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Research Article

Alphabet: From Linear B to the Greek 27-Letter Alphanumeric System and the Phoenician Abjad

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Abstract

The origin of the Greek alphabet has been a longstanding topic of academic inquiry and debate. Advocates of the Phoenician hypothesis posit that, due to the absence of Greek inscriptions between the 12th and 8th centuries BCE, the Greeks likely adopted the Phoenician abjad—a writing system comprising only 22 consonantal characters—and later modified it to suit their linguistic needs. However, the scarcity of surviving Greek inscriptions from this era does not definitively prove the absence of a pre-existing Greek writing system. In contrast, Linear B, a script used by the Greeks between 1500 and 1200 BCE, provides evidence of an earlier Greek writing innovation. Greek scholars argue that ancient sources, credit Palamedes with the invention of sixteen of the twenty-four Greek letters during truces (autumn and winter) of the Trojan War 1227-1218 BCE. The author argues that Palamedes, along with skilled scribes proficient in Linear B and sage soldiers and people, analyzed its syllabic structure to create an alphanumerical system of twenty-seven consonants and vowels from Linear B. The Phoenician abjad, dating from 1050 to 950 BCE, comprises 22 consonantal letters, with vowels inferred—rather than explicitly written—from context, a characteristic that frequently leads to ambiguity. This article offers a concise overview of Linear B and explores the potential role of Palamedes and a committee of skilled individuals in the expansion of the Greek vowel system from five to seven vowels, the creation of seven diphthongs by a rule and the consonant system from 12+F consonants to 18+F, incorporating six double-pronounced consonants derived from five consonants, along with the inclusion of the letter *sampi*. Through these modifications, they ultimately established a system of 27 phonemes/letters, creating an integrated Greek alphanumerical counting system (e.g., A = 1, B = 2, …, F = 6, …, I = 10, …, Q = 90, P = 100, Σ = 200, …, Ω = 800, and *sampi* = 900). Subsequently, the letters F, Q, and *sampi* were removed (as they were unused in the finally adopted alphabet), resulting in the emergence of the 24-letter Greek alphabet during the Troyan War (1227-1218 BCE). However, proponents of the Phoenician hypothesis have investigated the origins of the Greek alphabet without adequately considering the accounts provided by Liner B and ancient Greek scholars regarding its origin and development. This raises a critical question: Does such an approach facilitate genuine scientific discourse?

Keywords

Linear B, Palamedes, Greek Alphabet, Phoenician Abjad, Greek Numerical Systems, Phoenician Numerical Systems

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1. Introduction

It is widely acknowledged that the creation of a complete set of alphabetic letters, without any prior prototype, was unlikely to have been the accomplishment of a single individual. Accordingly, Palamedes is believed to have assembled a group of skilled scribes proficient in Linear B, experienced soldiers, and learned individuals to contribute to this development.

The decipherment of Linear B by Ventris and Chadwick [1] confirmed that it represented a form of the Greek language invented in 1500 BCE and utilized between approximately 1500 and 1200 BCE. Powell [2] argued that 'Herodotus [3] was mistaken in his assertion that Kadmos introduced the Phoenician 22-consonant script to Thebes.' He continues: 'Kadmos is likely to be associated with the end of the Middle Bronze Age (circa 1600 BCE), a period far too early for the development of the Greek alphabet. Herodotus' narrative, while legendary, reflects the historical reality that the alphabet originated from Phoenicia.' Thus, Herodotus' pro-Phoenician claim is not accepted by a scholar specializing in Phoenician studies, i.e., Powell [2]. In contrast, numerous ancient sources—including Euripides [4], Gorgias [5], Plinius the Elder [6], the *Suda Lexicon* [7] in Greek (circa 1000 CE), as well as modern scholars—have attributed the invention of the Greek alphabet to Palamedes (an inventive sage of the 13th century BCE) during the Troyan war predating the Phoenician abjad (1050–950 BCE) by five centuries. Both Plinius the Elder [6] and Stageiritis [8] asserted that Palamedes introduced 16 of the 24 letters of the Greek alphabet during the Trojan War. Stageiritis [8] also specified these 16 letters, i.e., Α, Β, Γ, Δ, Ε, Ι, Κ, Λ, Μ, Ν, Ο, Π, Ρ, Σ, Τ, Υ. Furthermore, the author derived their numerical values and identified the succession of 16 Greek letters through a correlation logic. This logic involved calculating the final single digit sum of the numerical values of the letter-names of the seven celestial bodies, with their succession from the Sun (e.g., Sun, Α+Ε+Λ+Ι+Ο+Σ ~1st, Mercurius, Ε+Ρ+Μ+Η+Σ ~2nd, Venus, Α+Φ+Ρ+Ο+Δ+Ι+Τ+Η ~3rd, Earth, Γ+Α ~4th, etc.).

As previously noted, Powell [2] does not attribute the invention of the Greek alphabet to Palamedes during the Trojan War but rather presents him as an adapter who modified the Phoenician script for use in the Greek language. This interpretation, however, appears to be at odds with the chronological framework proposed by several sources: archaeologist Blegen [9], who dates the end of the Trojan War to the late 13th century BCE; Hellanikos of Lesbos [10], who places its commencement in 1229 BCE; and Papamarinopoulos, Preka, and colleagues [11, 12], who situate the war between 1227 and 1218 BCE. They were based on the *Iliad* (13), Patroclus' death, Π 786-92, and on *Odyssey* (14), Theoklumenos' prophecy, υ 350-7. By contrast, the Phoenician abjad is typically dated to a substantially later period (1050–950 BCE). Consequently, Powell's assertion warrants critical reassessment.

As previously noted, Diringer [38], by contrast, attributes the invention of specific letters to a range of mythical figures, including Palamedes, Prometheus, Orpheus, Musaios, Linos, Epicharmos, Cecrops, Simonides, and, most prominently, Cadmus of Thebes. According to Eratosthenes' calculations, Cadmus introduced sixteen Phoenician letters in 1313 BCE. However, none of these legendary individuals can be credibly regarded as possessing the requisite linguistic or technical expertise to invent—rather than simply transmit—sixteen of the twenty-four letters of the Greek alphabet. Moreover, the proposed date of Cadmus' introduction (1313 BCE) significantly predates the generally accepted timeframe for the emergence of the Phoenician abjad (1050–950 BCE). Accordingly, Diringer's assertion is likewise subject to critical scrutiny.

