# THE PHAISTOS DISK: A ONE HUNDRED-YEAR-OLD HOAX?

*The 10th in a series of articles by the Editor-in-Chief of* Minerva, ***Jerome M. Eisenberg, Ph.D.,*** *dealing with the problems of forgery and ancient art.*

**INTRODUCTION**

The Phaistos Disk (Figs 1, 2, 13, 14) is a small clay disk stamped with a series of unique 'hieroglyphs' purportedly excavated in July 1908 by Luigi Pernier in the palace of Phaistos on the island of Crete. It may not ever rank in the public's mind with the Piltdown Man as an object of great renown in the field of man's attempt to fool both the public and countless numbers of scholars. However, its exposure as the most famous fabrication of an ancient script should certainly end the long-standing controversy over its origins and the translation of its intriguing hieroglyphs. On this 100th anniversary of its 'discovery', the writer hopes to bring to light its dubious origin.

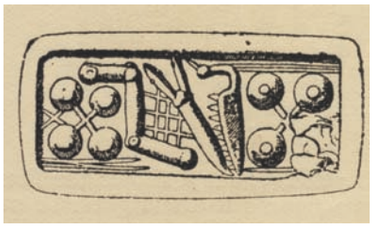
One of the most fascinating aspects of the attempts to decipher the disk is its innumerable interpretations and those of the individual glyphs. In fact, eight additional pages have been added to this issue of *Minerva* in order to present a comprehensive listing of these decipherments and the various interpretations of the different signs. The interpretations of the script range from scholarly discussions of its relationship to ancient Greek scripts such as Proto-Ionian and, obviously, Minoan, to Anatolian (Hittite and Luwian), as well as often far-fetched links to Basque, Indo-European, Proto-Slavonic, Rhodian, Coptic, Semitic, Proto-Byblic, Tatarish-Turkish, scripts from the Black Sea area (South Caucasian/Georgian, Kartvelian, Colchian, Mingrelian-Laz), and even West Finnish or Old Estonian, Indian, Chinese, and Polynesian.

*Fig 1. The Phaistos Disk, side A.*

*Fig 2. The Phaistos Disk, side B.*

Attributions have been made of the 'text' on the disk relating to deities and events in Greek mythology including Zeus and the Minotaur, Theseus and Ariadne, Dionysos, and Icarus; in the Near East to the Hittites and Philistines; and in Egypt to Osiris and Isis, Thoth, and the pharaohs.

Over the past 100 years it has been interpreted variously as an adventure narrative, a poetic verse, a hymn, a prayer, a sacred text, a magic inscription – perhaps a curse, an aid-in-healing ritual, a funerary record, an almanac, or a calendar-diary. Others suggest an administrative document, a record of gifts made to a temple, a judi-



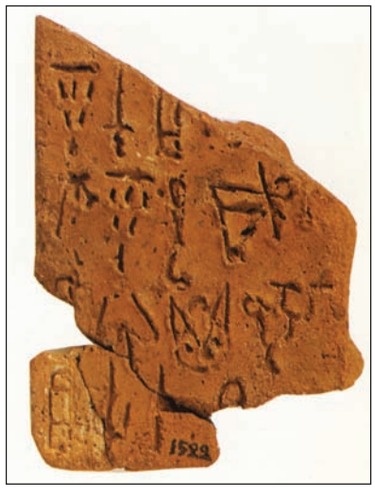
cial court list, a political treaty, a palace schedule, a palace site plan description, proof of a geometric theorem, a call to arms, a list of soldiers, or a text for teaching reading. It has also been interpreted by some as a board game or game of chance, even musical notes for a stringed instrument. Not to be outdone, a Russian scholar recently proposed it as a device for the manufacture of metal wares.

Pseudo-archaeology, or the unscientific, often fantastic, interpretation of ancient remains comes into play with many interpretations by amateur archaeologists or historians of the disk's contents. They have suggested that it is a 'number-philosophical' document from Atlantis, a message from extraterrestrials, and even a portal or 'stargate' with which a wormhole (a theoretical connection in time or space) can be created to enable one to achieve teleportation to cosmic distances.

It would be very difficult to actually decipher the disk, if genuine, unless further texts with additional glyphs were discovered. Statistically it is too short and it does not provide enough clues as to its content. Also, if the writer is correct in his assessment of the disk as a 100-year-old forgery, it would be virtually impossible to provide a correct translation. Then, the only person who could disclose the 'meaning' of the glyphs is the one who invented them. The writer doubts that they actually represent any kind of text but that they were cleverly chosen to purposely confuse the scholarly world.

***Background***

The story of the disk begins with the excavations of the Italian archaeologists in Crete in the 1880s, led by the



noted Federico Halbherr. He was most famous for his discovery in 1884 at Gortyna of the early 5th century BC 'Great Inscription' inscribed on the walls of the city's Odeum of the earliest legal code found in Europe. The long Greek text detailed the statutes for guilty individuals and the punishments for crimes. Halbherr, an epigraphist, concentrated on the study of ancient Greek inscriptions from 1884 to 1888 and was compiling a corpus of Cretan inscriptions with his mentor Domenico Comparetti. Later, Halbherr and his Italian colleagues, Roberto Paribeni, André Savignon, and especially Luigi Pernier, conducted excavations uncovering the Minoan palace complex of Phaistos, between 1900 and 1907.

Halbherr had often expressed his wish that written texts would be discovered at Phaistos. In 1900 he wrote that the excavation of the palace of Phaistos 'has produced some very lovely Mycenaean vases, terracotta figurines... But to date there are no inscribed tablets, though we are hopeful that they will be found elsewhere.' At the same time, the renowned English archaeologist (Sir) Arthur Evans (1851-1941), had already received much acclaim for his studies of the early hieroglyphic inscriptions on Cretan seals, and especially later on for his excavations of the site of the palace at Knossos. Evans visited Crete in 1894 to investigate the earliest pictographic script, or hieroglyphics, that appeared on Cretan seals (Fig 3) and also the two other unknown scripts: Linear A (Fig 4), c. 1750-1450 BC, and Linear B (Fig 5), c. 1450-1375 BC. Just one year later Evans published his *Cretan Pictographs and Prae-Phoenician Script*. In it he called the Minoan 'hieroglyphs' 'pictographs' and Linear A and B 'Prae-Phoenician'. Later this small book would be expanded into his classic work *Scripta Minoa* (vol. 1, 1909; vol. 2, 1952).

In the opinion of the writer, Pernier was jealous of the success of Halbherr and Evans and decided to outdo them

***Fig 3 (far left). Minoan bead seal with hieroglyphic saw sign. Cf. disk sign no. 16, the saw.***

***Fig 4 (left). Linear A tablet from the palace of Phaistos, c. 1750 BC.***

***Fig 5 (above right). Linear B bar 066 from the hieroglyphic archive at Knossos, c. 1750 BC.***

***Fig 6 (below left). The Etruscan lead Magliano Disk, c. 475-450 BC, found in Magliano, Italy, in 1884. The inscription spirals inward on both sides, but the other side does not have the spiral line. Note the three vertical dots near the top used once for punctuation compared to the five used on the Phaistos Disk.***

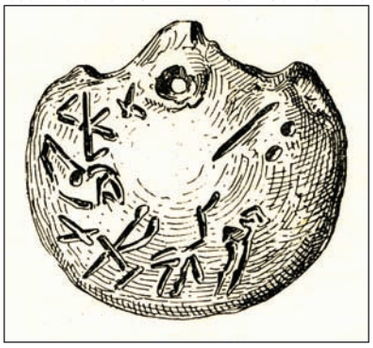
***Fig 7 (right). Minoan clay label in the form of a flat bivalve shell, with 'hieroglyphic' script, from the palace of Knossos.***

both by making a discovery that would astound the archaeological community. He had found nothing at Phaestos that could in any way surpass or even equal the amazing finds at Knossos by Evans, begun in 1900. By 1903 Evans had uncovered much of the foundations of the Palace (that he later famously overly-reconstructed), in addition to the Throne Room, the wondrous frescoes, and the faience female figurines. Evans also found many Linear A and Linear B tablets during the course of his excavations at Knossos.

***Inspiration for the Phaistos Disk***

What could Pernier 'discover' to bring him fame and glory and to rival that of Halbherr and Evans? He soon came up with the answer – the creation of a relic with an untranslatable pictographic text - the Phaestos Disk. Evans was obviously quite excited about the discovery of the disk. In *Scripta Minoa* he published the preliminary details of the unearthing of the Phaistos Disk and a 21-page analysis based upon Pernier's publication of the disk in 1908: 'Il disco di Phaestos con caratteri pittografica in *Ansonia* III, 255-302 (a 48-page study published in the same year of its discovery). It must be emphasised that forgeries are not just made for financial gain, but often to boost the reputation of an excavator or scholar, as in the case of the Piltdown Man in 1912.

Pernier (1874-1937) was trained as an archaeologist in Italy and among his readings he would have been quite familiar with the discovery of the Magliano Disk, found in Magliano, Italy in 1884, and published by L. A. Milani in 1893. This near-round lead disk (Fig 6) contained an Etruscan inscription spiraling inward on both sides. Since the Etruscan language had not yet been deciphered, its contents remained a mystery. Perhaps Pernier could create a similar disk – but for the



Minoans. Lead was rarely used in Crete except for smaller objects. It would have seemed more logical to make it out of clay, since most of the larger inscribed objects found on Crete were made of clay, such as the many tablets from Knossos that were later published in detail by Evans in *Scripta Minoa* in 1909. Perhaps another source of inspiration for the design of the disk were the two offering tables found at Phaistos with relief spiral decorations mentioned by Halbherr in a 1900 letter to Comparetti. He may also have taken notice of the stamped designs on large Cretan *pithoi* (large storage pots) of the period. In addition, another source of inspiration may have been the semi-round clay labels with 'hieroglyphic' script from the palace of Knossos (Fig 7).

The ploy was to create a completely new script that would confound Evans and the other scholars since it would be virtually untranslatable. He would cleverly construct new, more elaborate symbols that would not just, in part, mimic the yet-undeciphered three other scripts, but would elaborate upon them. He would also include elements that would reflect influence from foreign sources, such as the Luwian hieroglyphs from Anatolia, an early form of Luwian used by the Hittites between c. 1400 and c. 1200 BC (Figs 8, 34). For example, the writer has found four definite parallels (Fig 8) - compare no. 128C5 to disk sign no. 12, no. 12932 to disk sign no. 15, no. 1287A to disk sign no. 26, and 128CD to disk sign no. 38. Epigraphers would certainly suggest several more links since there are over 500 signs in the Luwian hieroglyphic text. A monumental Luwian inscription was first described in 1850, another in 1870, and a third in 1884, so it certainly would have been familiar to a scholar versed in Bronze Age linguistics in the early 1900s. This mixture on the disk of Minoan and Luwian elements would also puzzle scholars since it was not necessarily created at Phaistos but could have come from another undiscovered Cretan site with an Anatolian influence. It could also have originated from another Aegean site or even Anatolia itself. To add further confusion, a link to Egyptian hieroglyphs is found in such signs as nos.18 and 45, and especially to Egyptian wall paintings of the New Kingdom, as in signs nos. 1, 2, 3, 4, and 6.

To further confuse the linguists Pernier included several signs that resemble those of Linear A and Linear B – according to the writer, a total of about ten that show a relatively close or exact link. Six for Linear A (Fig 9): Sign no. 12, an elaboration of AB78; no. 15, similar to A364; no. 16, similar to AB87; no. 17, somewhat similar to A322; no. 24, an elaboration of AB54; and no. 45, similiar to AB76; and four for Linear B (Fig 10: Sign no. 12, an elaboration of Linear B 78; no. 14, a version of 87; no. 36, an elaboration of 30; and no. 45, an elaboration of 76.

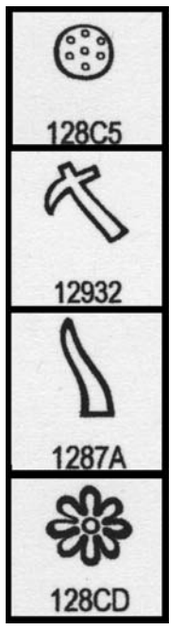



*Fig 8. Luwian hieroglyphs from Anatolia.*

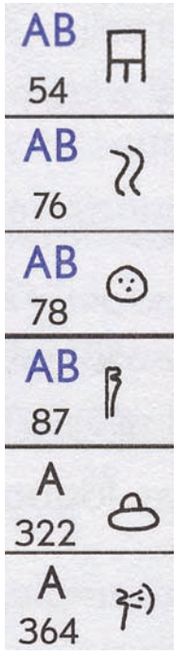



*Fig 9. Linear A signs relating to Phaistos Disk signs.*

*Fig 10 (right). Linear B signs relating to Phaistos Disk signs.*

Some epigraphers link even more of the Phaistos Disk signs to Linear A and Linear B. For instance, Torsten Timm demonstrates 19 links just for Linear A. The forger then quite often rotated the direction of a sign some 90 degrees or more, especially those of the cat head, sign no. 29. This however, was a mistake, for it would not be the practice of a scribe carefully executing such a sophisticated script.

