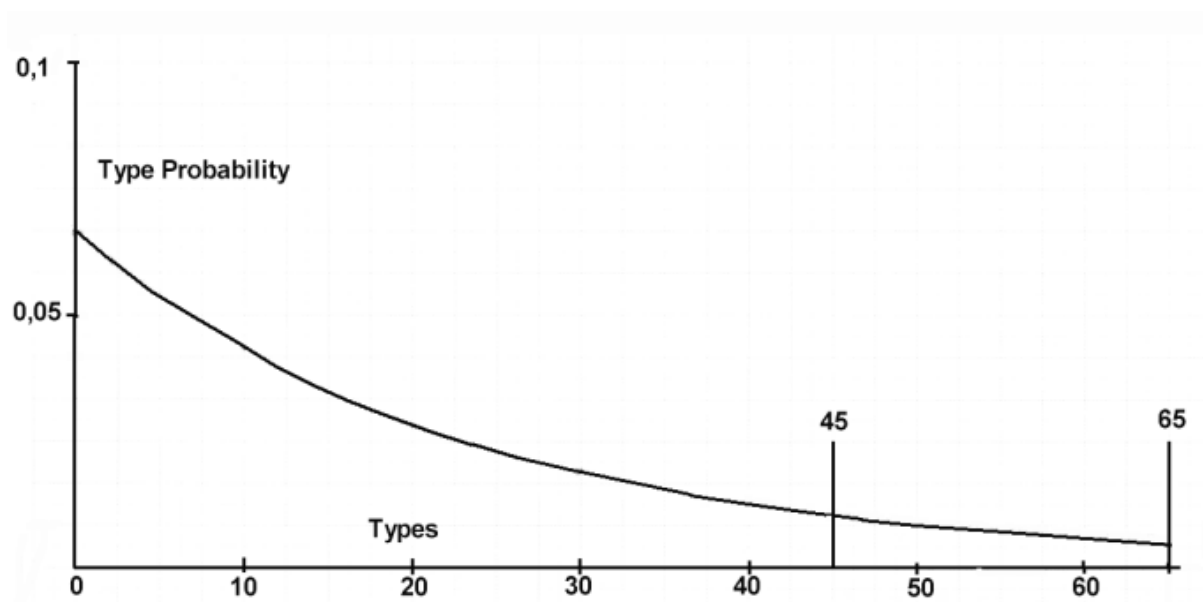


Fig. 3: Approximate distribution of type probabilities in the extrapolated Diskos font.

So let us look how far we get, parallelize the Axe characters with the Disk ones and assign them the neutral code syllables, as defined for the Diskos characters in Rumpel 1990⁸, Tab. 1.

The Diskos among its types shows two heads, one with something on, the other with nothing on. Indeed, on the Axe there are two heads: one with something on, the other with nothing on. Parallelizing them, the crowned head would represent the featherhead (D2) and the other head the bald head (D3).



Relatively clear seems the co-ordination of the following three characters and codes:



The fifth character of the left column shows a tree-root. Also the Diskos contains a tree-root (D22), which obviously has been misinterpreted as "double-flute", "strap of a sandal", "arc-meter", "body with legs", "dead man", "snow-besom", "forked wood". (That is to say, nobody knows). So the Axe can provide clarification for D22 to be a tree-root.

⁸ Rumpel, D., 1990: On the internal structure of the Diskos of Phaistos text, Hammerl, R.(Ed.), Glottometrika 12, 131-149



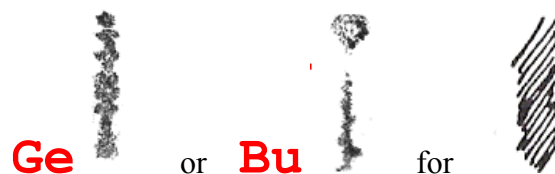
The fourth character in the left column could be a form of the Lin A character A06 with phonetic interpretation "Na", but also the numeral "130" in hieroglyphic notation. (See examples in CHIC⁹). So we get:



The second character of the middle column is a four-pronged plant bowing right. On the Disk, the only similar pictogram is a three pronged plant standing upright (D39). So let us parallelize:



The third character of the second column unfortunately is fully destroyed, but seems to have been a very slender pictogram. As paralleled Diskos pictogram we could think of the club D13, or the (papyrus?-)flower D37.



In the left and the middle column of the Fig.2-text, the characters before the last one are **Gi** respectively **Ca**. Considering the results of Rumpel (1990 and 1994), **Gi** is probably a suffixum verbi, ending a verb. As well, **Ca** in the middle column of the Axe, is the end-syllable for both the masculine and the feminine plural suffix, and in this way ending a noun. Such a fact would isolate the two last characters of both columns to form a separate word written horizontally.

The last character of the left column has three tips and (at least in Schachermeyr) a black point. In that it corresponds to the Disk character D44, code **Xu**. This character is only once present on the Diskos, where it is preceded by the character D8, code **Xa**, and followed by D27, code **Yi**: "**XaXuYi**". As **Yi** is a suffix, **XaXu** could be a root word. The rather destroyed Axe-character right of **Xu** could well have been the pictogram "glove" **Xa**, and a horizontal reading left-to-right would give an inverted **XuXa**. So let us tilt the Axe to the left, and read from above **XaXu** in unison with the Diskos. In that way also the **Xu**-pictogram would get a position nearer to that on the Diskos and such a crosswise writing would in its turn be consistent to the short ending of the words above it.

⁹ CHIC, Olivier, J.-P., Godart, L.: Corpus Hieroglyphicarum Inscriptionum Cretae, Etudes Crétoises 31, 1996.