The expedition to Troy was a monumental endeavor, involving some of the most distinguished Greek figures, such as Agamemnon, Menelaus, Palamedes, Odysseus et als, alongside unknown grammarians proficient in Linear B, skilled administrators, and ingenious technicians. Some details of the war are primarily chronicled in Homer's *Iliad* [13], Dictys Cretensis [15], and the *Cyprian Epoi* [16]. The war was characterized by intense conflicts during the spring and summer months, while the autumn and winter seasons were devoted to preparations. During these latter periods, Palamedes' aims were twofold: (a) the replacement of the cumbersome Minoan-Mycenaean numerical system and (b) the potential transformation of the syllabic Linear B script into a more efficient writing system, in which each letter corresponded to a single phoneme and vice versa.

Palamedes participated in the Trojan War, as mentioned by Virgil [17], and in *Cypria Epoi* [16], as cited by Proclus. Odysseus devised a plot to bring about the death of Palamedes, according to Apollodorus the Athenian [18], Philostratus Flavius [19], and Stageiritis [8].

Palamedes, an innovative Prince of Minoan origin, is possibly reputed to have gathered Greek ingenious soldiers and civilians during the Trojan War (1227-1218 BCE) and encouraged them to contribute to the development of an effort to invent an alphanumeric and maybe an alphabetic systems.

Evidence suggests that the Minoans attempted to transition from syllabic scripts (Linear A and Linear B) to an alphabetic system "no later than the end of the 16th century BCE." Sir Arthur Evans [20] documented this possibility. A significant artifact supporting this hypothesis was discovered on the reverse side of a Linear A tablet, Figure 1, which may represent a transitional form between syllabic and alphabetic writing.

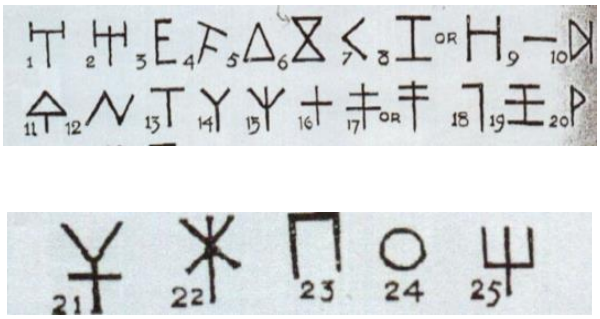


Figure 1. *The 25 alphabetiform symbols of unknown phonetic value, discovered by Sir Arthur Evans in the Minoan Palace, remain a subject of scholarly investigation. Letters E, Δ, I, H, N, T, Y, reversed Γ, Ξ, Ρω, Π, O, Ψ are the same as in modern Greek!*

The Minoan heritage of Palamedes is substantiated through his mother, Clymene, possibly a studious daughter of the Minoan King Catreus, as documented by Apollodorus the Athenian [21] and Diodorus Siculus [22]. It is reasonable to infer that the young Palamedes frequently visited his Minoan grandfather, King Catreus, during his formative years. During these visits, he likely acquired knowledge of Minoan prehistoric innovations through interactions with Minoan priests, who possessed profound expertise in:

a) The Minoan lunar, lunisolar, annual, and quadrennial solar calendars, which had been in use since approximately 2600 BCE, are examined in the works of Pliakos [23], Pliakos [24], and Pliakos [25]. Sir Arthur Evans [20] discovered an artifact of the Minoan quadrennial solar calendar, dated to 1550 BCE, which was decoded by Pliakos [23]. The modern quadrennial solar calendar, currently in use, was introduced by Julius Caesar in 45 BCE. Notably, the Minoans had already employed a similar calendar system 1,500 years earlier, incorporating an additional 366th day every four years.

b) The misnamed artifact, the "Phaestos Libation Table," functioned as a counting device facilitating the calculation of the Sar (111.5 lunar months), Saros (223 lunar months), and Exeligmós (669 lunar months) cycles—critical astronomical periods essential for predicting lunar and solar eclipses as early as 2000 BCE, as discussed by Pliakos [26]. The prevailing view regarding the prediction of lunar and solar eclipses is that the Chaldeans were capable of predicting only lunar eclipses around 700 BCE. The Minoan priesthood were capable of predicting lunar and solar eclipses 1,300 years ahead of the Chaldeans.

c) The alignment of celestial bodies from the Sun (1st)—Mercury (2nd), Venus (3rd), Earth (4th) and Moon (4th), Mars (5th), Jupiter (6th), and Saturn (7th) —referred to in Greek as ΕΡΜΗΣ (Hermes), ΑΦΡΟΔΙΤΗ (Aphrodite), ΓΑ (Gaia) and ΣΕΛΗΝΗ (Selene), ΑΡΕΣ (Ares), ΔΙΑΣ (Zeus), and ΦΑΙΝΩΝ (Phainon)—may have been observed from Minoan peak sanctuaries such as Juktas, Traostalos, and Petsofas. These sanctuaries were investigated archaeoastronomically by Henriksson and Blomberg [27].

d) In addition, technological advancements of the Minoan civilization, such as the measurement of hours in 20-minute intervals, the Minoan Pax, and the periodicities of Rites of Passage or Manhood Ceremonies, are discussed by Pliakos [28].

The Phaistos artifact, which facilitated the counting of Sar, Saros, and Exeligmos cycles/periods, enabled the priesthood to predict lunar and solar eclipses. This method of calculation remains consistent with modern astronomical practices, as discussed in the context of the Minoan Pax by Pliakos [26, 28].

It is plausible that Palamedes' inspiration to transition from the syllabic Linear B script to a more advanced system originated from his exposure to an alphabetiform artifact containing unidentified phonemes of the letters, as illustrated in Figure 1. Author's logical analyses, grounded in the enrichment of the phonemes/letters of the Greek Linear B script (1500–1200 BCE), challenge the established consensus that the Greek alphabet of the eighth century BCE has a Phoenician origin.