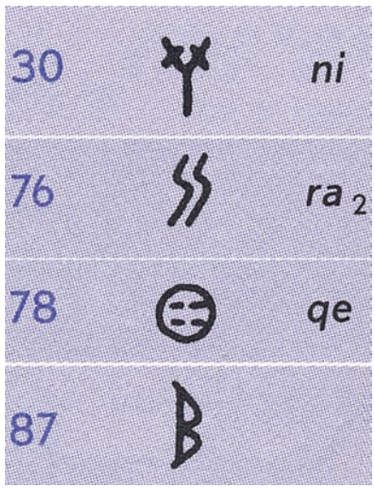
***The Uniqueness of the Phaistos Disk***

In making the clay disk, he made the error of creating a terracotta 'pancake' with a cleanly cut edge. Ancient clay tablets do not have such sharp edges, because they would easily have damage from usage. He also fired the fine hand-formed clay disk uniformly. It is therefore unique in that Minoan clay tablets were not fired purposefully, only accidentally. They were only baked as a result of the fires accompanying the destruction of the palaces. Pernier may not have realised this at the time.

It is unique on several other more important counts. Second, there is no other ancient 'moveable type', in fact none until Gutenberg (AD 1454). Third, there is no other large, thin clay disk in the Bronze Age. Last, but certainly not least, there is no other hieroglyphic script of this type. The only advanced Aegean or Mediterranean hieroglyphic scripts are those of Egypt and Luwian and these are not related, except for the few signs that Pernier borrowed or adapted. These counts of uniqueness, each in a completely different category, point to the disk as a forgery.

***Find Spot of the Disk***

The palace grounds and town of Phaistos are located on one of the three 70-metre-high hills rising from the Messara Plain on the west of the island, 5km from the coast. It was named after a grandson of Herakles. Legend has it that an oracle ordered him to go to Crete. Phaistos was the legendary home of Rhadamanthys, its ruler, and one of the three sons of Europa and Zeus. With his brother Sarpedon, ruler of Malia, he was forced to depart from Crete following an argument with Minos, the third brother and the ruler of Knossos. The first palatial building at Phaistos was erected c. 1900 BC, at about the same time as the palaces at Knossos and Malia. This Early Palatial Period ended c. 1700 BC as the result of a major earthquake and the consequential burning of the palaces. This destruction was previously thought by some scholars to be due to foreign invasions, perhaps by Greeks or by Luwians from Anatolia. The palaces were rebuilt, but another disastrous earthquake, or a military invasion by the Mycenaean Greeks, took place c. 1450 BC. This time only Knossos and one other palatial site, Archanes, were rebuilt.




According to Pernier, the disk was found on the ground in Room 8 of the palace, close to the north-east corner, about 50cm above the bedrock, in dark earth that was mixed with ash, charcoal, and some pottery sherds. The earth, however, was not compacted and contained objects from other periods including part of a Hellenistic vase. Nearby was a Linear A tablet, PH1, with which he fixed the date of the disk at Middle Minoan III, c. 1700-1600 BC. There are several other proposed datings. The earliest is 2100 BC, proposed by Victor J. Kean, the latest, c. 1100 BC, by Kristian Jeppesen. Most scholars agree with Pernier that it was made c. 1700-1600 BC. It should be noted also that the room contained several Middle Minoan IIIB vases that date c. 1650-1600 BC.

***Creation of the Disk***

The disk is a hand-formed, irregular disk of fine-grained clay. It has been noted that the clay, even though as fine as that used for the local Kamares ware pottery, did not appear to be of a local origin, perhaps not even from Crete. The diameter varies from 15.8 to 16.5cm and the thickness from 1.6 to 2.1cm. Side A is thickest at the edges, side B is thickest at the centre. It was perfectly fired, unlike the tablets and seals that were baked by fires created by the destruction of the different sites.

Opinions differ as to the way that the two sides were printed. Ernest Grumach (1969) thought that each side was imprinted separately, then the two sides joined. '…the seam can still be clearly seen along the edge of the Disk'. Reinier Van Meerten (1977) suggested

*Fig 11. Michigan relic forgeries: sandstone stamps with symbols. The tin box in which they were kept dates to c. 1910. Photo: courtesy of Eric S. Perkins, Michigan Historical Museum, Lansing.*

*Fig 12. Michigan relic forgeries: sandstone stamps with symbols. Photo: courtesy of Eric S. Perkins, Michigan Historical Museum, Lansing.*

that the basic disk, about 1.2cm thick, was fired first, then layers 0.3-0.4cm thick were applied to each side; next it was inscribed, the edges smoothed, and finally it was fired. Louis Godart (1990) believed that it was created in one piece, first imprinted on side A, then side B, the latter being impressed less deeply.

***The Stamping of the Disk***

Different stamps were used for several of the same signs. It has been suggested by various authors that the stamps were made of such diverse materials as gold, silver, bronze, lead, ivory, wood, and even stone. Godart favoured the use of gold for its durability and 'clarity of the contours'. Pernier had suggested hard wood or ivory, while Evans thought that they were metal cast in matrices of engraved steatite.

Stamps were often placed on the disk in different directions – sideways, upside down, and so on. This is not a normal procedure in which such sophisticated symbols would be used in antiquity. It is apparent that the order of the signs was not carefully planned and that the sequence was being invented as they were being stamped on the disk. This indicates that it was certainly not an ancient document. The spirals do not end in the centre; the symbols near the centre are crowded; there are overstrikes of the symbols near the centre; and the final two symbols overlie one another.

Leon Pomerance (1976) proposed that the inscriptions were not printed with individual stamps, but that each side was prepared from a single limestone matrix on which all of the signs were engraved. He based this theory on the fact that there were 'significant differences in the outline and shapes of identical symbols.' Grumach had earlier noted these differences.

If the disk is ancient why have none of the stamps used to create it ever been found either at Phaistos or at any other site? The writer has previously pointed out that a series of stone stamps with symbols (Figs 11-12) had been made between the 1890s and the early 1900s by the perpetrator of the notorious 'Michigan Forgeries' (see 'The Michigan Relics: An Archaeological Hoax, *Minerva,* July/August 2004, pp.

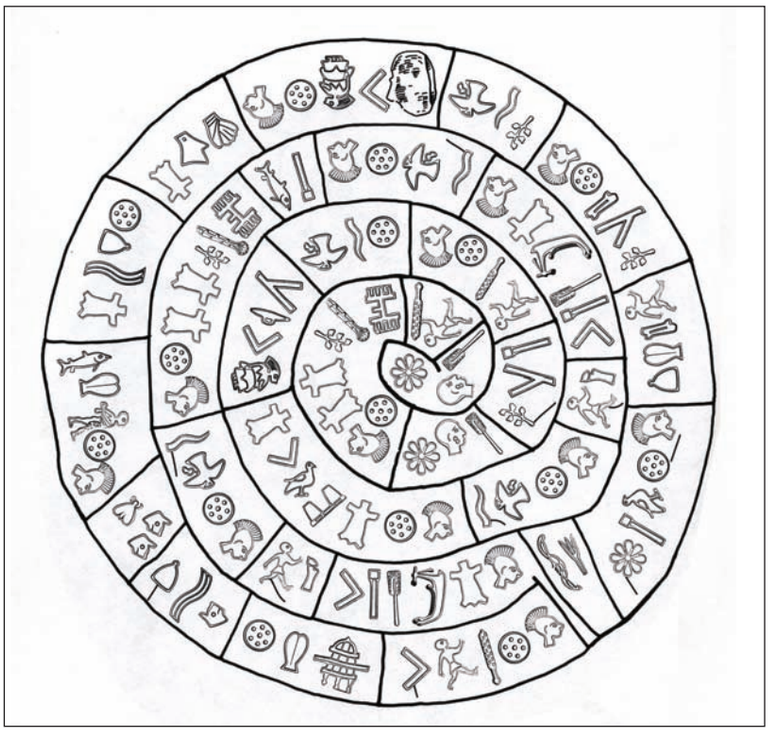


*Fig 13 The Phaistos Disk, drawing of side A.*

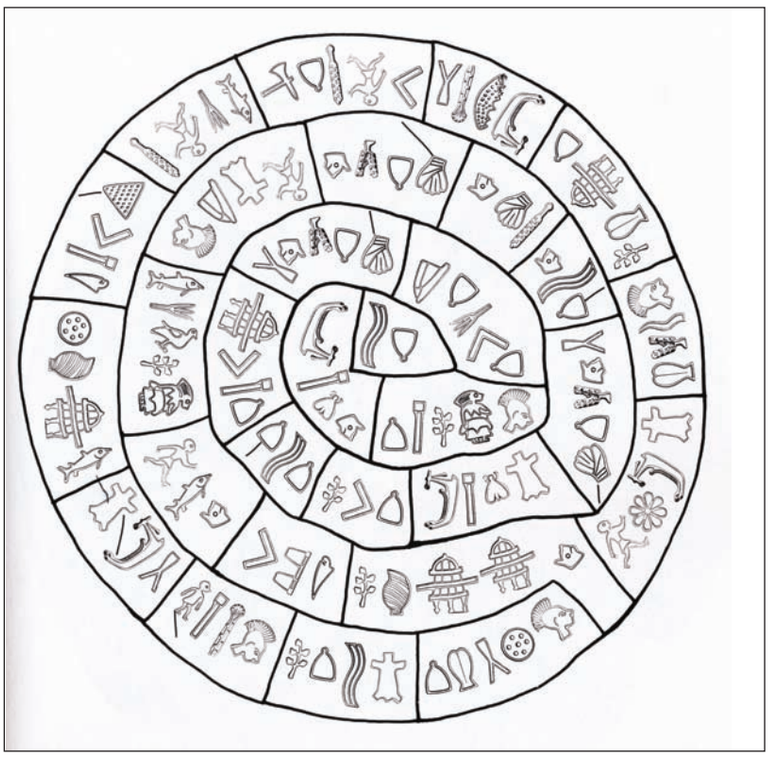


*Fig 14 The Phaistos Disk, drawing of side B.*

45-48). They were apparently used to press into the soft clay tablets and other clay 'relics' which they produced. They were said to be the first evidence of the migration of an ancient Near Eastern people to modern Michigan. Were these inspired by the Phaistos Disk – or were they possibly one of the principal sources for Pernier for the creation of the disk? Unfortunately we do not know when the Michigan forger, James Scotford, created his stamps, before or after the 'discovery' of the disk. Some were found in a tin dating to 1910.

***The Signs of the Disk***

Of the 45 different signs (Fig 15), there are 123 signs stamped on side A separated by vertical lines into 31 groups and 119 signs on side B separated into 30 groups. The groups have been interpreted as words, sentences, and even complete verses. The signs basically face to the right as if they were meant to be read as pictographs of recognisable everyday objects, as they do – with the exception of signs such as the vertical ship and fish. The frequency of the signs varies considerably according to the whim of the creator. Thomas Balistier (1998) points out that the shield, no. 12, appears 15 times on side A, but only twice on side B, whereas the breast or helmet, no. 7, appears just twice on side A, but 16 times on side B.

Many of the signs on the disk are unusually naturalistic, depicting a liveliness not found to such a great extent in pictographic scripts of the time, such as Egyptian hieroglyphics. Clearly outlined representations, such as the striding man (no. 1), a bound prisoner (no. 4), and a flying bird (no. 31), are found only occasionally in other scripts such as Egyptian and Luwian. Scholars have argued for 100 years as to which writing system has been employed for this unique relic – do the signs represent words, syllables, or just letters?

It has been generally accepted that the signs just represent nouns and that verbs are lacking, the script being a syllabary, the signs acting as syllables and serving as an alphabet. Linear B is a syllabary. Godart points out that there are too few signs for a pictography and too many for an alphabet on the disk. It has been suggested by Günter Neumann (1968) that the script is a syllabary with some signs acting as pictographs. Thomas S. Barthel (1988), J. T. Hooker, and Michaell Trauth (1990) also agree that it is a similar mixture.