In total we get the assignments of **Fig. 4**

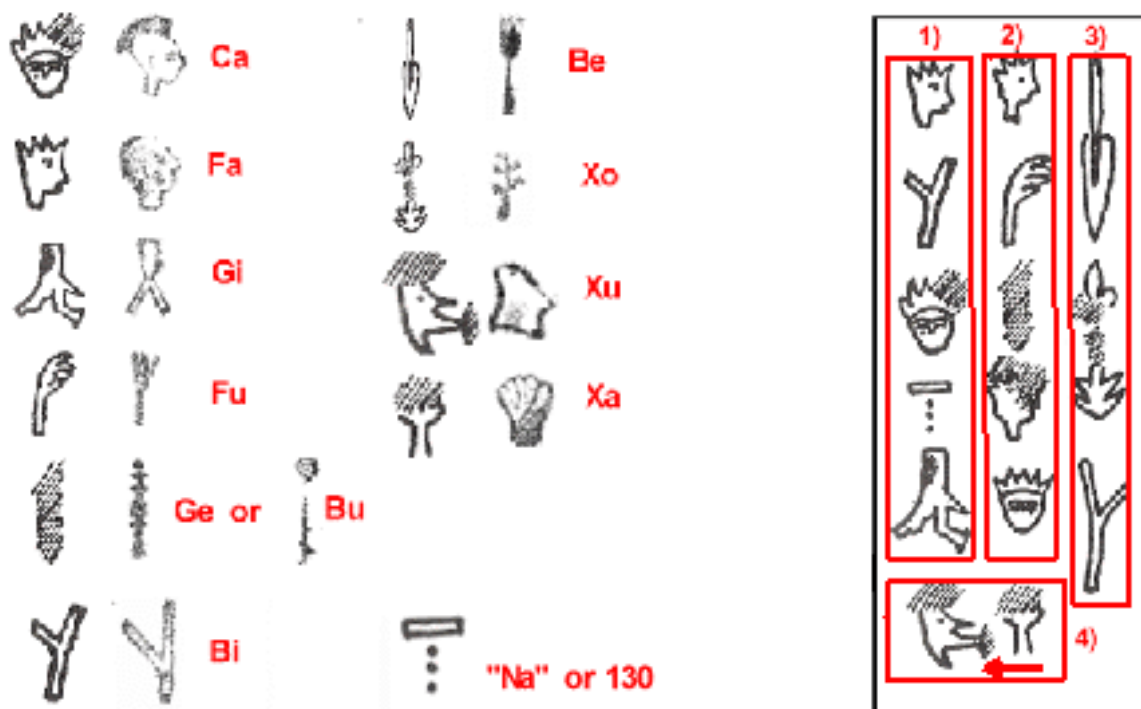


Fig. 4: Code assignment and word structure of the Axe characters.

This enables us to write the Axe-text in the same neutral code as applied with the Diskos:

- 1) **FaBiCa(Na or 130)Gi**
- 2) **FaFu(Ge or Bu) FaCa**
- 3) **BeXoBi**
- 4) **XaXu**

If we go on and replace the code by the "approximate phonetics" (yellow underlain) ascribed in Rumpel 2006¹⁰ to the Diskos characters, this would result in:

- 1) **DoDiSe(Na or 130)Qu**
- 2) **DoDa(Ma or Ti)DoSe**
- 3) **RiJaDi**
- 4) **NiKi**

¹⁰ **Rumpel, D.:** An Approximate Interpretation of the Diskos of Phaistos Text, Anistoriton 2006, In Situ, <http://www.anistor.gr/index.html>

Most interesting here is line 2), because, choosing **Ma** as the third character, we get **DoDaMaDoSe**, and this seems to be a soft-spoken variant of a word that in "approximate Diskos-language" would have been ***ToRaMaToSe** = "to the Goddesses"; with **To** as dative prefix and **ToSe** as feminine plural suffix. **DoDaMaDoSe** gives a reasonable parallel to the expression **IDaMaTe**, the LinA dedication-word found on the above mentioned gold and silver axes. Here the same **DaMa** = "Goddess" instead of the Diskos-**RaMa** appears and is decorated with the evidently more recent female plural suffix **Te** (one application of which we had already found in Rumpel 2006 on the Diskos) and with an as well recent dative prefix **"I"** (Or possibly **"No"**, as the phonetics of A28 are not finally defined).

Regarding the military character of the Arkalokhori cave, Line 4) would also semantically fit to the word **NiKiSa**, which on the Disk had been given the meaning "Victory". Thus, **NiKi** may be something like "Victor".

Line 3) would contain the name of the hero: **RiJaDi**.

If we select in line 1) the numeral 130 instead of Na, then **DoDiSe-130-Qu** results. **Qu** was already identified on the Diskos as the suffixum verbi "he has/was", so **DoDiSe-130-Qu** should be a verbal perfect "he has done something". Maintaining its structure it could be interpreted as: "killed-ones(Pl.)-130-he-has". (By the way, this verbal structure looks quite a bit protosemitic, as the prototype of a Semitic verb is regarded as a noun decorated with personal pre- or suffixes ¹¹).

Anyhow: "He has killed 130. To the goddesses. RiJaDi, victor", seems to be a quite appropriate text and occasion for dedicating a double-axe at a military sanctuary.

Summarizing this study: Already Marinatos wondered, how in times of a completely developed Lin A script such an antique hieroglyphic text turns up. As it seems now, not only the script, but also the language was intended to be the antique one. Both endeavours did not fully succeed, but the producer of the Axe text was by no means an illiterate chaotic.

¹¹ Strack,H.: Hebräische Grammatik, Reuther und Reichard, Berlin 1896