2. The Greek Linear B Script (1500–1200 BCE)

Ventris and Chadwick [1] successfully deciphered the Greek Linear B script (1500–1200 BCE), identifying its five vowels (A, O, Y, E, and Iota), Figure 2, seven diphthongs (AY, AI, OY, OI, YI, EI, and EY), and twelve consonants derived from corresponding twelve syllables (D, J, K, M, N, P, Q, R, S, T, W, and Z), in addition to the phoneme F, as illustrated in Figure 3. The script included grammatical features such as the conjugation of nouns and adjectives; singular, dual, and plural numbers; and verbs with active, middle, and passive voices, tenses, moods, and participles. It also demonstrated elementary syntax and contained approximately 4,000 Greek words Hooker [29].

The five Greek vowels of Linear B are depicted in Figs. 2 and 4. It is well-established within the scientific community that the Greeks utilized these five vowels A, O, Y, E, I, as early as 1500 BCE. The question arises: Why did the Greeks find it necessary to adopt the five Phoenician consonants (1050–950 BCE)—'alf, 'ain, yod, he, and wau—and transform them into the Greek letters A, O, I, E, and Y, as well as F (by 750 BCE)? It is unprecedented. The Greeks had been using the five vowels in Linear B since 1500 BCE, yet they transformed five Phoenician consonants into vowels and incorporated them into the Greek alphabet in 750 BCE. This argument lacks logical coherence.

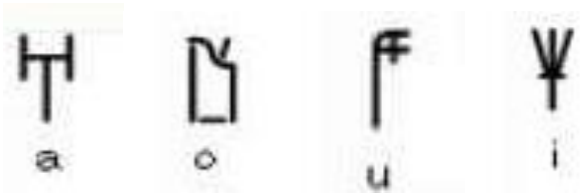
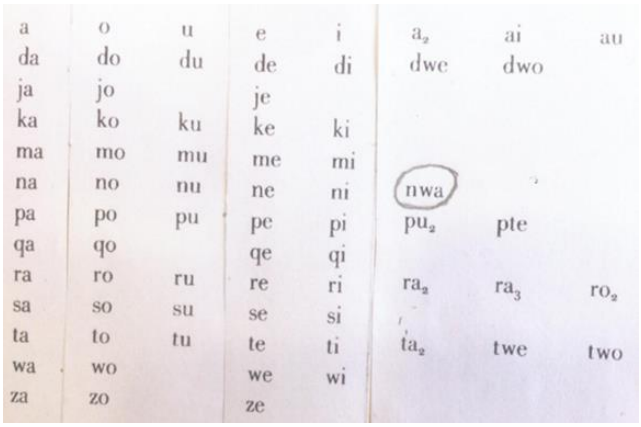


Figure 2. *The symbols of the Greek phonemes/vowels A, O, Y, E, and Iota as arranged in Linear B, which was developed around 1500 BCE. This evidence indicates that the Greeks had already invented and utilized these five phonemes/vowels at least 450 years prior to their presumed "adoption" from the Phoenician Abjad, which dates to approximately 1050-950 BCE.*



a	o	u	e	i	a_2	ai	au
da	do	du	de	di	dwe	dwo	
ja	jo		je				
ka	ko	ku	ke	ki			
ma	mo	mu	me	mi			
na	no	nu	ne	ni	nwa		
pa	po	pu	pe	pi	pu_2	pte	
qa	qo		qe	qi			
ra	ro	ru	re	ri	ra_2	ra_3	ro_2
sa	so	su	se	si			
ta	to	tu	te	ti	ta_2	twe	two
wa	wo		we	wi			
za	zo		ze				

Figure 3. *The second and third columns of Linear B have been reorganized to align the sequence of the five vowels with the unified organizing principle outlined above, which corresponds to the five phases of the moon as identified by the author.*

2.1. The Genesis of the Five Greek Vowels (A, O, Y, E, I (iota))

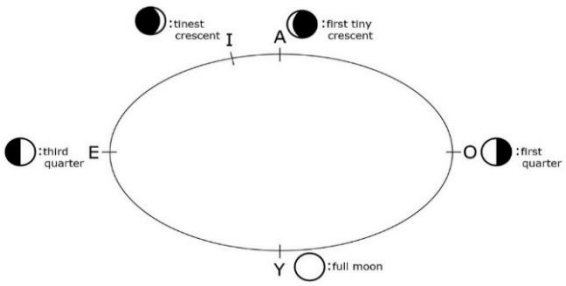


Figure 4. *The acronyms of the Greek words for the five phases of the moon: Beginning = Αρχή, towards Consummation = προς Ολοκλήρωση, Full Moon = Υμέναιος, Waning = Ελάττωση, and Disappearance (the Moon Sleeps) = Ιαύει, i.e., A, O, Y, E, I. The phases follow a clockwise sequence, consistent with all Minoan calendar systems found in kernoi. This conceptual framework exemplifies the advanced abstract thinking of Greek innovators in the 15th century BCE.*

The five Greek vowels were documented in Linear B script prior to 1200 BCE and continued to be present following the presumed adoption of alphabetic writing around 750 BCE. According to the author, these vowels possibly derived from the acronyms of the Greek names for the five phases of the moon:

a) Αρχή (Archi, beginning) – The moon rises (*first vowel* A=1).
b) προς Ολοκλήρωση (towards integration, wholeness) – The moon moves toward fullness (O).
c) Υμέναιος (Ymenaios) – The full moon (Y).
d) Ελάττωση (dEcrease) – The moon wanes (E).
e) Ιαύει (Iavei) – The moon rests (I), meaning it vanishes from the sky.

2.2. The Creation of Seven Diphthongs (AY, AI, OY, OI, YI, EI, EY)

The seven diphthongs were identified in Linear B both prior to 1200 BCE and after the emergence of alphabetic writing, as evidenced by inscriptions on the “Oinochoe of Dipylon” and “Nestor’s Cup” in the mid-eighth century BCE. It is therefore concluded that diphthongs and the Greek alphabet persisted through the "Dark Ages" (1200–8th century BCE), despite the lack of inscriptions or other definitive evidence. The absence of Greek inscriptions dated to the so-called Dark Ages may be attributed to the expansive geographical distribution of the Greek world, coupled with the fact that the use of alphabetic writing was at its nascent stage and therefore exceedingly rare during this period.

The author has demonstrated that these diphthongs were derived by a rule from the sequence A, O, Y, E, I, see 2.1, rather than from the Latin sequence A, E, I, O, Y, see 5.2.