In a pictographic script the sign represents the object that it depicts,

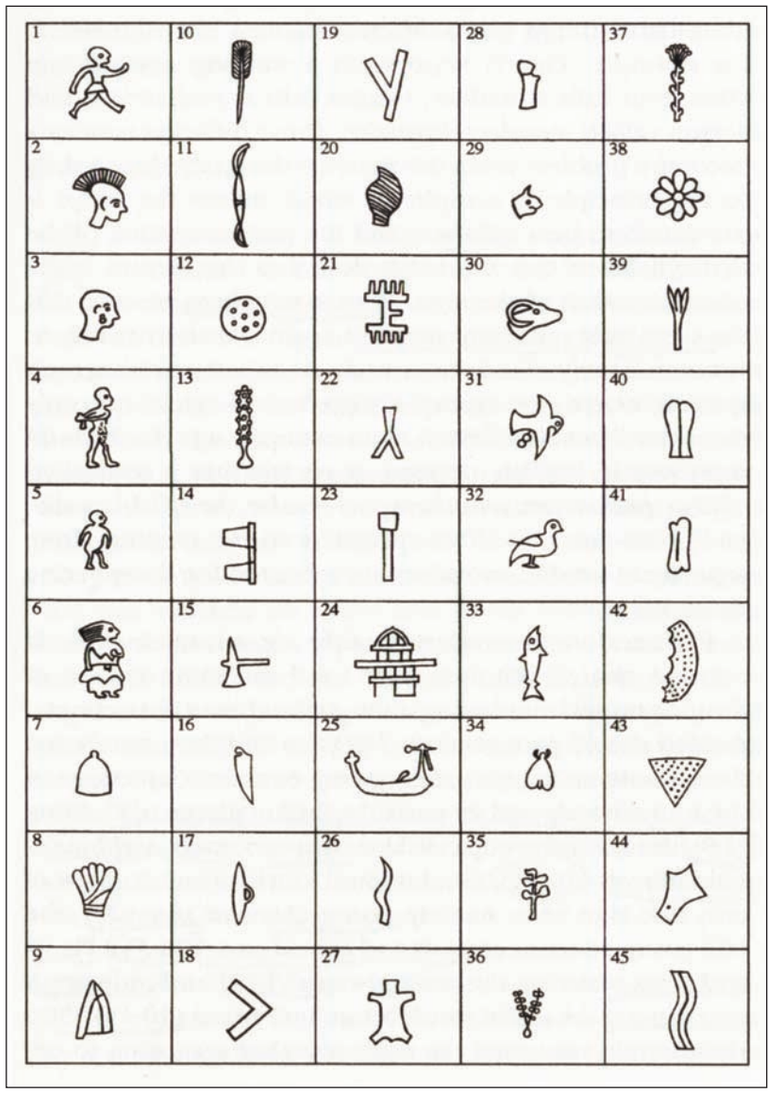



***Fig 15 (left). The Phaistos Disk signs. The reference numbers are those initiated by Sir Arthur Evans and are still being used today.***

***Fig 16 (top right). The slanted stroke below the disk sign no. 18 on the far left of this group of signs on side A of the disk is one of 16 or 17 that appear on the disk. The five dots, as shown on the far right of the group of signs on the disk in Fig 16, might be compared to the five dots representing the number 50 on Linear B bar 057 in Fig 44.***

***Fig 17 (middle right). The Arkalochori axe found by Spyridon Marinatos in 1934.***

***Fig 18 (right). Inscription on the haft of the Arkalochori axe.***

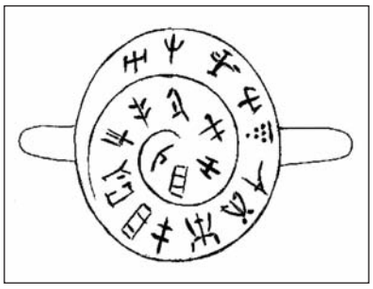


*Fig 19. The gold ring from Mavro Spilio with Linear A inscription (Kn Zf 13).*

the image, not the word as such. There are too few signs on the disk and too many repetitions for this to be a functional pictographic script. Such a system would require many hundreds or even thousands of signs for this type of script and it would be impractical to make a stamp for each sign. Some scholars, however, such as Lienhard Delekat (1979) and Victor J. Kean (1996) support this theory.

Ernst Schertel (1948) believed that the script is a mixture of alphabet and syllabary, while Derk Ohlenroth (1996) argued that it was a sophisticated early Greek phonetic alphabetic system with more than double the number of letters than the regular Greek alphabet of just 24 letters.

***The Direction of the Signs***

Although there had been much disagreement about the direction in which the signs should be read – from the centre out or from the outside in, it has been accepted by most scholars that it reads from the outside in, from right to left, as with the Egyptian and Anatolian hieroglyphs - towards the direction that the heads of the people and animals face. In Linear A and Linear B the reading direction is from left to right, but some scholars such as Godart argue that it has no relationship to these scripts.

***The Strokes, Dotted Bar, and Corrections***

There is considerable argument regarding the meaning of the 16 or 17 slanted strokes that appear below the sign furthest to the left in some groups (Fig 16). Furthermore, on each side of the disk there is a single 'dotted bar' composed of five dots (some scholars contend only four) on side A (also Fig 16) and five dots on side B. The strokes and dotted bars were incised by hand, as were the main spiral lines and the vertical dividers.

The dotted bars led Alice E. Kober (1948) to surmise that there were other disks and that these were the fourth and fifth sides of a long document. Rudolf Hoschek considered them to indicate pages or chapters in a group of several disks. It is the writer's contention that the strokes and dotted bars were added merely to lead scholars astray – another oddity to puzzle them – and a common trick amongst forgers. Indeed, Dirk Ohlenroth (1996), because of the strokes, regards the disk as 'the oldest example of the use of natural punctuation'. The writer notes the similarity of the five dots on Linear B bar 057 (Fig 44) to the five dots on the disk. The dot in Cretan script represent the number 10; five dots represents 50 (Fig 15). Was this numbering system the source for the forger's dotted bars? The writer notes that the vertical bar represents the Cretan script number 100 – is this the inspiration for the vertical lines of the disk? (See Fig 7 for a vertical bar and two dots, Fig 44 for a bar and five dots.)

In 16 instances signs were erased and replaced by different signs. One would not expect so many corrections in such an elaborate production if it was an ancient document. Ernst Grumach (1962) suggested that the scribe was not correcting mistakes but actually improving the content or form.

**COMPARISONS**

***The Arkalochori Axe***

For years local peasants had been digging in a shallow cave in Arkalochori in central-eastern Crete and unearthing a large variety of bronze weapons and other metal objects. Sadly, many of these have been lost because they were often melted down and made into farm tools. A Greek archaeologist, Joseph Chatzidakis, first excavated the cave in 1912 and found many weapons - swords and daggers – and a large group of votive double axes. Soon thereafter a gold double axe was found by some children. The cave was then rapidly plundered by the locals.

In 1934 Spyridon Marinatos, the Director of the Herakleion Museum, confiscated many of the objects and renewed the excavations. One of 25 gold axes and one of six or seven silver axes found had short inscriptions in Linear A. A bronze axe (Fig 17), however, was inscribed with 15 hieroglyphic signs in three columns (Fig 18). Of the 15 signs, ten of them (with two repeated) seem to be unique. In her January/March 1935 *American Journal of Archaeology* report Elizabeth Pierce Blegen mentions the discovery in 1934 of the double axes in silver and gold, and bronze axes, knives, and swords 'numbered by the hundreds', but, oddly, no mention of any inscribed items. Godart stresses that 'there are no definite comparisons between the signs of the Disc and the syllabograms of the three known Cretan scripts (Hieroglyphics, Linear A and Linear B)…'

***The Gold Ring and Silver Pin from Mavro Spilio***

A gold ring found in 1926 at Mavro Spilio, Crete, by Sir Arthur Evans has a spiral arrangment of the text which conists of 19 signs in Linear A (Fig 19). The ring, with an inner diameter of only 13mm, was certainly too small to wear and, in fact, its authenticity has been questioned. A silver pin from the same site also has an inscription in Linear A.

***The Malia Altar Stone***

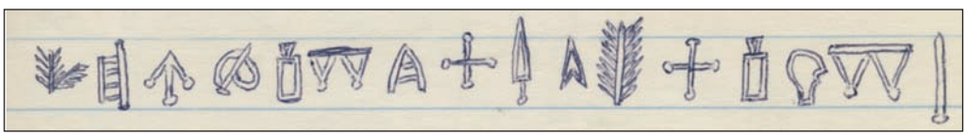
A stone slab excavated in 1937 in Malia, Crete, by Fernand Chaputhier, has 16 inscribed hieroglyphs, three repeated twice, and is the only example of a Cretan hieroglyphic inscription on stone (Fig 20). Alice Kober (1938) stated that '…the resemblance between the signs of this inscription and that of the Phaistos Disk is very slight.'

***The Vladikavkaz Disk***

A clay fragment of a disk with 20 signs (Fig 21) was found in the basement of a house built in 1880 in Vladikavkaz, in the Russian Republic of North Ossetia-Alania, in 1991. It copies some of the signs and groups on the Phaistos Disk but they are incised rather than stamped. It is said that it was recognised by the local museum as a forgery and returned to the owner but has now apparently disappeared. It could possibly be a forger's prototype for the disk

*Fig 20 (below left). The Malia altar stone hieroglyphic inscription.*

*Fig 21 (right). The Vladikavkaz disk. A forger's prototype or a copy of the original forgery?*



or merely an attempt at copying the original forgery.

**CONCLUSION**

Several of the errors made by the forger of the disk fit into the categories tabulated by the writer in his 'Aesthetics of the Forger: Stylistic Criteria in Ancient Art Forgery' (*Minerva,* May/June 1992, 10-15). They include:

1. A disparity in the style of execution of the elements.
2. A disparity in the degree of abstraction of the elements.
3. A unique element in the composition.
4. A 'unique style': the appearance of a fully developed style or type hitherto unknown.
5. Repeated favourite ancient motifs and devices of the forger - in periods or regions where they do not ordinarily occur, or invented types.
6. Reversal of image.
7. A synthesis of geographically disparate styles.
8. A disparity in time-placement of elements.
9. Correction by elimination.

One can allow for a small number of these elements to occur in a genuine antiquity, but the preponderance of such elements for the disk leads to the conclusion that it is certainly a forgery. However, only a thermoluminescence test to determine whether the disk was created in the past century or two or over three millennia ago will finally settle this intriguing problem to everyone's satisfaction. The writer has attempted to have this test carried out several times in the past but to no avail. It is not even possible to physically examine the disk outside of the case at the museum. In a reply to a most recent request to the museum to examine the disk, the Director, Dr Nota Dimopoulou-Rethemiotaki, wrote:

'Dear Dr Eisenberg, In reply to your e-mail of July 25, 2007, we would like to inform you that unfortunately we are not able to satisfy your request to examine the Phaistos disc and the inscribed Arkalochori axe. Specifically, the inscribed Arkalochori axe is encased and stored, whereas the Phaistos disc because of its uniqueness is considered as non movable…'

*Fig 22. Sign on Linear A tablet PH18 from Phaistos. Cf. to disk sign no. 1, the 'pedestrian'.*

*Fig 23. Advancing boxer on Haghia Triada 'Boxer Rhyton'. Cf. to disk sign no. 1. His hands are bound with fist wrappings similar to disk sign no. 8.*

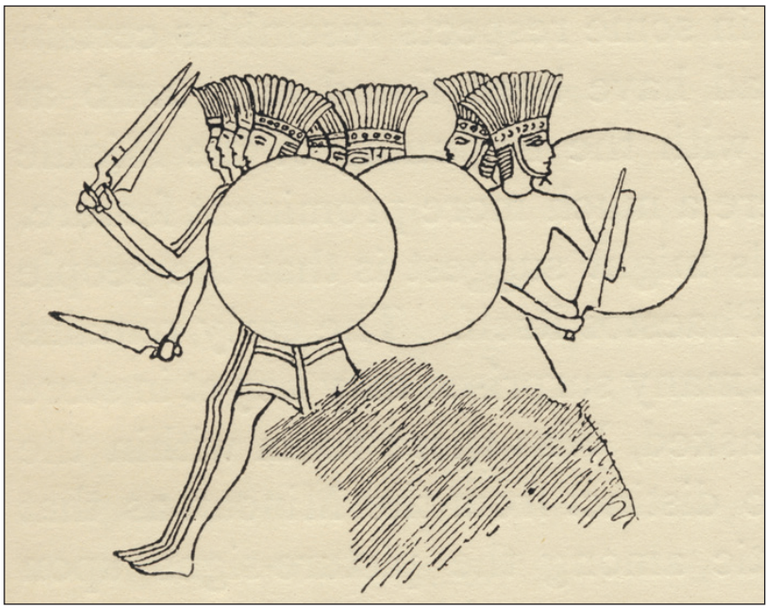


*Fig 24 (below left). Sea Peoples in Egyptian 19th Dynasty wall relief. Cf. headdresses to headdress of disk sign no. 2, the plumed head.*

*Fig 25. The Luwian sign* mu *that resembles the plumes on disk sign no. 2, the plumed head.*

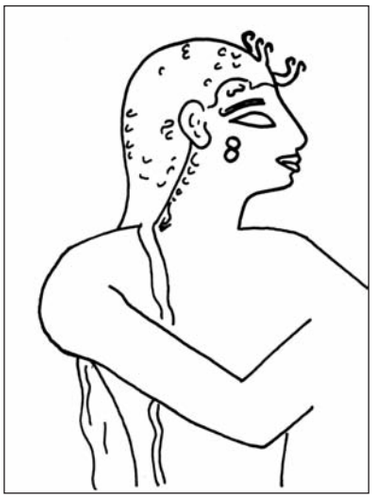
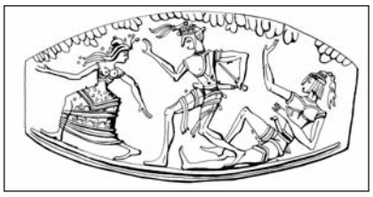


*Fig 26. Cretan captive with tattoo from Egyptian 18th Dynasty wall painting. Cf. tattoo on face of disk sign no. 3, the tattooed head.*

*Fig 27. Ivory figurine of a child with shaven head from Palaikastro. Cf. disk sign no. 5, the child.*

*Fig 28. Polychrome clay female figurine from the first palace at Phaistos, c. 1750 BC. Cf. disk sign no. 6, the woman.*



*Figs 29 (right). Sealstone from the controversial Treasure of Thisbe, Boeotia. Cf. hair and garment of figure at left with disk sign no. 6, the woman.*

*Fig 30. Mycenean ivory relief of a man's head with a boars' tusk helmet. Cf. disk sign no. 7, the helmet.*

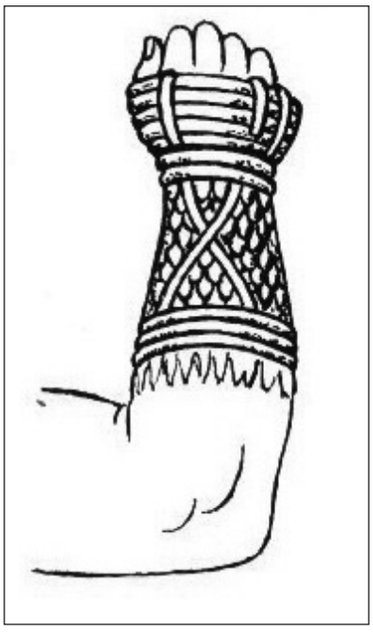


*Fig 31. An ancient* **cestus** *or boxing glove. Cf. to disk sign no. 8, the gauntlet. See also Fig 22.*

Meanwhile the disk, which has long been considered to be 'One of the most famous mysteries of archaeology' (Wikipedia) remains an enigma. Our readers' comments, as usual, are welcomed.

