

THE NEWBERRY STONE

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Two years ago, Ms. Connie Sweet, the director of the Fort de Buade Museum in Saint Ignace, Michigan, being interested in checking the authenticity of some artifacts that were property of the museum, sent me a high quality photograph of the Newberry Stone, depicting the tablet in its original state (figure 1), as well as photographs of its current state. She also sent me photographs of the artifacts found near the stone (figure 2a). That was the reason for my interest in the tablet.

In November 1896, in the northwest area of Newberry, Michigan, two woodsmen found a tablet (figure 1), 26 cm high and 19 cm wide, divided by 10 vertical and 14 horizontal lines into 140 quadrangles, each containing one symbol. Three small statuettes were found next to the tablet. Even though there is a dispute concerning the authenticity of the tablet, mainly due to the way it was found and preserved¹, many questions have risen concerning the inscription itself, such as:

1. Why was it found in the area among the Great Lakes of Canada?
2. Would there be any gain from constructing a counterfeit script artifact?
3. Do the symbols and syntax of the inscription provide clues about its authenticity?
4. Can the script be paralleled to other known inscriptions in order to enable us make an attempt to read its content?

¹ According to an online information, the tablet today is broken in 8 pieces and it can be found in Fort de Buade Museum, in St.. Ignace, Michigan.

The Newberry Stone

Until now, many people have tried to give a meaning to the text of the inscription, accepting it as authentic, Henrietta Mertz² was one of them. This study attempts to answer all of the above questions with arguments that result from: (1) the study of the content of the tablet and its comparison with other inscriptions, (2) the interrelation of modern and historical facts that have been gathered from various sources.



Figure 1. Newberry Stone



Figure 2.

²Barry Fell, Epigraphic Society Occasional Publications, Vol. 9 No 218, June 1981. Pages 132-136.

The Area Where the Tablet was Found

In Lake Superior in North America, there is an island, named Isle Royale that used to have enormous quantities of copper with purity reaching 95-97%. The copper of the isle was easy to mine and work with. Information about the quantity of the copper and the way it was mined, can be found on the official webpage of the public Museum of Milwaukee in Wisconsin³. In 1957, the researcher Robert E. Ritzenthaler calculated that great amounts of copper (50.000 tons) were mined during the period 2400 and 1200 BC from the area of the Great Lakes. Many researchers were in doubt whether copper was used by the local tribes. It is very likely that those involved in the exploitation of copper in this northern area had some place of establishment or a religious or other type of center in that area. Plutarch, the great priest in the oracle of Delphi in the 1st century BC, mentioned that the ancient Greeks communicated with faraway lands in the North. Many researchers of Plutarch's texts, in an effort to locate the areas where—as he mentions—the Greeks were travelling, have found many clues that lead them to believe that the aforementioned area is today's Gulf of Saint Lawrence.⁴/

³ <http://www.mpm.edu/research-collections/anthropology/online-collections-research/old-copper-culture> [last accessed 19/3/2018]

⁴ <http://canada.greekreporter.com/2012/04/21/researcher-claims-ancient-greeks-made-it-to-america-before-columbus/> [last accessed 19/3/2018]

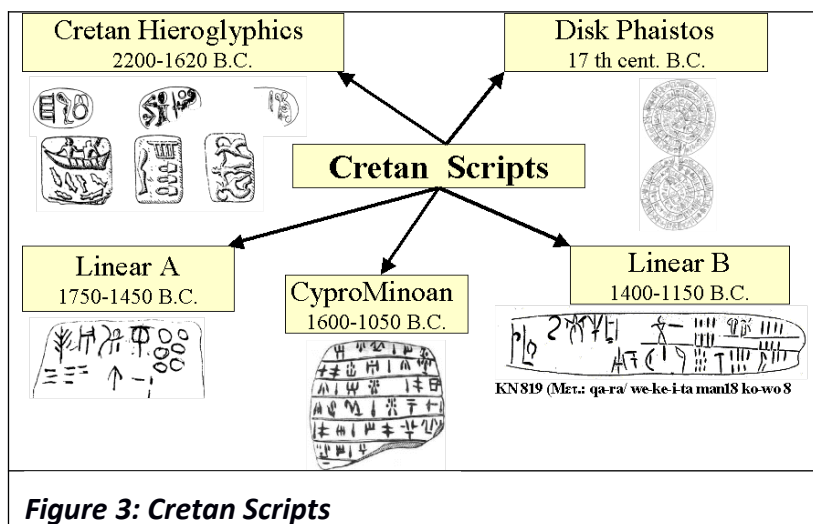
Authentic or Hoax?