In addition, there is the book *Hebrew is Greek* by Yahuda L.L.B. [30], with a preface by Professor Saul Levin, it was published by Becket Publication, Oxford, 1982, ISBN 0-7289-0013-0. It should be noted that in the book he proves that Arabic is also Greek, but it is reflected in the title, by economy. The book explores this connection through linguistic analysis, attempting to demonstrate that certain features of Hebrew, including its alphabet, may have been adapted from Greek during the early development of both language.

2.3. The Expansion of the Phonetic System

i) The five vowels of Linear B were expanded to seven through the introduction of standard long vowels: E + E = H (Heta) and the last vowel O + O = Ω (Omega). The original vowels E and O are regarded as short vowels.
ii) From the 12 syllables, individualized consonants were derived (D, J, K, M, N, P, Q, R, S, T, W, Z). These were further enriched by the addition of the letter F and the articulation of six additional consonants from three phonemes of Linear B:
    1) K was also pronounced X (Chi) and Γ (Gamma), Hooker [29], §84 and 152γ.

2) P was also pronounced as Φ (Phi), Hooker [29], § 159.
3) Q was also pronounced as B (Beta), Hooker [29], § 56.
4) R was also pronounced as Λ (Lambda), Hooker [29], § 199.
5) T was also pronounced as Θ (Theta), Hooker [29], § 103.
6) ko+so was pronounced as Ξ (κσι), Hooker [29], § 132.
7) p+s was pronounced as Ψ (πσι), *Iliad* [13], Λ 428.

iii) This process culminated in a total of 26 phonemes/letters (7 vowels + 18 consonants + F). These letters were unordered, with the exception of the first vowel thus A=1 (positioned at the beginning of the series) and the last vowel twenty sixth thus Ω=800 (placed 26th). For an alphanumerical system, 27 symbols were needed.

A fundamental question persists: how were the 22 Phoenician and 26 Greek phonemes/letters arranged in their current order? To date, neither Phoenician nor Greek scholars have provided documented explanations for the points outlined in (i), (ii), or (iii) above. Therefore, an archaic Dorian form of the sigma (ss or ts), the letter known as *sampi* (ϡ), was incorporated as the 27th character with a numerical value of 900, Liddell & Scott [31].

3. The Minoan-Mycenean Numeric System

One of the principal challenges within the Minoan-Mycenaean script system pertained to its numerical representation. The earlier Minoan system employed a rudimentary linear notation:

1. A single horizontal line (-) denoted numeral 1, two lines signified 2, and this pattern continued up to nine lines.
2. A vertical stroke (I) represented the numeral 10, with multiples such as II indicating 20, III denoting 30, and so on.

The Mycenaean numerical system, in contrast, was organized in a distinct manner:

1. A single vertical stroke (I) represented the numeral 1, two strokes (II) denoted 2, continuing sequentially up to (III) for 3, and so on.
2. A horizontal line (-) signified 10, with two lines representing 20, and so forth.
3. A small circle (o) stood for 100, two circles (oo) indicated 200, and this pattern continued accordingly.

The Minoan and Mycenaean civilizations were significant maritime powers, active at least as early as 1765 BCE, as demonstrated by the connection between Knossos and Ugarit—spanning approximately 1,050 kilometers in a straight line—and the documented trade of 127 luxurious Minoan products, Foster [32]. Consequently, it would have been logical for them to eventually develop a more streamlined decimal system, incorporating distinct symbols for each unit (1 to 9), each ten units (10 to 90), and each hundred units (100 to 900), thereby enabling more efficient counting from 1 to 999. Palamedes and the committee tasked with devising this new decimal system required a total of 27 symbols. Initially, they contemplated utilizing the expanded set of 26 phonemes or letters from Linear B. Ultimately, they decided to incorporate two symbols that had become obsolete in later alphabets: the Dorian letter *sampi* (ϡ) as the 27th symbol, representing the highest value in the hundreds (ϡ = 900), and the letter *Q* as the 18th symbol, representing the highest value in the tens (Q = 90). It is likely that they also agreed to retain the Minoan vertical stroke (I = 10), aligning it with the vowel *I* (iota), which correspondingly held the value of 10.

The delegates burst into applause, gazing at Palamedes with admiration and astonishment. Many exclaimed, "Long live Palamedes," in Greek, "ΖΗΘΙ, ΖΗΘΙ Palamedes," as he had spearheaded the initiative to reform the archaic Minoan-Mycenaean numerical systems into a more streamlined 27-digit framework and potentially transform the syllabic Linear B script into a phonetic alphabet.

Inspired by the ingenuity of the moment, an astute delegate proposed: “From the verb ΖΗΘΙ (long live), where we have established I = 10, let us hypothesize in reverse of the verb that Θ = 9, H = 8, and Z = 7.” The assembly took note of this suggestion, eagerly anticipating whether these assigned values could serve as a foundation for identifying a coherent pattern to determine the numerical values of the remaining letters.

A=1, ?=2, ?=3, ?=4, ?=5, ?=6, Z=7, H=8, Θ=9,
I=10, ?=20, ?=30, ?=40, ?=50, ?=60, ?=70, ?=80,
Q=90, ?=100, ?=200, ?=300, ?=400, ?=500, ?=600, ?=700, Ω=800, ϡ=900.

Figure 5. *The initial seven letter-values of the Greek alphanumeric system.*

4. The Phoenician Argument for the Origin of Greek Vowels

There is a broad consensus that the Phoenician 22-letter consonantal script, classified as an *abjad* (a system consisting exclusively of consonants), emerged around 1050–950 BCE. Carpenter [33] posited that the Greeks adopted and adapted the *abjad*, subsequently incorporating the vowels *A, E, I (iota), O, and Y* (upsilon) around the 8th century BCE. This hypothesis has gained widespread acceptance and is regarded as the prevailing view (*communis opinion*) in scholarly discourse. But Carpenter has not put into consideration the Greek script Linear B 1500-1200 BCE.

However, the existence of Greek vowels (*A, O, Y (Upsilon), E, and I (*Iota)) in the earlier Linear B script, which dates back

to approximately 1500 BCE, indicates that the Greeks had already developed a system for representing vowels and sounds roughly 450 years before the appearance of the Phoenician *abjad*. If the Phoenician argument that "the Greek alphabet is of Phoenician origin" holds true, then it must address the question of how "the 33 (!) distinct Greek alphabets found across mainland Greece, the Aegean Islands, Italy, and Sicily all emerged from the Phoenician prototype within such a short timeframe," as noted by Waal [34]. This undermines the argument that the Greeks, during the 8th century BCE, repurposed specific Phoenician consonants, such as *alep(h)* into *Alpha*, *he(t)* into *Epsilon*, *yod* into *Iota*, *ayin* into *Omicron*, and *wau* into *Upsilon* and *F*. Consequently, the claim that Phoenician consonants – of unknown origin - were adapted to form Greek vowels appears, at the very least, highly questionable.