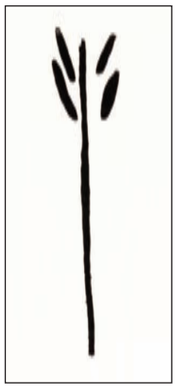


*Fig 32. Ideogram for an arrow on a Linear B tablet from Knossos. Cf. to disk sign no. 10, the arrow.*

*Fig 33 (right). Hittite relief at Yazilikaya with procession of deities wearing tiara-type headdress. c. 1250-1200 BC. Cf. headdress disk sign no. 9.*

*Fig 34. Anatolian disk seal of Mursilis II, c. 1322-1295 BC, from the Hittite Empire. Luwian hieroglyphic signs in the centre surrounded by Hittite cuneiform. The Luwian sign for a winged sun disk resembles the disk sign no. 11, the bow; also, the saw sign is very close to disk sign no. 16, the saw.*

**ANALYSIS OF THE PHAISTOS DISK SIGNS**

The 45 different signs on the disk are numbered here according to the system set up by Sir Arthur Evans. The number in parentheses following Evans' name for the sign (used here with some modification) is the number of times that the symbol appears on the disk. The first notations in most of the sign entries are the possible sources of the sign as suggested by various writers. For full references for the names of scholars mentioned, see Appendix: Attempts at Deciphering.

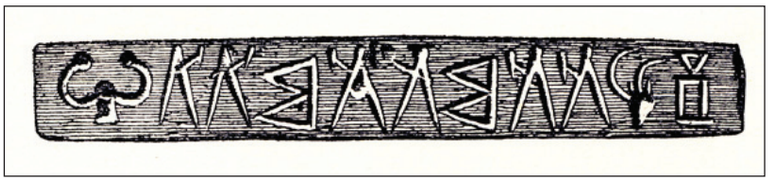
**1. PEDESTRIAN** (11) Crete, Egypt. Cf. stick figure on Linear A tablet PH18 from Phaistos (Fig 21); Mycenaeans in 19th dynasty wall paintings in Egyptian tombs. JME (the writer): Possible source for Pernier: The advancing boxers on the Haghia Triada steatite *rhyton*, the 'boxer vase' (Fig 22), coincidentally excavated (1900-1908) by Halbherr with Pernier. Also see the Luwian signs for 'walking man' or 'walking legs'.

*Fig 35 (below left).* **Kernos** *(offering table) from the palace of Malia.*

*Fig 36. Pottery vase from Knossos with stamped design. Cf. design to disk sign no. 12, the shield.*

*Fig 37. Abnormally long Minoan white steatite four-sided bead seal with hieroglyphic sign of mountains (on its side). Cf. disk sign no. 14, the manacles.*

*Fig 38. Minoan white cornelian prism seal from eastern Crete with hieroglyphic pick sign. Cf. disk sign no. 15, the mattock.*



**2. PLUMED HEAD** (19) Sea Peoples (Pelesedt, Denyen, Tjekker), Egypt; Crete. Cf. Sea Peoples in 19th Dynasty wall reliefs on Egyptian temples (Fig 23). It is vaguely similar to one of the signs on the Arkalokhori axe (Fig 18), though it is facing; and the hairstyles on terracotta male figures from Traostalos near Ksato Zakros, but far more sophisticated in its depiction. (Evans, Godard, Pernier: feathered helmet.) JME: Cf. Luwian sign for *mu* (Fig 25). The closest comparison, however, is the feathered headdress of the American Indian which required no visible skull cap.

**3. TATTOOED HEAD** (2) Crete, Egypt. Cf. Minoan man with figure-of-eight tattoo in Egyptian 18th Dynasty wall painting (Fig 26). (Dettmer: not a tattoo, but a Cretan double earring.) JME: It was certainly derived from the Egyptian wall painting.

**4. CAPTIVE** (1) Asia Minor, Egypt. Cf. Asian prisoners on 19th dynasty temple walls. (Aartun: walking farmer distributing seed; Dettmer: female prisoner.) JME: It was most probably derived from the Egyptian depictions of prisoners with their hands tied behind their backs, such as those depicted on Seti I's Temple of Amon at Karnak.

**5. CHILD** (1) Crete. Cf. ivory figurine of a child with shaven head from Zakros for the use of a 'bald' child in Cretan art (Fig 27). JME: The first five signs for heads and persons all have bald heads making comparisons with the hairdos of people in other scripts or signs perhaps purposefully difficult. The source for the bald heads was perhaps one or more of the ivory figurines of children with shaven heads from Zakros and Haghia Triada.

**6. WOMAN** (4) Crete, Sea Peoples, Egypt. Cf. hairstyle to that of the Sea Peoples in 19th dynasty wall reliefs on Egyptian temples. (Evans: sharp contrast to Minoan-Mycenaean female type; Ipsen: relates it to Cretan garb; Doro Levi: found 'parallel' to female idols found at Phaistos.) JME: The apparent source for this sign was a small figurine with pendulous breasts, hair flowing behind, and a flounced skirt from room XCVII-XCVIII of the first palace at Phaistos (Fig 28) or another perhaps found previously by Pernier. Another source might be the sealstone from the controversial Treasure of Thisbe from Boeotia. This depicts a woman with hair flowing behind and flounced skirts (Fig 29).

**7. HELMET or BREAST** (18) Europe. Cf. Bronze Age helmets. (Godard: helmet; Evans, Dettmer: breast; Pernier: cap.) JME: Possible source for Pernier: the Phoenician or Bronze Age helmet (Fig 30). If it was a breast it would be more logical to show two of them. There is no ancient parallel for a single breast as a sign.

*Fig 39. Linear A sign AB31. Cf. disk sign no. 19, carpentry plane.*

*Fig 40 (right). Obsidian* **dolium** *shell found in the Little Palace at Hagia Triada.*

*Fig 41 (right). Clay seal impression on document HM 992 from Phaistos (excavated by Pernier?). Cf. disk sign no. 21, comb or palace plan.*

*Fig 42. A Lycian rock-cut tomb in Anatolia. Cf. disk sign no. 24, a beehive or structure.*

*Fig 43. Ideogram 179 on Linear B tablet from Knossos. Cf. disk sign no. 24.*

*Fig 44 (right). Four-sided Minoan clay Linear B bar 057 with hieroglyphs. The vertical bar and five dots represent the number 1500. Cf. disk sign no. 24 and five dots on each side of disk.*

**8. GAUNTLET** (5) Crete. Cf. boxers with hands bandaged. (Godart: fighting glove; Dettmer: workman's glove.) JME: Possible source for Pernier: the fist wrappings of the boxers on the Haghia Triada steatite *rhyton* – the 'Boxer Vase' (Fig 23) - excavated by Halbherr with Pernier; or the classical *cestus* (boxing glove) (Fig 31).

**9. TIARA** (2) Hittite: Cf. seals and rock carvings for similar headgear. JME: The most likely source for Pernier would be the nearly identical tiara which appears on rock carvings such as the one in a Hittite shrine at Yazilikaya, c. 1250-1220 BC (Fig 33).

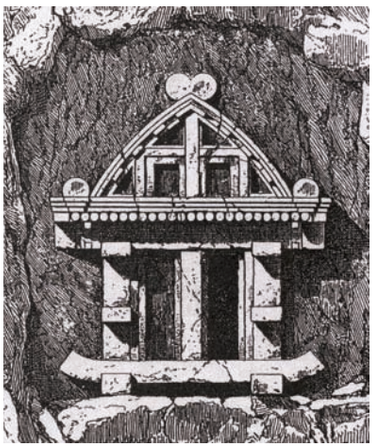
**10. ARROW** (4) Crete: Cf. Linear A ideogram. But no arrowhead? (Ohlenroth: ear of grain.) JME: The Minoan sign of an arrowhead appears with or without a shaft, but no barbs, as well as one with no arrow point but with barbs – a complete reversal. However, on a Linear B tablet from Knossos the ideogram for an arrow is quite close (Fig 32), though simplified since it is incised on clay. A comparison made to Linear A sign AB79 is rather far-fetched.

**11. BOW** (1) Crete. Cf. Minoan seals. JME: Cf. the Luwian sign of a winged sun-disk (Fig 34).

**12. SHIELD OR PLATE** (17) Crete. Cf. Mycenaean shield examples. (Pernier: It resembles a *kernos* (offering table) found at the palace of Malia (Fig 35), but it has 34 circular depressions around the rim, not six; Duhoux: a design stamped on a pottery vase from Knossos (Fig 36); Dettmer: a disk with seven points for the solar year.) JME: Pernier's source certainly would have been the Luwian sign for bread, 128C5, a disc with up to seven dots, the seven dots being placed in the same positions (Fig 8) or, less likely, a similar Egyptian hieroglyph with four or five dots representing corn on the threshing floor. Also, Linear A sign AB78 is a circle with 3 dots.

**13. CLUB** (6) Greece. (Evans: club of Herakles; Dettmer: a plant; Ohlenroth: 'cypress'.) The club of Herakles, to which it has been compared, first appears considerably later.

**14. MANACLES** (2) (Aartun: foot-



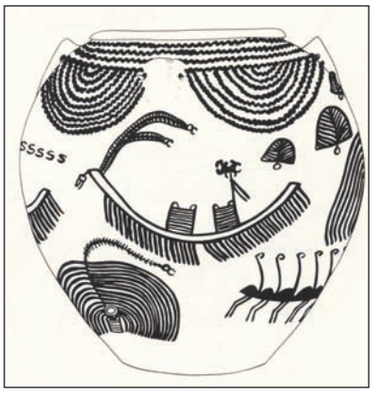


*Fig 45 (left). Predynastic Egyptian vase with Nilotic ship; ensign or standard on cabin. Naqada II, c. 3450-3300 BC. Cf. disk sign no. 25, ship.*

*Fig 46 (right). Gold ring from Mochlos with Minoan ship, c. 1450 BC.*

stool; Dettmer: yoke; Evans: manacles or handcuffs; Pernier: mountains.) JME: Cf. a Minoan white steatite bead seal with a hieroglyphic sign of mountains (Fig 37). This sign appears only vertically, not horizontally as often depicted.

**15. MATTOCK OR PICK** (1) Crete. Cf. actual mattocks (or picks); Linear A sign A364; Linear B sign B232. JME: Cf. Minoan white cornelian prism seal (Fig 38) A similar bronze mattock was found by Pernier at Phaistos. If this were a Minoan disk, the use of a single-headed pick rather than the double-headed axe would be unusual. Also, the direction is changed 90 degrees.

**16. SAW OR KNIFE** (2) Cf. Linear A sign AB74, though quite different. JME: Cf. Minoan bead seal (Fig 3) and Linear B bar 066 (Fig 5). A close parallel can be found in a Luwian hieroglyphic sign (Fig 34); also an Egyptian hieroglyphic sign – *set*.

**17. LID or TOOL** (1) Crete. Cf. Minoan and Mycenaean lids; Linear A sign A322 is somewhat similar, though the direction is changed 90 degrees (Fig 9). (Evans: tool for cutting leather; Godart: lid.) JME: The source would be the Linear A ideogram.