Was there any kind of benefit in creating a counterfeit inscription on a stone tablet at the end of the 19th century? The interest of the forgers of ancient objects at that time was focused on copies of golden or ivory objects, which—of course—had greater commercial value for the collectors and the museums of the world. It is known that A. Evans himself donated many of the Linear B inscriptions of Knossos to friends who were visiting the area. Thus, there is almost no possibility that during that time there was an interest for stones with symbols of unknown origin carved on them, like the Newberry Stone.

Another possible clue for the authenticity of the Stone results from the interrelation of the statuette that was found with it. If we observe figure 2, and we compare the face of the statue (figure 2a) with figures 2b and 2c, which were found in Palaicastro, Crete, we notice a resemblance. The images depicted in figures 2b and 2c belong to a goddess with raised arms and they have been dated to the 14th century BC. By enlarging figure 2b we get figure 2d. If we compare figures 2a and 2d, we notice that they both have enwidened faces with intense and very similar features, which state a possibly similar depiction. Therefore, it might be possible a connection between these artifacts and the Cretan-Minoan worship of the 14th century BC.

The Kind and Structure of the Script

The two last questions concerning the kind of the script, its structure and its origin, are pondered after a sort description of the Cretan scripts.



The invention of writing was probably dictated to Crete by the need to fulfill various administrative needs of the civilization that flourished there during the 2nd millennium BC, as it is evident from the huge amount of accountant tablets as well as other economic evidences. Moreover, writing also served religious purposes, such as ritualistic needs, as it is obvious by the inscriptions on the offering altars⁵. It is known that the Minoan and the Mycenaean civilizations developed three systems of writing. Evans, in *Scripta Minoa*⁶, classified the scripts of the cultures that were developed in Crete from 2200 until 1200 BC, to: hieroglyphic writing, script type A and script type B. These systems were used for about one millennium in the written communication between the “first literate” communities of the Aegean. From 2200 until 1150 BC the script artifacts are classified and distinguished as presented in figure 3. The inscriptions in Linear A and B were found in the Knossos palace excavations, by Evans, during the years 1900-1913, and were published in 1909⁷.

⁵ Tsikritsis M. “Linear A: Contribution to the understanding of an Aegean Script”, Vikelaia Public Library, Herakleion 2001.

⁶ Evans A. J., “Scripta Minoa I”.Clarenton,1909.

⁷ Evans A. J., “Scripta Minoa I”.Clarenton,1909.

In 1875, in Kourion, an area of the city of Larnaca in Cyprus, a cylinder seal with five writing symbols was found and was taken to the Metropolitan Museum of New York. Also, in 1888, in the area of Agia Paraskevi of Nicosia, also in Cyprus, a second cylinder seal was found which had 4 writing symbols, and was taken to the Ashemolean museum. The tablets with the Cypriot-Minoan inscriptions were found after 1910. The publication of all the inscriptions as well as the initial cylinder seal of the Cypriot-Minoan script did not happen before 1957. The Cypriot-Minoan script has 110 ideograms⁸.

Epigraphical Analysis of the Newberry Tablet



The Newberry Stone contains 137 symbols. Table 1 presents the multitude of the symbols and their frequency of appearance. More specifically, in the first column, there is the serial number of lines, in the second column, there are the symbols of the tablet that look similar⁹, and in the third column, we can see the frequency of appearance of each symbol. Therefore, we conclude that the Tablet uses 39 different symbols.

In the next two columns (4) and (5) we find the comparable symbols of the Cypriot-Minoan/ Cypriot script, in column (6) we mark an auxiliary number for the measurement of the symbols that are considered similar to the Cypriot-Minoan script, and in the last column(7) there are the corresponding symbols of Linear A and Linear B. The last column (8) has the probable phonetic value of each symbol.

It is accepted that when we calculate the frequency of appearance of the symbols in a syllabic inscription, the frequency of the symbols "a" or "e" always appear among the first five more frequent. In the above table (1) can be noticed that there is no symbol for "a" nor for "e" the frequency of which appears in the first five places.

⁸ Tsikritsis M. "Statistical analysis of the Cypro-minoan ideograms", 11th International Cretological Congress, Rethymno, October 2011.

⁹ Every symbol has been cut and placed in the second column, in order to clarify its resemblances as well as its differences with the other symbols.

We also notice that the symbols of line 21  and line 26 , each one with a value 3 frequency of appearance, are so similar that we can argue that they can be identified as syllable -a or -e of the Cypriot syllable writing. In the case of their classification into groups, these symbols will have a value 6 total frequency of appearance and they could correspond to the vowels "a" or "e".

After classifying the symbols of the Stone in table 1, we observe that:

- (a) From the 137 symbols of the inscription, only 39 are different.
- (b) 6 of them appear only once
- (c) 23 symbols out of the above mentioned 39 (a percentage of 59%) are precisely similar with the ones from the Cypriot-Minoan script and the classic Cypriot script. This percentage is increased to 24 out of 39 symbols if we take into account the aforementioned observation. Those symbols are in lines: 1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 20, 21, 22, 23, 25, 27, 28, 29, 30, 32, 33, and 34.
- (d) 7 symbols out of the aforementioned 39 (a percentage of 21%) are similar to Linear A and Linear B ideograms. Those symbols are in lines: 2, 9, 17, 18, 19, 24, and 38.