Nevertheless, Powell [2] asserted: "The West Semitic consonantal signs were transformed into Greek vowel signs." However, the identity of the individual responsible for this transmission, the methodology employed in the conversion process, and the specific location where this occurred remain entirely speculative, unspecified, and anonymous. Moreover, Powell [2] did not elaborate on how the arrangement of the 22 Phoenician consonantal letters was systematically integrated into the Greek alphanumeric system, a system in which each letter possesses a fixed numerical value. Did Powell [2] apply any specific criteria, proceed randomly, or did this transformation not occur at all? It will be demonstrated that a significant portion of the Greek letters in the alphanumeric system was structured according to an organizing principle, which systematically assigned numerical values to specific letters, as noted by Sir Petrie [35].

5. The Innovation of the Seven Greek Diphthongs in Linear B

Palamedes and the committee of sage people during the Trojan War may have observed that the pronunciation of certain words in Linear B resembled vowel sounds, even though these sounds were not formally classified as vowels. This observation likely prompted an investigation into their origin: Were these sounds the result of an underlying organizing principle, or were they merely arbitrary phonetic variations? Such an inquiry would have sought to determine whether the vowel-like sounds in Linear B were systematically derived or if they represented random linguistic phenomena.

The prevailing consensus among the committee in Troy was that these sounds should be represented by a combination of two phonemes (δύο φθόγγοι in Greek, meaning "two sounds"). Consequently, they likely introduced the term "diphthong" to characterize this grammatical phenomenon within the Linear B script. Their subsequent challenge was to ascertain how these diphthongs had initially been formulated around 1500 BCE by their predecessors. This inquiry would have involved investigating the phonetic and structural principles underlying the creation of such sound combinations in the earlier stages of the script's development.

The committee methodically paired the five primary vowels in Linear B based on their phonetic duration (occurring within a split second), as articulated by Dionysius of Halicarnassus [36] and Payne [37]. This systematic approach aimed at categorizing the vowels according to their temporal characteristics, reflecting an early effort to analyze and organize phonetic elements within the framework of the Linear B script.

A > O > U/Y > E > Iota, with corresponding pronunciation durations (in split seconds) of $_5$A> $_4$O> $_3$U/Y > $_2$E > $_1$Iota.

Theoretically, each vowel could combine sequentially in a clockwise manner with the next to form a diphthong, resulting in potential combinations such as *AO*, *AU/AY*, *AE*, *AI*, *OU/OY*, *OE*, *OI*, *UE/YE*, *UI/YI*, and *EI*. However, the committee aimed to establish a logical rationale for the diphthongs that were already present in the Linear B script. Their objective was to provide a systematic explanation for the existence and formation of these diphthongs, rather than merely hypothesizing new combinations. This effort reflected an attempt to understand the phonetic principles underlying the structure and usage of Linear B.

A notable example is the name *AIGEUS* (a king's name, *ΑΙΓΕΥΣ*), which appears in Linear B as *AI-KE-U*, Hooker [29], § 239, featuring two diphthongs: *AI* and *EU/EY*. Similarly, in the verb *A-PI-E-KE*, third person singular, middle voice, present tense, corresponding to the Greek *A(M)-ΦΙ-E-XEI*, Hooker [29], § 129, the diphthong *E(I)* = *EI* is observed. Additionally, it is noteworthy that in Linear B the phonemes K, P, Q, R, and T are pronounced in Greek as (Γor X), Φ, Β, Λ and Θ, respectively, see § 2.3. This suggests that in Linear B, certain letters possessed multiple pronunciations. Consequently, the committee might have expanded the original set of 12+*F* consonants (from the corresponding syllables) to 18+*F*, as discussed earlier in § 2.3. This expansion would have accommodated the phonetic complexity and variability inherent in the script.

5.1. The Principle Governing the Pairing of Greek Vowels (A, O, Y, E, I) in Diphthongs

The combination of the five systematically arranged vowels ($_5$*A** > $_4$*O* > $_3$*Y* > $_2$*E* > $_1$*I*), aligned horizontally (from top to bottom) with the same five vowels aligned vertically (from left to right), generates six diphthongs in Linear B: *AU/AY*, *OU/OY*, *AI*, *OI*, *UI/YI*, and *EI*, Figure 6. These diphthongs are formed in a clockwise direction (from *A* to *O* to *Y*, etc.), as illustrated in Figure 3. These combinations appear to follow a rule (with the exception of *EU/EY*) whereby each vowel, arranged by rows ($_5$*A** > $_4$*O* > $_3$*Y* > $_2$*E* > $_1$*I*), forms a diphthong only if the second vowel is the third (*Y*) or fifth (*I*) in their column arrangement. Pairings of identical vowels (e.g.,

A+A, etc.) have been excluded. Beyond this verbal description of the rule, there exists a mathematical functional expression; however, this would not contribute to a clearer understanding of the formation rule for the seven primary Greek diphthongs: *AY*, *AI*, *OY*, *OI*, *YI*, *EI*, and *EY*.

$_5A$* symbolizes that A is the first vowel among the initial five vowels, and the numeral *5* signifies the duration of its pronunciation in split-second units, represented as AAAAA, Dionysius Halicarnassus [34]. This notation reflects the temporal aspect of the vowel's articulation, emphasizing its phonetic length within the framework of the system.