**18. BOOMERANG or SET-SQUARE** (12) Egypt. Cf. weapons in Egyptian tombs. (Aartun: corner/angle; Evans: carpenter's angle; Godart: boomerang.) JME: The source could be the Linear A sign AB37, though it has a much narrower angle and the direction is changed 90 degrees; or the Egyptian sign and amulet for the set square (*kub*), though it has an angle of 90 degrees.

**19. CARPENTRY PLANE** (3) Crete (Aartun: branch; Dettmer: ruler with angles; Godart: carpenter's plane.)

*Fig 47 (above right). Cycladic 'frying pan' vessel with depiction of ship, spirals; 'pubic triangle' below. Note ensign on prow. Syros, Early Cycladic II period, c. 2800-2300 BC, L. 28cm. Cf. disk sign no. 25.*

*Fig 48 (below left). Minoan hieroglyphic symbols for ships. Cf. disk sign no. 25.*

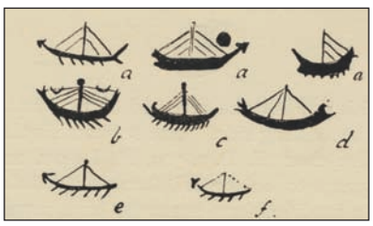



*Fig 49 (below). Red cornelian prism with cat with facing head, found in 1898; cover illustration for Evans's* Scripta Minoa I *(1908). Cf. disk sign no. 29, a head in profile and quite different.*

*Fig 50 (below right). Egyptian wall painting from the 18th Dynasty tomb of Useramon at Thebes, c. 1460 BC, showing Cretans carrying rhytons (libation vessels). Cf. disk sign no. 30.*

**20. DOLIUM** (2) Crete: Cf. the obsidian *dolium* (sea shell) from Haghia Triada (Fig 40) (Aartun: dry-measure container; Dettmer: vessel; Evans: vase; Godart: ton shell.) JME: The shading or use of parallel lines is unique for this sign on the disk.

**21. COMB OR FLOOR PLAN** (2) Crete: palace floor plan (Aartun: hoe or rake; Dettmer: weaving comb; Godart: comb.) JME: The source is certainly the sign on Proto-Palatian clay seal impressions on document HM 992 (Fig 41) at Phaistos (excavated by Pernier?) The suggestion by Woudhuizen that it resembles Swedish rock carvings of a team of plowing oxen is a bit extreme.

**22. SLING or DOUBLE FLUTE** (5) It has been compared to Linear A sign A318, but there is little resemblance. (Aartun: whisk; Dettmer: curve measure; Evans: double flute; Godart: slingshot or catapult; Ohlenroth: forked stick.)

**23. COLUMN or HAMMER** (11) Cf. Linear A sign AB06, though it consists only of lines at right angle. (Aartun: club; Evans: hammer; Dettmer: a disk stamp; Pernier: column with capital.)

**24. BEEHIVE or STRUCTURE** (6) Lycia: cf. rock-cut tomb (Fig 42), Egypt: cf. Punt (Somalia) hut on 18th dynasty Hatshepsut temple wall relief; Crete: cf. very simplified Linear A sign AB54 (Fig 9); Linear B sign 179 (Fig 43), also from Knossos. (Aartun, Dettmer: house; Evans: pagoda-like building, animal coop, or bird cage; Godart: beehive; Erika Spann-Reinsch: covered palanquin.) JME: Cf. Cretan hieroglyph as on a four-sided clay bar (Fig 44). The forger, however, most probably used the Lycian tomb as the main source.

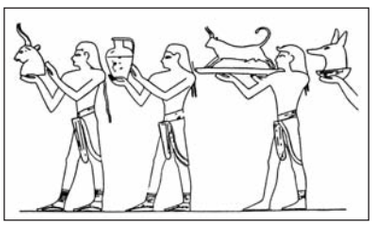
**25. SHIP** (7) Egypt: small Predynastic pots, c. 3200 BC, with symbols on the cabins of Nilotic ships (Fig 44); Cyclades (see below); Crete: gold ring from Mochlos (Fig 46). (Aartun: sawbow; Dettmer: plow) JME: Cf. ships on Cycladic 'frying pan' vessels, c. 2300 BC (Fig 47) An unusual case of a 90 degree shift in the position of the image to save space; most probably the only instance of a ship represented on its side as a symbol, though it is also depicted horizontally once on side B (therefore why should the vertical depiction be considered a space-saver?). It is lacking a mast; ships as Minoan hieroglyphic signs almost always have masts (Fig 48).

**26. HORN** (6) (Ox horn) (Aartun: tail.) JME: Cf. Luwian sign no. 1287A (Fig 8) which is a more than probable source.

**27. HIDE** (15) Crete: Cf. Linear B ideogram *258 from Knossos and *154 from Pylos. (Evans, Godart: cowskin; Dettmer: goatskin.) JME: Why is the hide inverted twice in the same group on side A?

**28. BULL'S LEG or COW'S LEG** (2) Crete. Cf. steatite seals with bulls' legs from Malia. JME: An unusual case of reversal of image, in this case turning an animal part upside down. There are several instances of a Minoan hieroglyphic sign for a human leg (Fig 49), but none for an animal leg. Cf. Egyptian sign for the leg of an ox.

**29. CAT HEAD** (11) Crete: Cf. seal impressions on vases from Malia; facing heads appear in Linear A sign AB80, though extremely simplified. The direction, however, is changed from right profile to a facing head. Linear A sign L149 is found only on clay tablets. (Evans, Godart, Ohlenroth: cat; Dettmer: wild dog; Pernier: bulldog.) JME: Cf. cat with facing head on a red cornelian prism found in 1898 (Fig 49). Why is the cat head imprinted in different directions on the disk, some 90 degrees or more from the horizontal? It would not be the practice of a scribe executing such a sophisticated script; this is certainly



not a schoolboy's practice tablet. See the possible explanation below (for sign no. 30).

**30. RAM HEAD** (1) Some scholars relate this to the Linear A symbol of a ram - sign AB13, but this is a bit far-fetched, as the Linear A sign is highly abstract. JME: An Egyptian wall painting from the tomb of Useramon, c. 1460 BC, depicts Cretans bringing tribute to Egypt including animal-head rhytons (Fig 50). The writer believes that this may be the inspiration for the ram head sign (rather than using the more common bull's head *rhyton*. The Minoan hieroglyphic signs for the ram do not show the horns projecting beyond the profile of the head, although there is a goat head with outwardly curving horns on a Minoan seal (Fig 37). The single ram head and two cat heads on side B face upward, the same position as the animal head rhytons in the Egyptian wall painting. It should be pointed out that the writer is using the drawing from Robinson's book and he notes that the ram head – on side B - had been mistakenly replaced in the drawing by the artist for a helmet, disk sign no. 7. We have corrected this in our copy of the drawing.

**31. EAGLE AND SERPENT** (5) (Aartun, Ohlenroth: falcon; Evans, Dettmer, Godart: eagle.) JME: Imprinted in different positions: upward, to the left, and to the right. Signs for the eagle in Crete, AB81 (Fig 51), and Egypt are quite different, the former again being highly abstract.

**32. DOVE** (3) (Aartun: goose; Dettmer: duck; Evans, Godart, Ohlenroth: dove.) JME: It is unlike the preening and pecking birds of Cretan hieroglyphic script (Fig 52), however the source is certainly one of the Knossos frescoes with partridges (Fig 55), a bird no one has apparently considered previously.

**33. TUNNY** (6) (Dettmer: the scribe meant a 'large fish', but it is a dolphin; Evans, Pernier: tuna.) JME: cf. the fish on a Minoan bead seal (Fig 56). It could be an elaboration of a Minoan symbol or the fish on the Cycladic 'frying pan' vessels, as the one from Naxos with four fish, c. 2500 BC, published by A. K. Stephanos in 1905 (Fig 57).

**34. BEE** (3) (Aartun: wineskin; Dettmer: bird's-eye view of cow.) JME: Not a Minoan or Egyptian depiction of a bee, the symbol for which is done in profile. Pernier's inspiration for using this insect was probably a Linear A sign with the vertical line removed (Fig 53).

**35. PLANE TREE** (11) Crete. Cf. Linear A sign AB04, though only with one branch. (Aartun: fruit; Dettmer: oak; Evans: plant or tree; Godart: bush or branch with broad leaves; Pernier: branch of plane tree.)

*Fig 51. Linear A sign for the eagle, AB81, is quite abstract compared to the disk sign no. 31, an eagle holding a snake.*

*Fig 52. Cretan hieroglyphic sign for a dove, quite unlike disk sign no. 32 representing a dove.*

*Fig 53. Linear A sign possibly used to make a disk sign no. 34, bee.*

*Fig 54. Linear A sign AB76 is most probably the source for disk sign no. 45, a wavy band or flowing water.*

*Fig 55. Fresco with partridges (detail) from the pavilion of the 'Caravanserai' at Knossos. Cf. disk sign no. 32, dove (but probably a partridge).*

**36. VINE or BUSH** (4) Crete. Cf. Linear A sign AB30 or hieroglyph no. 101, both somewhat similar. (Aartun: black coral; Dettmer, Godart: grapevine; Evans: olive branch; Ohlenroth: shrub.) JME: Linear A sign AB30 has horizontal branches; it is not branching out from a single stem.

**37. PAPYRUS** (4) Egypt. Cf. papyri on Theban wall paintings. (Aartun: piece of straw; Dettmer: flax plant; Godart: papyrus; Ohlenroth: lily.)

**38. ROSETTE** (4) Crete. Cf. several 8-petalled rosettes on the 'rosette *krater*' from Phaistos (Fig 58) and a gold pin from Malia. (Aartun: blossom; Dettmer: lotus; Evans: local flower adapted from Egyptian lotus blossom; Godart, Ohlenroth: rosette.) JME: The rosette is a popular symbol for the forger.

**39. LILY** (4) (Aartun: husk; Dettmer: meadow saffron; Godart: lily; Ohlenroth: crocus; Pernier: saffron.) JME: The suggested comparison to Linear A sign AB28, a trident, is far-fetched, as is the Luwian sign 'W' for a thunderbolt. It is certainly a plant. Cf. to

*Fig 56. Minoan bead seal with fish. Cf. disk sign no. 33, a tunny.*

*Fig 57. Cycladic 'frying pan' vessel with depiction of fish, spirals, and sun. Syros, Early Cycladic II period, c. 2800-2300 BC. Cf. disk sign no. 33, a tunny.*

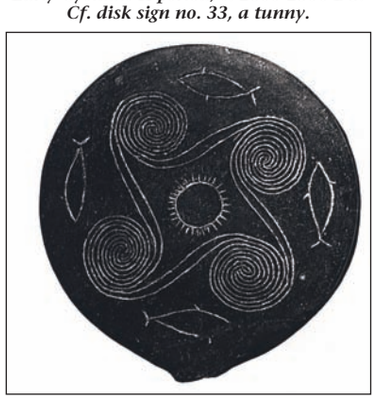


*Fig 58. Eight-petal rosettes on the 'rosette* krater*' from the first palace at Phaistos.*

Minoan hieroglyphic sign no. 88 for a saffron flower.

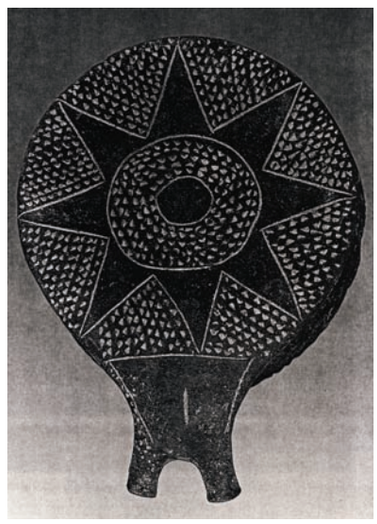
**40. OX BACK** (6). (Godart: ox's back; unrecognisable sign to others.) JME: If it is an ox's back, it is a unique ancient hieroglyphic depiction of an animal's rear end. The suggested comparison to Linear A signs AB26 and AB27 is extreme.

**41. FLUTE** (2) (Aartun: bone; Dettmer: copper bars; Godart: flute.) JME: It is certainly not a flute with this irregular outline. Copper bars would be in the form of ingots – rectangular with flaring ends. Why use a bone for a symbol?

**42. GRATER** (1) (Aartun: coral; Dettmer: saw; Godart: grater or rasp.) JME: There are too many dots for a small ancient hieroglyphic sign.

**43. STRAINER** (1) Crete: Cf. Linear A sign AB66. (Aartun, Dettmer: female pubic region; Evans: a puzzling sign;

*Fig 59. Cycladic 'frying pan' vessel with triangles filled with dots; 'pubic triangle' below. Syros, Early Cycladic II period, c. 2800-2300 BC, l. 27cm.*



Godart: sieve; Ohlenroth: triangle.) JME: The granulated triangle is a popular device for the forger (see the writer's 'Aesthetics of the Forger', no. 14). Again, there are too many dots for a small hieroglyphic sign. His source may have been the triangles filled with small dots on the so-called Cycladic 'frying pans' (Fig 59).