[Editor Note: Rather than scale the Analysis table down further, its caption is here on the preceding page.]

**Table 1. Analysis—Comparison and Interrelation of the Symbols
(see next page)**

The Newberry Stone

(1)	Symbol Table Newberry Michigan (2)	Freq. (3)	Cypro-Minoan (4) and Cypriot (5)	Aux/ no. (6)	Linear A&B (7)	Value(8)
1		10		1 c		ro/lo
2		7				Fo/ jo
3		6				te/ti
4		6		2 c		ko
5		5		3 c		la
6		5		4 c		xe/ ta
7		5		5 c		ra
8		5		6 c		a/ka/xa
9		4				53/tu?
10		4				
11		4		7 c		ki
12		4		8 c		ja
13		4		9 c		le
14		4		10 c		u
15		4		11 c		li
16		4		12 c		nu
17		4				ra
18		3				ku
19		3				pu/ke/mi
20		3		13 c		ri
21		3				pe
22		3		14 c		i
23		3		15 c		pa
24		3				ma
25		3		16 c		mo/qe
26		3				su
27		3		17 c		na/to
28		3		18 c		75
29		3		19 c		po
30		3		20 c		tu
31		3				
32		2		21 c		114
33		2		22 c		sa
34		1		23 c		ni
35		1				
36		1				
37		1				
38		1				
39		1				

Based on the previous table 1, it is deduced that:

- The script cannot be phonetic, and it probably represents a syllabic form of writing, since there are only 39 different symbols. Current alphabets use around 20 to 30 different symbols in order to form a text while syllabic systems use more symbols, for instance, the Cypriot uses 55, Linear B uses 78, and Linear A probably uses over 80.
- Almost the 75% of Newberry Stone symbols are similar with the symbols of the Cypriot-Minoan script.
- The complete syllabic system of this script must include at least another 20 symbols, which are obviously not used in the tablet. This observation is based on the structure of the syllabic script systems. By applying the Mackay¹⁰ method, we conclude that the different symbols of the script cannot be more than 59.

Finally, comparing the 137 symbols of the Newberry Stone with the 123 symbols of the Phaistos Disk¹¹ which correspond to 31 words, we can make the hypothesis that the inscription consists of about 34 words. Most of the symbols are very similar to the classic Cypriot syllabic script and especially the one that was found in the region of Paphos.

¹⁰ Mackay A., "On the Type-Font of the Phaistos Disk: Statistical Methods in linguistics IV", 1965, 15-25.

¹¹ We notice that 45 different symbols appear on the Disk, 9 of which appear only once. The question "how many more symbols are there, which do not appear at the inscription of the Disc" is answered by Yves Duhoux's study, (see Tsikritsis M., The Phaistos Disk- A Guide to Its Deciphering, p.36-37, Herakleion 2006).

How to Read the Newberry Tablet

	1	2	3	4	5	6	7	8	9	10
1◀	↓	∩	∩	∩	∩	∩	+	∩	∩	∩
2▶	∩	∩	∩	+	+	∩	∩	∩	∩	∩
3◀	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
4▶	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
5◀	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
6▶	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
7◀	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
8▶	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
9◀	+	∩	∩	∩	∩	∩	+	∩	∩	∩
10	∩	∩	+	∩	∩	∩	∩	∩	∩	∩
▶	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
11◀	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
12	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
▶	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
13◀	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
14	▶									















Table 2. The Columns and the

Following its structure, the tablet can be divided into numbered columns and lines. It is observed that certain words can be determined and be repeated as well as others that have common roots. At a glance we may deduce that the inscription cannot be read vertically, because of the two empty spaces that appear in line 8.

Henriette Mertz¹² suggested reading the inscription boustrophedonically, starting from the top left. The interpretation she proposed has quite a few problems, especially since she attributes different phonetic values to identical symbols, possibly in order to attribute a predetermined interpretation.






¹² Barry Fell, Epigraphic Society Occasional Publications, Vol. 9 No 218, June 1981. Pages 132-136.

Determining similar syllabic structures could give us an idea about a possible reading of the inscription. Having this in mind, we placed in table 3 the similar syllabic words per line and column, reading each line from left to right:






Line	Col	Symbol	Line	Col	Symbol	Line	Col	Symbol
3	1		10	5		9	5	
4	1		5	9		5	1	
6	3		13	3				
2	9		7	6		7	1	
6	7		8	1		9	1	
Table 3. List of Similar Words of Newberry Tablet in Various Inflections								

In quadrangles (3,1) and (4,1) of table 2, there are two words that have three identical syllables, with the difference that the word (4,1) has another first syllable – probably a prefix, declaring an increase. By observing these words in lines 3 and 4 we realize that the inscription cannot be read *boustrofedon*, because in that case, one of the words would be read one way and the other in the reversal. We can argue that this conclusion is valid for table 2 in general.