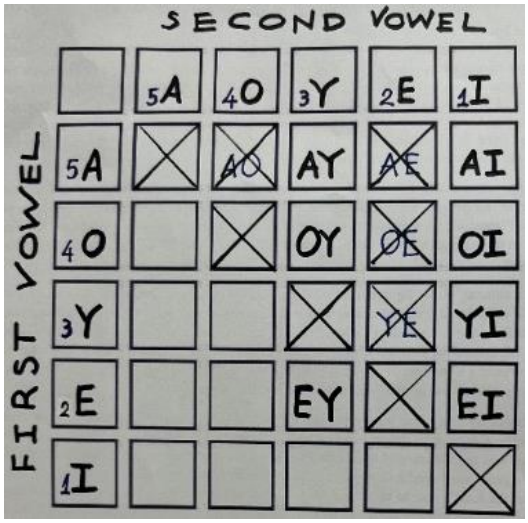


Figure 6. *If the sequence of the initial Greek vowels adhered to a unified creative principle*—A, O, Y (U), E, I, *as previously demonstrated—then the diphthongs of Linear B would have originated from a compositional rule, thereby unveiling an inherent meaning. This systematic arrangement suggests that the formation of diphthongs was not arbitrary but rather governed by a structured and intentional framework, reflecting a deeper linguistic and conceptual logic within the script.*

When examined through the lens of 13th-century thought rather than contemporary perspectives, the natural progression of the five lunar phases—from its initial emergence to its eventual disappearance—can be meaningfully analogized with the five stages of human life. These stages encompass birth (*A*), adolescence (*O*), adulthood and marriage (*Y*), the process of aging (*E*), and death (*I*). This conceptual alignment reflects a medieval understanding of cyclical patterns in both celestial phenomena and human existence The clockwise arrangement of the diphthongs in Figure 5 metaphorically embodies the natural progression of life events—birth, adulthood, maturity/marriage, decline/aging, and death—thereby encapsulating the fundamental cycle of existence. The creators of Linear B aimed to evoke hope in the potential for miraculous renewal, wherein an individual could symbolically transition from old age (*E*) back to their mature stage (*Y*). This concept of miraculous rejuvenation was represented by the diphthong *EY*, pronounced as <ef or ev>, serving as a symbolic marker of cyclical renewal and continuity within the framework of life's natural order.

In Greek language dictionaries, approximately 300 words incorporate the prefix *EY-*, which signifies an exceptionally rare and positive occurrence. This prefix imparts an intensified or elevated meaning to the second component of the word. Examples include

1. *EY-ΦΟΡΙΑ* (Euphoria) – A state of intense happiness and well-being.
2. *EY-ΛΟΓΙΑ* (Eulogy) – A speech or piece of writing that praises someone, often delivered at a funeral.
3. *EY-ΦΗΜΙΑ* (Euphemism) – A mild or indirect word or expression substituted for one that may be considered harsh or offensive.
4. *EY-ΓΟΝΙΚΗ* (Eugenics) – The study or practice of improving the genetic quality of a population.
5. *EY-ΦΩΝΙΑ* (Euphony) – The quality of being pleasing to the ear, particularly through harmonious words or sounds.

The prefix *EY-* thus serves to amplify the positive connotations of the words it modifies, reflecting its significance in conveying exceptional or idealized states.

5.2. The Greek Linear B Script Survived the Dark Ages 1500-1200 BCE

The central argument advanced by Phoenician scholars—that the significant progression toward letter- and syllable-based Greek writing, as evidenced in Linear B (Chapter 1), has been entirely disregarded—remains predominantly unaddressed in scholarly discourse. Their assertion is grounded in the lack of discovered Greek alphabetical inscriptions dating from the period between 1200 and 800 BCE. This gap in the archaeological record has led them to question the continuity of Greek writing during this interval and to emphasize the Phoenician influence on the later development of the Greek alphabet. However, this perspective overlooks the possibility of alternative forms of transmission or the survival of linguistic knowledge through oral or non-inscriptional means, leaving the debate unresolved.

The earliest known examples of Greek alphabetical writing to date include:

a) The inscription on the Dipylon Amphora (c. 750 BCE):

"ΗΟΣ ΝΥΝ ΟΡΧΕΣΤΡΟΝ ΠΑΝΤΟΝ ΑΤΑΛΟΤΑΤΑ ΠΑΙΖΕΙ, ΤΟ(Υ)ΤΟ ΔΕΚΑΝ ΜΙΝ"

Translation: *"Whoever among the dancers performs most gracefully, let this be given to them."*

b) The inscription on Nestor's Cup (8th century BCE):

"ΝΕΣΤΟΡΟΣ ΕΙΜΙ ΕΥΠΟΤΟΝ ΠΟΤΗΡΙΟΝ· ΟΣ Δ' ΑΝ ΤΟΥΔΕ ΠΙΗΣΙ ΠΟΤΗΡΙΟΥ, ΑΥΤΙΚΑ ΚΗΝΟΝ ΙΜΕΡΟΣ ΑΙΡΗΣΕΙ ΚΑΛΛΙΣΤΕΦΑΝΟΥ ΑΦΡΟΔΙΤΗΣ"

Translation: *"I am the finely crafted cup of Nestor; whoever drinks from this cup, immediately desire for the beautifully crowned Aphrodite will seize them."*

Although these inscriptions date to the 8th century BCE,

they feature diphthongs identical to those present in Linear B prior to 1200 BCE, as illustrated in Figure 6. This continuity implies a sustained linguistic tradition spanning the so-called "Dark Ages" (1200–800 BCE), rather than a sudden and wholesale adoption of the Phoenician script by the Greeks. The persistence of these phonetic elements challenges the notion of a complete rupture in Greek writing practices during this period and suggests that some form of linguistic knowledge or scribal tradition may have been preserved, even if in a diminished or less visible capacity. This evidence supports the hypothesis of an unbroken, albeit evolving, progression in Greek writing systems rather than a radical discontinuity.

The absence of surviving Greek inscriptions (to date) from the Dark Ages does not inherently indicate a discontinuity in Greek writing but rather reflects a lack of extant material evidence. Consequently, the assertion by Phoenician scholars that Greek alphabetical writing did not persist through the Dark Ages is, at the very least, subject to significant doubt. This gap in the archaeological record may be attributed to factors such as the perishable nature of writing materials, the limited scope of archaeological discoveries, or the possibility that writing practices during this period were less visible or institutionalized. Therefore, the hypothesis of a complete interruption in Greek writing traditions remains unproven and warrants further investigation.