**44. SMALL AXE** (1) (Aartun: aquatic plant leaf; Dettmer: bull's hide; Godart: small hatchet.) JME: None of these suggestions would properly fit this oddly-shaped sign; it is too irregular.

**45. WAVY BAND or FLOWING WATER** (6) (Dettmer: water channel; Godart: wavy bundle; Ohlenroth: wave; Pernier: flowing water as in the Egyptian hieroglyphic sign.) JME: The source is probably the identical Linear A sign AB76 (Fig 9), Linear B sign 76 (reversed), or the equivalent Luwian sign.

There are 22 disk signs that are closely or somewhat related to Linear A or Linear B, especially the former, but there are no double axes, horns, bull heads, or octopuses, symbols that are closely linked to Minoan Crete.

**APPENDIX: ATTEMPTS AT DECIPHERING THE PHAISTOS DISK**

**Aartun, Kjell (1992)** – 'Der Diskos von Phaistos; Die beschriftete Bronzeaxt; Die Inschrift der Taragona-tafel Wiesbaden' in *Der Minoische Schrift, Sprache und Texte,* vol. 1. A South Semitic syllabic text in metrical style, spoken in the south of Arabia (Yemen) before the Bronze Age, and a language to which modern Arabic and some Ethiopean languages belong. He believes that the writing system is the same as that on the Arkalokhori axe. '…a Near Eastern/Semitic class in ancient Crete which provided political leadership and cultural guidance during the Minoan era.' An extremely erotic poem, a 'prescription for the execution of sexual rites in the Palace of Phaistos.' We hesitate to quote from it, except for the mild beginning: 'I want to wet, plow, your field, I want to wet, deep plow, your arable under the yoke!'

**Achterberg, Winfried, Jan Best, Kees Enzler, Lia Rietveld,** and **Fred Woudhuizen (2004)** – *The Phaistos Disc: A Luwian Letter to Nestor.* An Anatolian hieroglyphic script. A Luwian document of land ownership, a letter from Great King Tarkhundaradus of Arzawa in Anatolia to King Nestor of Pylos in Akhaia. 'In Mesara is Phaistos. To Nestor, to the great [man] in Ahhiyawa'. First half of the 14th century.

**Aleff, H. Peter (1982, e-book)** – *The Board Game on the Phaistos Disk.* An ancient gameboard related to the Egyptian *senet* and snake games.

**Amazon Research Center (website)** – A claim that some signs are similar to rock engravings in North Africa.

**Balistier, Thomas (2000) –** *The Phaistos Disc – an account of its unsolved mystery* (originally published as *Der Diskos von Phaiphos: Zur Geschichte eines Rätsels und den Versuchen seiner Auflösung* (1998). Discussion of decipherments of Aartun, Ohlenroth, Dettmer, and others. '…today, however, it seems rather absurd to assume it is a fake.'

**Ballotta, Paola (1974)** – *Le déchiffrement du Disque de Phaistos.* Ideographic writing.

**Barger, Jorn (2001, website)** – Probably the funeral psalm of King Arion, c. 1800 BC, from islands near Troy.

**Barthel, Thomas S. (1988)** – 'Forschungsperspektiven für den Diskos von Phaistos' in *Münchner Beiträge zur Völkerkunde,* vol. 1, 9-24. The differences in content from side A to side B represent 'a thematic change from day to night and male to female' (Balistier).

**Best, Jan,** and **Woudhuizen, Fred C. (1980)** – *Ancient Scripts of Crete and Cyprus.*

**Best, Jan,** and **Woudhuizen, Fred C. (1989)** – *Lost Languages from the Mediterranean.* Best: an abstract of correspondence between King Nestor of Achaia (outgoing letter on side A of the disk) and the King of Phaistos (Tarhuntiwaqtas or Kunawa?) (incoming letter on Side B). (See Fred C. Woudhuizen.) Best dates it to the first half of the 14th century BC.

**Blohm, Hans, Stafford Beer,** and **David Suzuki (1987)** - *Pebbles to Computers – The Thread.* A two month calendar for daily activities in the palace, c. 1700 BC.

**Bossert, H. (1931)** - 'Unentzifferte und unübersetze Inschriften' in *Atlantis. Länder/Völker/Reisen,* 249-256. An import from Anatolia. Similarity to Hittite, syllabic hieroglyphic script.

**Bowden, Edgar (1992)** – *Cybele the axe-goddess: Alliterative verse, linear B relationships and cult ritual of the phaistos disc.* Greek alliterative verse metrices describing an Anatolia religious cult of 'Cybele Axe Goddess and Poseidon Hippios'.

**Burdic, Steve (1998, website)** – An astronomical interpretation using the solstices. It refers to the cycle of the sun over the year.

**Burrage, Champlin (1921)** – 'Studies in the Minoan Hieroglyphic Inscriptions' in *Harvard Studies in Classical Philology,* 32, 177. Interpreted as Semitic. (From JME notes, 1968-71.)

**Butler, Alan (1999)** – *The Bronze Age Computer Disc.* A system of measuring time, space, and distance. 'The primary meaning of the text was mathematical rather than linguistic… an astronomically explicit calendar… goes beyond the basic zodiac to include planetary movements… including the possible reality of Atlantis (in the Atlantic) and the possession by the Minoans of extensive knowledge of the outer solar system.' This is a good example of 'pseudo-archaeology'.

**Caratelli, Pugliese G. (1945)** – 'Le Iscrizione Preellenici di Hagia Triada' in *Creta e della Grecia Peninsularia, Annuario.* Cretan, comparable to the glyphs on the Arkalachori axe and the Malia altar stone.

**Chadwick, John (1958)** – *The Decipherment of Linear B.*

**Chadwick, John (1987)** – *Linear B and Related Scripts.* A simple syllabic system. 'None of the more complicated and thus distinctive signs can be paralleled. Its Minoan origin must thus rest in doubt until more evidence is available.' '…the world's first typewritten document'. 'It has been a millstone round my neck for decades.'

**Coppens, Philip (2000)** – 'The Phaistos Disk' in *Frontier,* January-February. It could be used for both a chance game and a 'rule game', like backgammon.

**Corsini, Marco Guido (2002-2005, website)** – 'The Apotheosis of Seqenenra Tao II/Rhadamanthys, c. 1544 B.C. (on the Phaistos Disc)'. Greco-Creto-Egyptian, c. 1600-1540 BC. It is the Disk of the Ra/Sun Rhadamanthys. 'Rhadamanthys was a pharaoh of Greek origins (and, following the Greek tradition, king of Phaistos). The Apotheosis of Rhadamanthys was then deposited in the archives of the final phase of the first palace of Phaistos. Rhadamanthys was born in a Greek speaking city, probably Phaistos (following the tradition that he was born in Gortyna, which descended in origin from Phaistos, the capital of the Messara), where since 1700 B.C. the Ionians adopted the scripture.' 'Blissful lady of the labyrinth, blissful Isonoia, lady of the coffins and protectress of the pyramid. The daughter of Creon Megara consecrate there to You, the daughter of Creon in the cella of the labyrinth, the daughter of Creon Megara consecrate there to You the dead.'

**Crombette, Fernand (1880-1970)** – *Clartés sur la Crete* (vols 1-3). Monosyllabic, pictographic signs in a Coptic text. Of Basque origin. Relates the adventures of Icarus; used as a board game. Crombette believed that the first king of Crete was the son of the first king of the 1st Dynasty of Egypt.

**Crystal Links (website)** – 'The disk speaks about the spiraling nature of reality and creation which links to Sacred Geometry - the Golden Mean Spiral - Phi Ratio - the manner in which consciousness moves between

realities.' 'In conclusion, the Phaistos Disk is another one of the 'Games of Thoth' created to bring awareness about the nature of reality.'

**Cuny, Albert (1911)** – 'De l'employ des 'Virgules' sur le disque de Phaestos' in *Revue des Études Anciennes,* 13, 297-312 (and vol. 14, 1912). Egyptian, syllabic-ideographic script (from Wikipedia).

**Davaras, Costis (1967)** – 'Zur Herkunft des Diskos von Phaistos' in *Kadmos,* 6, 101-105. Because of the finding of the clay 'plumed' heads (cf. sign no. 2) at Traostalos near Kato Zakros, the disk's non-Cretan origin is 'losing more and more credibility'.

**Davis, Simon (1967)** – *The Decipherment of the Minoan Linear A and Pictographic Scripts*. An acrophonic syllabary in a Minoan or Hittite language. A resemblance to Anatolian hieroglyphs. Relating to the manufacture of seals. '…sealings spirals stamps sealings I made stamps sealings great (one) stamps.' Duhoux terms this translation 'virtually gibberish'.

**Delekat, Lienhard (1979)** – 'Der Diskus von Phaistos – Entwurf einer Textlesung und –deutung' in *Ugarit-Forschung – Internationales Jahrbuch für die Altertumskunde Syrien-Palästina,* 11, 165-178. Greek pictographs. An invitation to the Anthesteria festival (Feast of Flowers, dedicated to Dionysos). 'Helmsman's-rhythm-beating-call of the blossoming (Anthesteria-festive) radiant heaven's-tree dweller (Dionsysos): With both arms fish-waving, ye lamb-herdsman (people of Tyr), go to Amyclae…'

**Dettmer, Otto (1989)** – *Das Rätsel des Diskos von Phaistos: Das schwerste Kreuzwordrätsel de Welt*. A syllabary of Messenian origin (the western Peloponnese). 'In invocation to the earth goddess Gea in the cave of Ino to prevent earthquakes…' in a 'rare form of Greek with phonetic values for the pictographs.' 'A greeting by Talaio, king or god of the Aegeatians, to the surviving Cretans following the earthquake.' (from Balistier).

**Dow, S. (1954)** – 'Minoan Writing' in *American Journal of Archaeology,* 58, 2 (80pp.) He thought that the disk was too fragile an object to be an import from Anatolia.

**Duhoux, Yves (1977)** – *Le Disque du Phaestos. Archeologie. Epigraphie. Edition Critique.* Luwian.

**Duhoux, Yves (2000)** – 'How not to decipher the Phaistos Disc', *American Journal of Archaeology,* 104, 3, 597-600. Cretan provenance, c. 1850-1600 BC. Could be related to Linear A. A review of Faucounau's *Le déchiffement du disque de Phaistos. Preuves et Consequences.* 'The Minoan character of the disc, regularly debated in the past, is assured thanks to an impressive series of points in common with indisputable Minoan artifacts.' He claims that the signs have 'clear affinities with the Arkalokhori axe'.

**Dunand, Maurice (1945)** – *Byblia Grammata*. There is a strong resemblance to the Proto-Byblic script.

**Eisenberg, Jerome M. (1999)** – In a letter to *The Economist,* 16 January: 'a joke perpetrated by a clever archaeologist from the Italian mission to Crete upon his fellow excavators… Taking a thermoluminescence test, which should date the firing of the clay at about 100 years ago, can solve the mystery of the disc.'

**Ephron, Henry D, (1962)** – 'Hygieia Tharso and Iaon: The Phaistos Disk' in *Harvard Studies in Classical Philology,* 66, 1-91. Late Minoan period (from Wikipedia).

**Evans, Arthur J. (1909)** – *Scripta Minoa I, the written documents of Minoan Crete…* Non-Minoan, from Asia Minor (1921). The human figures and costume are non-Minoan and 'no more than ten more or less resemble Cretan hieroglyphic forms'. He compared sign no. 2, the plumed head, with the Philistine headdress and sign no. 24, the building, with the Lycian rock-cut tombs. Possibly a hymn or religious chant to the earth goddess, the goddess of fertility, or the Anatolian Great Mother who was worshipped in both Asia Minor and Crete.

**Fattah, Nurihan (n.d.)** – *The Language of Gods and Pharaohs*. The disk is a text in Tatarish-Turkish about the feast of a nobleman. Fattah, a Kazan University professor, also claims that the written and spoken language in Atlantis was Turkish.

**Faucounau, Jean (1975), (1999, 2001)** – *Le déchiffement du disque de Phaistos. Preuves et Consequences*. He claims that it comes from the Syros culture of the Cyclades. 'Proto-Ionic' Greek dialect, a syllabic acrophonic script comparable to Linear B. The invention of an early Aegean people, the Proto-Ionians', borrowing the idea from 6th Dynasty Egypt. A funerary hymn to Arion, child of Argos, destroyer of Iasos. Duhoux states: 'In fact, this study commits enough serious errors of all sorts to warrant a secure place in the anthology of misguided decipherments.' He mixes true syllabograms (representing sounds) with some purely alphabetic consonants, a combination unknown in deciphered Aegean scripts.

**Faure, P. (2003)** – 'Tourne disque, l'énigme du disque de Phaistos' in *Notre Histoire,* 213, October 2003. He considers the disk to be a forgery.

**Fell, Howard Barraclough (1973)** – 'Polynesian tablets and Protopolynesian. A newly deciphered European tongue of the Minoan subgroup. The Phaistos disk ca. 1600 B.C.' in *Museum of Comparative Zoology,* Harvard University, 200-217. He found Polynesian elements and suggested early contacts between the two civilisations.