Since the tablet cannot be read boustrofedon, there should be a mark determining where the reading of the inscription should begin. Based on previous experience with Aegean scripts, the dot in the bottom left quadrangle can be considered the beginning of the text. Therefore, we believe that the inscription should be read from bottom to top and from left to right per line. Table 4 below depicts this type of reading, based on the arithmetic coding we gave to the tablet.

Syb	
Cod	* 22- 2 -7- 8-18- 6- 20-21-4 // 24-7- 5 - 14- 12- 3 -16 - 9- 1- 17 // 8- 19-13-23-6 - 2- 2 - 11- 27-15
Syb	
Cod	3-22-8-30- 34- 2-35-29-33-1// 32-6- 1- 17-14- 12-13- 9- 16-10 // 1- 7- 9- 10-26-24-1-23-2-4//25-11-20- 6 - 16
Syb	
Cod	19-15 -1 // 5- 3- 7-9-30-25-11-14-12-28// 2- 29- 17-13-22-31-15-8- 3- 2 // 24-1-32-21-11-38-29-14-12-4
Syb	
Cod	17-13-18-28- 6- 39- 2- 27- 4- 5 // 1e-18-28- 7- 27- 3- 31- 20- 10- 19 // 37-16- 26 -1 - 1- 30- 25-26-15-8
Syb	
Cod	3- 4- 5- 31-4- 36-1-10-33- 5
Table 4. Reading Table of the Newberry Inscription from Bottom to Top	

In table 5 we depict the possibility of reading the inscription from top to bottom and from left to right per line.

Syb	
Cod	3- 4- 5- 31-4- 36- 1-10-33- 5 // 37-16- 26 -1 -1-30-25-26-15-8// 13-18-28- 7- 27-3- 31- 20-10- 19
Syb	
Cod	17-13-18-28- 6- 39-2-27- 4- 5 // 24- 1- 32- 21- 11- 38- 29- 14-12- 4 // 2- 29- 17-13-22-31- 15- 8- 3- 2
Syb	
Cod	5- 3- 7-9-30- 25- 11-14-12-28// 25- 11- 20- 6 - 16 //
Syb	
Cod	/ 19- 15 -1 // 1- 7- 9- 10-26- 24-1- 23- 2- 4// 32-6- 1- 17-14- 12- 13- 9- 16-10 // 3-22-8-30- 34- 2-35-29-33-1//
Syb	
Cod	8-19-13-23- 6 - 2- 2 - 11- 27- 15 // 24-7- 5 - 14- 12- 3 -16 - 9- 1- 17 // * 22- 2 -7- 8-18- 6- 20-21-4//
Table 5. Reading Table of the Newberry Inscription from Top to Bottom	

Conclusion

The Newberry Tablet (Figure 1) is a unique artifact (unicom), and as a consequence the development of a “valid” reasoning is actually a “paper exercise” and not a scientific argument per se. Consequently, cannot be attempted a replacement of the symbols with possible phonetic values, which have been attributed in table 1, since only the 24 out of 39 symbols are similar to the cyprominoan script. Since the remaining 15 cannot be recognized, the subject of reading and interpreting the inscription still remains open. Nevertheless, the replacement of the symbols that have great resemblance to the symbols of the Cypriot-Minoan script, gives us words that are actually names of people who come from the region Kamiros of Rhodes and they are mentioned as *ka-mi-ri-ta-wi*.

Probably the inscription was written between the 12th and the 8th century BC and its symbols were influenced by the Cypriot-Minoan script. A percentage of 25% approx of its symbols has to be a local creation. The modification of a syllabic system in another region is a known phenomenon. A similar case was the case of Cypriot-Minoan script (1650-1050 BC) that was based on Linear A (1800-1530 BC). We should also note that the horizontal and vertical lines of the Newberry Stone is a characteristic not found in other script artifacts of the Cypriot-Minoan writing system.

Regarding the authenticity of the tablet, we may argue that the Stone is probably not counterfeit, because it could not have so many Cypriot-Minoan symbols, since by the time that Newberry tablet was found—in 1896—the symbols of the Cypriot-Minoan script had not been found yet. The first symbols of Cypro-Minoan were found on two cylinder seals found in 1875 in Cyprus but did not receive publicity until 1957. These seals were bearing 5 and 4 symbols Cypriot-Minoan script respectively. Two of symbols found on the seals exist also in the Newberry stone tablet.