6. The Extension of the Vowels in Linear B

The Greek alphanumerical system assigns a numerical value to each of the following sixteen Greek letters, as documented by Plinius Secundus [6], “Naturalis Historia, Book VII, chapter 57, 192-193’: “Palamedes Troiae bello litteras invenisse traditur, numero sedecim: adiecisse postea Simonidem, quasdam vero alii.” Translation: “Palamedes is said to have invented letters during the Trojan War, sixteen in number; later Simonides is said to have added some, and some others by other men.” "Stagirites [8] wrote in *Ogygia* Book 4, line 459: '(Palamedes)... was an excellent epic poet and an exceptionally clever philosopher. He also invented many of the letters either Π, Φ, X or A, B, Γ, Δ, E, I, K, Λ, M, N, O, Π, P, Σ, T, Y. Both scholars referred to the number sixteen, with the latter enumerating the specific letters.

In the relevant chapter, the author will potentially elucidate the method by which Palamedes and the committee established the foundational ordering of these letters. Their sequence was determined by an underlying organizational principle, as noted by Sir Petrie [35], and their invention is believed to have occurred during the Trojan War (1227–1218 BCE), specifically during the peaceful six-month period encompassing autumn and winter. The succession of the sixteen letters in question will be derived from the solution of the system illustrated in Figure 8.

Palamedes and the committee aimed to develop a system in which each phoneme or letter corresponded to a specific numerical value. A member of the committee, aware that A = 1 (Figure 3) and that the Earth (ΓΑ in Greek) is the fourth (4th) planet from the Sun, attempted to assign a value to the letter Γ using the (pseudo)equation:

$$\Gamma + A = 4 \text{ or } \Gamma + 1 = 4 \text{ or } \Gamma = 3, \text{ and digamma } F=6$$

No Phoenician scholar has ever presented such reasoning to justify, for instance, why aleph (𐤀=1), gimel (𐤂=3), and waw (F=6) were assigned to the first, third, and sixth positions in their abjad. Consequently, Diringer’s [38] second pro-Phoenician argument, out of three, that "the order of the Greek letters corresponds, with a few understandable exceptions, to the order of the Semitic letters", But this can also be interpreted as valid from the opposing perspective.

6.1. The Succession of the Planets from the Sun

In the preceding "brief overview," it is stated that the Minoan priesthood, through the peak sanctuaries of Juktas, Traostalos, and Petsofas, could observe the night stars (Blomberg et al., [39]. The findings indicate that the Minoans utilized both lunar and solar calendars, including one-year and four-year solar cycles, from the early stages of prehistory, Pliakos [23]. They were knowledgeable about and applied the periodicities of the Sar, Saros, and Exeligmos, enabling them to predict lunar and solar eclipses, Pliakos [26]. It is also plausible that they recognized the alignment order of the celestial bodies: Mercury, Venus, Earth, Mars, Jupiter, and Saturn, or in Greek: ΕΡΜΗΣ (Hermes), ΑΦΡΟΔΙΤΗ (Aphrodite), ΓΑ (Gaia), ΑΡΗΣ (Ares), ΔΙΑΣ (Dias), and ΦΑΙΝΩΝ (Phaethon), as illustrated in Figures. 7, 8.

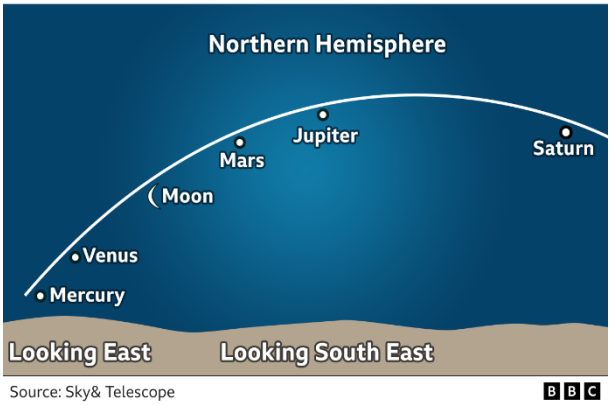


Figure 7. *illustrates the alignment of celestial bodies, particularly the Moon and Earth, as observed on June 24, 2022. The optimal period for viewing this phenomenon occurred 45 minutes prior to sunrise.*

This sequence of celestial alignments, as illustrated in Figure 7, could potentially have been observed at Troy Figure

8. It is plausible that such astronomical observations were conducted to interpret omens or to forecast future events, as it was widely believed that celestial phenomena exerted an influence on terrestrial affairs, a fundamental tenet of astrology. In this context, it is pertinent to recall the historical (?) account of the Chinese Emperor Tsang Tang, who, at the end of the 4th millennium BCE ordered the execution of the astronomers Ho and Hi for their failure to predict a solar eclipse. In ancient China, solar eclipses were deeply intertwined with the fate and well-being of the Emperor.

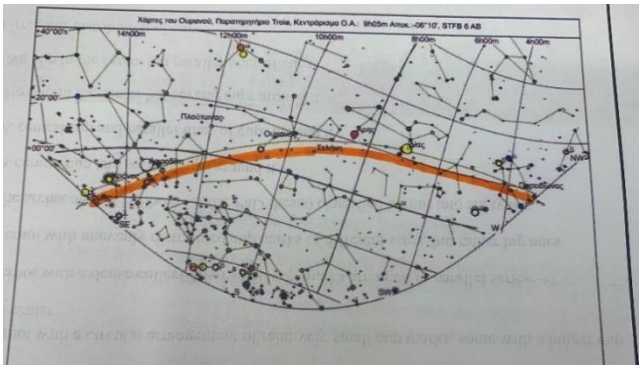


Figure 8. *The curved red line represents one of three, and potentially more, component observations conducted in the night sky above Troy. This specific observation was documented on December 8, 1225, BCE, at 06:00. By combining three or more such figures, the sequence of the seven celestial bodies, beginning with the Sun, can be deduced. Source:* Mathematical Astronomy, *NASA* [40].

Palamedes delved further into the aforementioned inspiration and discerned the underlying correlation concealed within the preceding reasoning. He proposed that the values assigned to the respective letters could be derived as solutions to correlations between the single digit sum of the names of the letters representing the celestial bodies and their sequential order from the Sun, which holds the first position (i.e., Sun ~ 1), as illustrated in Figure 9.