**Fell, Howard Barraclough (1976)** – 'The Decipherment of the Phaistos Disk', *The Epigraphic Society Occasional Publications and Papers,* 4, 79. An Anatolian language. A verse in feminine rhyme, 'an oracular aid in the interpretation of omen'. Other side: In prose, 'how a priest may determine the fate of a client by observing the behavior of birds'.

**Fischer, Steven R. (1988)** – *Evidence for Hellenic Dialect in the Phaistos Disk*. Greek dialect, syllabic script. A Minoan call to arms to repel Carian invaders from Anatolia. 'Like Ventris, Fischer gradually came to the idea that he might be dealing with early Greek or at least Indo-European.' 'The translation offered involves a published announcement, or the transcription of a speech, by the commander of a Minoan naval force, urging his troops on to battle (apparently near Naxos) against invaders from Anatolia.' 'Hear ye, Cretans and Greeks: my great, my quick! Hear ye, Danaidans, the great, the worthy! Hear ye, all blacks, and hear ye, Pudaan and Libyan immigrants!'

**Fischer, Steven R. (1997)** – *Glyph-Breaker*. It is written in a Hellenic dialect of Minoan, 'a sister language of Mycenaean Greek'.

**Franklin, Kenneth (**with **Leon Pomerance)** – A calendar or an almanac (see **Leon Pomerance**).

**Frenkel, M. (1999)** – 'The Phaistos disk as an astronomical calculator.' A paper presented at the Oxford VI and SEAC 99 Conference (27 May 1999).

**Georgiev, Vladimir (1976)** – *On the similarity to Luvian (Hittite) hieroglyphs and Linear B*. An acrophonic, syllabic hieroglyphic script (noted earlier by H. Bossert (1932) and Simon Davis (1967). A story in Luwian about the Cretan king Minos.

**Gleye, Arthur (1912)** – *Kretische Studien. Die westfinnische Inschrift aud dem Diskus von Phaestos*. The language is West Finnish or Old Estonian.

**Godart, Louis (1990, 1995)** – *The Phaistos Disc – the enigma of an Aegean script*. From an Aegean culture. Middle or Late Minoan, c. 1550-late 13th century BC. 'Among the written testimonia from ancient Crete there is not a single text that permits us to define any relationship whatsoever with the Phaistos disc. Thus we can say with certainty that the script on the disc is totally alien to the scripts of Minoan-Myceneaean Crete.' Godart points out that 'there are no definite comparisons between the signs of the Disc and the syllabograms of the three known Cretan scripts (Hieroglyphics, Linear A and Linear B)…'

**Gordon, Cyrus H. (1966)** – *Evidence for the Minoan Language*. A syllabic acrophonic legend in a Semitic text.

**Gordon, F. G. (1931)** – *Through Basque to Minoan: transliterations and translations of the Minoan tablets*. A hymn to the 'rain lord', associated with Aquarius, in a language allied to Basque. '…dogfish smiter on the creeping flower; the lord, smiter of the horse-hide; the dog climbing the path, the dog emptying with the foot the water pitchers, climbing the circling path, parching the wineskin…'

**Grumach, Ernst (1962)** – 'Die Korrekturen des Diskus von Phaistos' in *Kadmos,* 1, 16-26. Of Cretan origin. He suggests a change in content at a point near the end of side A from a male to female theme.

**Grumach, Ernst (1967)** – 'Zum Herkunft des Diskus von Phaistos' in *Akten des 2. Internationalen Kretologen-Kongresses I,* 281-296.

**Gwynn, B. V.,** and **N. Kolyvanos, N. (1977)** – *The Phaistos Disc*. An early form of Greek, of administrative significance.

**Haarmann, Harald (1990)** – *Language in Its Cultural Embedding*. Ideographic writing. A sacred text of a funerary rite, the symbols representing persons, gods, spirits, offerings, events, places, attributes, and religious activities.

**Hagen, Ole 1988, 2001** – *The Phaistos Disk – Alias the Minoan Calendar*. A calendar with the names of months. 'He claims that the images describe ceremonies or duties that should be performed on the appropriate date'.

**Hall, H. R. (1911)** – 'A Note on the Phaistos Disk' in *Journal of Hellenic Studies,* 31, 119-123. Non-Cretan, from Asia Minor (1927). He suggests that the plumed head sign has a feathered helmet, showing Philistine origin.

**Hansel, Stanislaw (1999, website)** – It is probably written in a Semitic language that he calls Keftian after the Egyptian name for Crete – *Keftiu.*

**Hausmann, Axel (2002)** – *Der Diskus von Phaistos. Ein Dokument aus Atlantis*. An ideographic script from Atlantis, c. 4400 BC.

**Hemple, George (1911)** – 'The Solving of an Ancient Riddle: Ionic Greek before Homer', *Harper's Monthly Magazine,* 122, 728, January, 187-198. Ionic Greek, syllabic script. 'Lo, Xipho the prophetess dedicates spoils from a spoiler of the prophetess.' Perhaps the earliest published attempt at its decipherment.

**Henke, Christoph (2003)** – *Die Hierarchie der Zeichen auf dem Diskus von Phaistos*. He interprets it as 'a hierarchy of characters'.

**Hutchinson, R. W. (1973)** – *Prehistoric Crete.* Originating in Asia Minor.

**Imperiali, Massimo (website, n.d.)** – Possibly a political treaty with a list of geographical places.

**Ipsen, Gunther (1929)** – 'Der Diskos von Phaistos. Ein Versuch der Entzifferung' in *Indogermanische Forschungen,* 37, 1-41. From somewhere in the Aegean, but non-Cretan. Symbol values inspired by cuneiform; shapes inspired by Egyptian hieroglyphs.

**Jensen, Hans (1925)** – *Geschichte der Schrift*. Of Cretan origin.

**Jeppesen, Kristian (1962)** – 'Some remarks on the Archaeological Placing of the Phaistos Disc' in *KUML,* 180-190. A similarity to several Egyptian hieroglyphs. After 1400 BC, probably c. 1100 BC.

**Johnson, Glenn (n.d.)** – *Ancient Cretan Languages (The Phaestos Disk)*. A south-western Anatolian-Syrian origin, relating to Anatolian and Indo-Aryan scripts. A listing of nobilities, perhaps representing a funerary record.

**Kaulins, Andis (1980)** – *The Phaistos Disc: Hieroglyphic Greek with Euclidean Dimensions – The 'Lost Proof' of Parallel Lines*. Proof of a geometric theorem in Greek hieroglyphics. '…a geometric proof in rather odd Greek, written in an Egyptian-based syllabary'.

**Kean, Victor J. (1985)** – *The Disk from Phaestos*. Pictographs filled out with text, 2100-1900 BC. '…the printed record of the journeys of an early Minoan who crossed to the coast of North Africa and headed deeper into the harsh conditions of the Sahara in the hope of persuading one particular group of nomadic hunters to cease their destructive way of life.'

**Kober, Alice (1948)** – 'The Minoan Scripts: Facts and Theory' in *American Journal of Archaeology,* 52, pp. 82-103. Of Cretan origin until proven otherwise.

**Kretschmer, Paul (1931)** – 'Die Ältesten Sprachtschiften auf Kreta' in *Glotta.* A Carian document with a list of soldiers. A possible link to the Illyrians and to the Etrusco-Venetic and late Greek scripts.

**Ktistopoulos, Konstantinos D. (1951)** - 'Die antike Punktierung und der Diskus von Phaistos' in *Minos,* 1, 7-25. According to Mark Newbrook, he 'decided that the text was in a Semitic language and dealt with gods, stars, prophecies and the white of eggs.'

**Kvashilava, Gia D. (2006)** – *The Phaistos Disc – Colchian Goldscript*. Syllabic-logograms in Old Colchian. The disk was brought from the Black Sea area through trades to Crete.

**Louise, Olivier M. (website)** - Greek, about a destruction of Thera.

**Macalister, R. A. S. (1914)** – 'The Philistines' in *Palestine Exploration Fund Quarterly,* 141 (JME notes, 1968). It has a Libyan connection and similarity to several Egyptian hieroglyphs. A judicial court list, dated, with the magistrates' and witnesses' names.

**Mackenzie, Duncan (c. 1908)** – *Cretan Palaces*. Mackenzie, Field Director for Sir Arthur Evans and an expert on Cretan clay tablets and sealings, thought that the clay is of foreign origin.

**Marinatos, Spyridon (c. 1935-39)** – A sacred script. He considers the disk and the Arkalokhori axe (found by Marinatos) to be 'cultural artifacts of the same kind'.

**Martin, Adam (2000)** – *Der Diskos von Phaistos - Ein zweisprachiges Dokument geschrieben in einer fruhgriechischen Alphabetschrift Erhaltlich*. Greek-Minoan bilingual alphabetic text. Side A is an early Greek text for a funeral service meant to console a bereaved person. Side B is the Minoan version of the same text.

**Massey, Kevin and Keith, A. J. (1997-2003, website)** – 'Mysteries of History Solved'. A magical text, perhaps a curse, in an Indo-European syllabic script. 'this Proto-Byblic script which is demonstrated by the Massey twins as being a closely related orthographic system to the Phaistos Disk'. 'The underlying language of the Proto-Byblic script was Semitic. It is a linear script which displays many identifiable objects, like weapons, human figures, and body parts.' Later, an unknown Greek script for an inventory of goods 'similar to most of the Linear B tablets.' What may have happened in the world of the Phaistos Disk is that farmers and merchants brought commodities to a palace, temple, or treasury and deposited them in this central location. For this deposit, they would be given a record, somewhat like a receipt. This is what Linear B tablets tended to be, listings of commodities and goods. The Phaistos Disk is the same thing.

**Matz, Friedrich (1972)** – *The Art of Greece and Early Greece: the Prelude to Greek Art*. It originated in Asia Minor.

**McEvedy, Colin (2002)** – *The New Penguin Atlas of Ancient History*. 'It has to be a hoax.'

**Meerten, Reinier J. van (1977)** – 'On the start of printing of the Phaistos Disc' in *SMII, Journal of Linguistic Calculus,* 29-36. A Semitic text.

**Mellink, Machteld J. (1964)** – 'Lycian Wooden Huts and Sign 24 on the Phaistos Disk' in *Kadmos,* 3, 1-7. She links sign 24 with a motif of a wooden hut on a large Lycian burial vase even though the vase is from the 3rd millennium BC.

**Meyer, E (1909)** – 'Der Diskus von Phaestos und die Philister auf Kreta'

in *Sitzugsberichte der Königlich Preussischen Aademia der Wissenschaften,* 33, 1022-1029. Related to the Philistines because of the plumed head sign, no. 2.

**Muenzer, Paul J. (1985)** – *The Phaistos Disk Deciphered.* It is a Greek text.

**Myres, J. L. (1930)** – *Who were the Greeks?* An Anatolian import.

**Nahm, Werner (1975)** – 'Vergleich von Zeichen des Diskos mit Linear A' in *Kadmos*, 14, 2, 97-101. – Of Cretan origin, made at Phaistos. Comparison with some symbols to Linear A – the walking man, no. 1, to L148 and the cat's head, no. 29, to L149, th two found only on tablet PH8 from Phaistos.

**Neumann, Günter (1968)** – 'Zum Forschungsstand beim 'Diskos von Phaistos' in *Kadmos,* vol. 7, no. 1, 27-44. Of Cretan origin. It cannot be dated much earlier than the Arkalokhori axe. Ballistier quotes Neumann: '…whoever chooses this document as the object of his research must soberly assess the limits of his possibilities, if he does not wish to experience that no one but himself believes his theories to be correct.' He notes a clay ritual plate from Phaistos with figures of cattle and spirals stamped around he edge. He considers the disk, the Arkalokhori axe, and the Malia altar stone scripts to be 'individual or local forms' of the same pictographic script.

**Ohlenroth, Derk (1996)** – *Das Abaton des lykäischen Zeus under der Hain der Elaia.* Of Cretan origin, made at Phaistos, c. 1850-1550 BC. Free verse in a Greek dialect, a phonetic, alphabetic script, the pictography almost doubling for the Greek alphabet signs. It is about two sanctuaries in the Peloponnese in mainland Greece and is a votive offering for the appeasement of the gods, probably made following the eruption of Thera. On one side, an execration text cursing those who enter the shrine of Zeus on Mount Lycaeon in the south-west of Arcadia; on the other side an invocation of the night goddess Elaia (the local epiphet for Demeter), a curse resulting in the loss of one's shadow if an attempt is made to enter the shrine. Side A: 'Zeus is also the radiant one. If Zeus is the Lycaean, (he) from whose beloved grows a shoot of his same essence…' Side B: 'Enter the grove of Elaia: Ignite smoothened wood all around: In a circle around the sacrificial smoke, beat the earth and whinny suddenly like a pair of horses…'

**Olivier, John-Pierre (1975)** – 'Le disque de Phaistos', édition photographique, *Bulletin de Correspondence Hellenique,* 99, 5-34. He questions the authenticity of the disk.

**Ovendon, Michael**, and **Archie, Roy (website of Mark Newbrook)** – a 'suggestion that the zodiac must have been first recorded somewhere in the latitude of Crete at around the time to which the Disk is dated.'

**Pendlebury, J. D. S. (1939)** – *The Archaeology of Crete.* The disk is an import from Anatolia.

**Pernier, Luigi (1908)** – 'Il disco di Phaestos con caratteri pittografici' in *Ausonia,* 3, 255-302. Of Cretan origin. The contents are of a ritual nature.

**Plagnol, Philippe (2007)** – *Ideograms.* It shows a greater relationship to Egyptian hieroglyphs 'than to the rectilinear and austere tablets of the syllabic writings rediscovered with it'.

**Polygiannakis, Efi (2000)** – *The Phaistos disk speaks in Greek.* A prayer in a syllabic Greek script.

**Polymeros, G. (website)** – A Greek language. 'Palace's Priestess/shout loud so that I get healed/holy clothes I have brought up here to you./Respectable, perfect (animals for sacrifices) I have brought up here to you for the Palace' (from www.UniLang.org).

**Pomerance, Leon (1976)** – *The Phaistos Disk: An Interpretation of Astronomical Symbols.* Of Cretan origin. An astronomical document in a pictorial form of symbolic communication. He suggests that the entire design had been 'cut into a soft limestone matrix for each side and then impressed on a pancake of soft clay. The two disks of clay were then trimmed around the edges, not quite accurately, placed back to back, and joined with slipped clay'. This would mean that it was not just a case of individual stamps being used à la Gutenberg, but that is was indeed an amazingly early precursor of precast linotype.

**Pravilov, Victor (2006? – website, in Russian)** – A device for the manufacturing of metal wares. Semantic signs for a 'polyideographic language'. It is similar to the internal structure of the deep-sea cephalopod *nautilus pompilius.*

**Prendergast, Jane (website)** – 'Notes on the Phaistos Disc'. A Hittite origin because of: (1) the similarity between the number of differing symbols on the disk and the number of syllables in Hittite and Luwian; (2) resemblances of the symbols themselves to Hittite hieroglyphs and artefacts and (3) correspondence of objects depicted by the symbols and themes from the *History of Hatusili I.* It is possible that the disk may be a record of gifts made to a temple, possibly that of Arinna. She notes 'the resemblances between the material of the disc and the text of the *Wars of Hattusili…*'

**Read, F. W. (1921)** – 'A new interpretation of the Phaestos Disk: the oldest music in the world?' in *Palestine Exploration Fund,* 29-54.' Musical notes.

**Richter-Ushanas, Egbert (2005)** – *The Disk of Phaistos and the Sacred Marriage of Theseus and Ariadne.* A 'pseudo-scholarly' decipherment.

**Rjabchikov, Sergei V. (1998)** – Proto-Slavonic dialect, syllabic script. 'he makes the observation that the Phaistos Disk signs are the decorative version of the Linear A script. He 'reads the Disk - and Linear A - as early Slavic, more specifically as instructions for rituals; he also believes that Etruscan was close to early Slavic.'

**Robinson, Andrew (2002)** – *Lost Languages.* He quotes the writer (JME) in his letter to *The Economist,* 16 January, 1999: '…a joke perpetrated by a clever archaeologist from the Italian mission to Crete upon his fellow excavators… Taking a thermoluminescence test, which should date the firing of the clay at about 100 years ago, can solve the mystery of the disc.'

**Roolvink, Hedwig (1999, website)** – 'The Disk of Phaistos. The millennium problem of Crete solved?' An Anatolian script of pictograms, probably a very primitive Luwish script.. 'an account of the expedition of a group of people who lived in the mountains and went in search of flat land.'

**Rowe (1919)** – From Cyprus. In *Transactions of the Royal Society of Australia,* 43, 142. Also in *American Journal of Archaeology,* 25, 1921, 176 (JME notes, 1968-71).

**Sankarananda, Swami (1968)** – *Decipherment of Inscriptions on the Phaistos Disc of Crete.* The language is Indian.

**Schachermeyr, Fritz (1964)** – *Die minoische Kultur des alten Kreta.* He explains the differences between the disk, the Arkalochori axe, and the Malia altar stone by the existence of different schools of writing in different places and that they showed their independence from one another. For him, the walking man (no. 1) and flying bird (no. 31) signs are 'typical Minoan images of movement'.

**Schertel, Ernst (1948)** – 'Der Diskos von Phaistos. Wege zu Entzifferung' (Ways towards its Decipherment) in *Würzburger Jahrbücher für die Altertumswissenschaft,* vol. 3, 334-365. Indo-European, closely cognate with Latin; not of Cretan origin, but from Rhodes. A mixture of syllabic and alphabetic writing. A double hymn to Zeus and the Minotaur.

**Schomburg, Bernd (2000)** – *Der Jahrtausend-Kalender der Minoer.* A Minoan calendar with 'schematic winding ideograms'. Free translation: 'Minoan calendar with directions for the measurement of the year and the millennium.'

**Schwarz, Benjamin (1959)** – 'The Phaistos disk' in *Journal of Near Eastern Studies,* 18, 2, 105-112. Mycenaean Greek, syllabic script. Related to Linear B. Late Minoan period. Descriptive precinct lists (or 'index of religious pilgrimage centers' – Balistier)

**Sittig, Ernst (1956)** – 'Zur Entzifferung der minoisch-kyprischen Tafel von

Enkomi' in *Minos,* 4, 33-42. An early form of Greek.

**Snowden, Clive (website)** – A prayer in pictographs from Asia Minor. 'The Phaistos Disc: deciphered' 'The General mightiness sought. The High Priest, The offering the greatest in Heaven. Many offerings were killed, The General a courier gave, To the greatest person in highest Heaven…'

**Sornig, Karl (2006)** – 'The ultimate assessment', *Grazer Linguistische Studien,* 65, 151-155.

**Stawell, Florence Melian (1911)** – 'An Interpretation of the Phaistos Disk' in *Burlington Magazine,* 19, 97, April, 23-29, 32-38. Homeric Greek, syllabic script, possibly connected to a Cyprian script. A matrix for religious symbols for a prayer, 'used in the traditional rites of a great goddess' such as Rhea, who was similar to Athena.

**Stylos, Nikos (c. 1998)** – *Phoinik*. Stylos claims to have translated both the Phaistos Disk and the Maglian Disk. He claims that the text was used for teaching people to read and that the language is 'arbanetic'.

**Sundwall, Johannes (1927-28)** – 'Phaistos – Diskus' in *Reallexikon der Vorgeschichte* 10, 124-126. He compares the stamp technique of the disk to the decorative style of the Middle Minoan III seal impressions (the source for some of the signs on the disk).

**Thomopoulos, I. (1912)** – He proposes an Albanian connection (JME notes, 1968-71).

**Timm, Torsten (2005)** – *Der Diskos von Phaistos – Fremdeinfluss oder kretisches Erbe?* A Minoan stamp script, either syllable or hieroglyphic, with a complete text, in conformity with Linear A. A 'reading experiment'. He compares 19 signs with Linear A.

**Trauth, Michaell (1990)** – 'The Phaistos Disc and the Devil's Advocate', *Glottometrika,* 12, 151-172. That it is of Cretan origin 'can no longer be called into question', but the language is not Greek.

**Van Meerten, Reinier J. (1977)** – 'On the start of printing of the Phaistos Disc' in *SMIL, Journal of Linguistic Calculus,* 29-36.

**Vieni, Rosario (2005)** – *Il Disco di Festo e il Disco di Nebra: Un calendrario veecchio di 4000 anni?* – A calendar-diary.

**Watson, Claire Grace (website)** – 'The Phaistos Disk Maze of Daedalus'. 'The disk is a disk of the world that shows the Minoans' religion and their reasoning about the Minoan Eruption and Tsunami.' 'The disk is a Minoan wave spiral on which is depicted the Aegean world of Minoan Crete, including a cave, a boat, a pyramid, a star, planets, a constellation, geometry, maths, and everyday life in Crete that mirrors the stars above.'

**Wenzel, Hermann (1998, website)** - An astronomical document with day symbols.

**Westerlaken, W. A. G. (website)** – 'The Phaistos Disc Unravelled.' A Hittite relation?

**Whittaker, Helène (2005)** – 'Social and Symbolic Aspects of Minoan Writing', in the *European Journal of Archaeology,* 8:1, 29-41. Writing was also used as a marker of status and prestige and for communication with the divine.

**Whittet, Steve (website, 1995) –** A calendar.

**Will, Friedhelm (2000)** – A number-philosophical document originating in Atlantis. Another example of 'pseudo-archaeology'.

**Winter, Dan (website)** – The Isis-Osiris mystery myth. The disk, created c. 1600 BC, records the activities of the Isis-Osiris sect as they convened inside the Great Pyramid of Cheops and worked to establish their group consciousness using the tools of sacred geometry. It is a 'portal disk using magnetic portal geometry'! Again, 'pseudo-archaeology' at its finest.

**Woudhuizen, Fred. C.,** with an introduction by **Jan Best (1992)** – *The Language of the Sea Peoples*. From Anatolia – A resemblance to Luwian (Anatolian) hieroglyphs. A Luwian letter to King Nestor of Achaia sent from Phaistos. (See **Jan Best.**)

**Zebisch, Herbert W. (Russian web forum, 2006)** – It is written in a South Caucasian/Georgian language, Kartvelian, or Colchian (Kolkhian) – Mingrelian-Laz, spoken by the people of the Black Sea coast. The pictorial signs are 'specimens of 'Colchian Gold-script… The Colchian language was spoken by the pre-Olympic Titans, the Sun-god Helios…[and] Queen Pasiphae, the wife of king Minos of Crete… The text… is a hymn 'Nenana', dedicated to the protector of 'Aea-Neshkari', Pelasgian-Colchian Great Mother Goddess Nan/Rhea-Cybele.

A number of the listings above of attempts to decipher the disk were derived from the book *The Phaistos Disc: An Account of its Unsolved Mystery* by Thomas Balistier and the websites of Mark Newbrook (http://www.bad-language.com/phaistos), Anthony Svoronos (http://users.otenet.gr/ svoronan/phaistos.htm), and Wikipedia: 'Phaestos disc'. Another important website: http://www.disque-phaistos.fr.

***Recommended Reading***

Thomas Balistier, *The Phaistos Disk: An Account of its Unsolved Mystery* (2000). A small but excellent, well-documented account of many of the attempts to decipher the disk.

Louis Godart, *The Phaistos Disc: The Enigma of an Aegean Script* (1995). A beautifully photographed description of the disk with enlarged details and the author's efforts to interpret it.

***Illustration Credits***

**Balistier, T.** - *The Phaistos Disk: An Account of its Unsolved Mystery* (2000): Fig 15.
**Bossert, H. T.** - *Altkreta* (1923): Fig 23.
**Davaris, C.** - *Phaistos – Haghia Triada – Gortyn* (n.d.): Fig 58.
**Eisenberg, J.** - drawings (1971). Figs 20 (after 'Ausgrabungen und Funde auf Kreta 1936/37' in *Archaeologische Anzeiger,* 1937, 224-234, Figs 8-9), 53.
**Evans A. J.** - *Scripta Minoa I,* the written documents of Minoan Crete… (1909): Figs 3, 7, 24, 37-38, 44, 48, 49, 52, 56.
**Everson M.** - *Anatolian Hieroglyphs* (2007, website), Draft N3236: Fig 8 (extract).
**Farnoux, A.** - *Cnossos: L'archéologie d'un rêve* (1993): Fig 55.
**Godart, L.** - *The Phaistos Disc: The Enigma of an Aegean Script* (1995): Figs 1-2, 4-5, 16, 19 (drawing by Iro Athanasiadou), photo by L. Godart), 22, 26, 28, 32, 33, 35, 39, 40, 41, 43, 46, 59. All photos, except Fig 19, by Judith Lange; drawings by Louis Godart.
**Mellersh, H. E. L.** - *Minoan Crete* (1967): Figs 27 (after a drawing in A. Evans, *Palace of Minos,* 1953), 29.
**Papathanassopoulos, G.** - *Neolithic and Cycladic Civilization* (1981), Figs 47, 57, 59.
**Payne, J. C.** - *Catalogue of the Predynastic Egyptian Collection in the Ashmolean Museum* (1993): Fig 45.
**Robinson, A.** - *Lost Languages: The Enigma of the World's Undeciphered Scripts* (2002): Figs 9 (extract), 10 (extract), 13, 14, 17, 18, 36, 42.
**Vieni, R.** - *Il Disco di Festo e il Disco di Nebra: Un calendrario vecchio di 4000 anni?* (2005): Fig 21.
**Wikipedia,** *Cestus:* Fig 31.
**Woudhuizen, F.** - *The Language of the Sea Peoples* (1992): Fig 6 (after Milani, 1893), 34, 50.
**www.ancientscripts.com/luwian:** Fig 25.



An international conference on the Phaistos Disk is planned in London in November 2008. Full details will be posted on the *Minerva* website by the end of July: www.minervamagazone.com. See also *Minerva* September/October 2008.