Γ + A = 4 or Γ + 1 = 4 or Γ = 3, and digamma F=6

Sun or A+E+Λ+I+O+Σ~1
Mercury or E+P+M+H+Σ~2
Venus or A+Φ+P+O+Δ+I+T+H~3
Earth or Γ+A~4
Mars or A+P+E+E+Σ~5 (in LL B, E+E=H)
Jupiter or Δ+E+Y+Σ~6
Saturn or Φ+A+I+N+Ω+N~7

Figure 9. *The main "pseudo-equations" of heavenly bodies.*

Rather than employing conventional equalities, the symbol (~) is used to denote a unique form of "equation" that involves the one-digit sum of the phoneme or letter values corresponding to the name of a celestial body. As a result, these expressions are designated as "pseudo-equations." In some cases, these alphanumeric relationships may produce initial sums for the phonemes or letters in the names of celestial bodies that exceed a single-digit value. Under such circumstances, the committee will sum the digits of the initial total and, if required, will repeat this process iteratively until a final, single-digit result, known as the *pythmenic sum*, is achieved.

6.2. The Trial-and-Error Method

In the seven (pseudo)equations presented in Figure 9, there are eleven unknown letters (E, Λ, O, Σ, P, M, Φ, Δ, T, Y, N), rendering the problem unsolvable through any specific algorithm or mathematical formula. The trial-and-error method was employed, which involves the systematic and repeated testing of various potential solutions until the correct or most effective answer is identified.

Palamedes delegated the task of determining the unknown values corresponding to the letters in the names of the celestial bodies to the members of the committee. These members subsequently presented their findings to the subsequent committee for review. If the outcomes were deemed partially unsatisfactory, a new strategy was devised to address the problem more effectively.

After months of diligent effort, they ultimately arrived at the solution depicted in Figure 10.

A = 1, ?=2, Γ = 3, Δ = 4, E = 5, F = 6, Z = 7, H = 8, Θ = 9,
I = 10, ? = 20, Λ = 30, M = 40, N = 50, ? = 60, O = 70, ? = 80, Q = 90,
P = 100, Σ = 200, T = 300, Y = 400, Φ = 500, ? = 600, ? = 700, Ω = 800, ϡ = 900.

Figure 10. *The values displayed above are obtained from the resolution of a system of (pseudo)equations. The letters A, Γ, F, Z, H, Θ, I, Q, Ω, and ϡ had been previously substantiated.*

The sum of the letter-values corresponding to each celestial body's name in Greek exhibits a correlation with its respective position within the solar system. This observation aligns with the notion of an underlying "organizing principle," as articulated by Sir Petrie [35].

An organizing principle, also referred to as a unified creative principle, is a framework in which the phonemes or letters of any sequence of phonemes or letters are derived from a singular source, grounded in the acronyms from which they were originally formed. An illustrative example of such a unified creative principle can be observed in the earliest (?) Irish alphabet, known as Beth-Luis-Nion, as detailed by Graves [41]. In this alphabet, the initial phonemes were derived from the acronyms of the names of 13 trees representing the consonants and 5 trees representing the vowels native to Ireland, embodying the organizing principle. These formed the first 13 consonants in the series: Beth, Luis, Nion, Fern,

Sail, Uath, Duir, Tinne, Coll, Muin, Gort, Peith, and Ruis. When abbreviated, the first 13 phonemes correspond to: B, L, N, F, S, U, D, T, C, M, G, P, and R. The sequence of the five vowels in the first Irish alphabet is as follows: Ailm (Fir), Onn (Christ's thorn), Ura (Heath), Eadha (Poplar), and Idho (Yew), abbreviated as A, O, U, E, and I, as documented by Graves [42]. This sequence of Irish vowels corresponds to the revised Greek sequence proposed by the author of Linear B, namely A, O, Y, E, and I.

To date, the Phoenicians have not identified an organizing principle governing the letters of their abjad. Consequently, the first pro-Phoenician argument, as presented by Diringer [38], which asserts that the Greek sequence of letters adopted the succession of the Abjad, lacks substantiation. In reality, the opposite scenario occurred.

Beyond the aforementioned numerical correlation, the positioning of each of the sixteen Greek letters within the system is mathematically justified—a feature that is conspicuously absent in the Phoenician Abjad. To date, no Phoenician scholar has explained why, for instance: Aleph (𐤀) is the first in the abjad series and has a value of 1 in the Phoenician abjad-numerical system; Gimel (𐤂) is the third and has a value of 3; Dalet(h) ((𐤃) is the fourth and has a value of 4; He (𐤄) is the fifth and has a value of 5; Wau (𐤅) is the sixth and has a value of 6; Het (𐤇) is the eighth and has a value of 8; Yod (𐤉) is the tenth and has a value of 10; Lamd (𐤋) is the twelfth and has a value of 30; Mem (𐤌) is the thirteenth and has a value of 40; Nun (𐤍) is the fourteenth and has a value of 50; Samek (𐤎) is the fifteenth and has a value of 60; 'Ain (𐤏) is the sixteenth and has a value of 70.

It is evident that the Phoenician abjad-numerical system was derived from the pre-existing (Troyan War) Greek one because the order of the letter-numbers of the latter was determined by the numerical solutions of the 'pseudo-equations', see Figure 9.

Therefore, since the order of the Phoenician abjad-numerical system was derived from the Greek one, it is quite certain that the Phoenician 22-consonants abjad - with local language modifications - has been derived from the Greek alphabet.

6.3. The Moon's Pythmenic Sum Verifies the Order of the Letters in the Greek Alphabet

The fourth celestial body from the Sun is Earth (ΓΑ in Greek) and its satellite, the Moon (ΣΕΛΗΝΗ in Greek). The Moon represents an exogenous name of a body—external to the system illustrated in Figure 10. Let us examine whether its pythmenic, or single-digit, sum corresponds to its ordinal position (fourth) from the Sun. Σ + Ε + Λ + Η + Ν + Η ~ 200 + 5 + 30 + 8 + 50 + 8 = 301, or 301 = 3 + 0 + 1. Its pythmenic sum is 3 + 0 + 1 = 4. Thus, the verification of the phoneme/letter values of the Moon confirms the integrity of the method employed

6.4. Verification of the Alphanumeric Values of the Letters of the Names of Celestial Bodies

The values of the letters were taken from Figure 10.

a) ΑΕΛΙΟΣ~1 (?), SUN~1 (?)

Α+Ε+Λ+Ι+Ο+Σ=1+5+30+10+70+200 or 1+5+30+10+70+200=316 or 3+1+6=10 or 1+0= 1. So, the pseudo-equation Α+Ε+Λ+Ι+Ο+Σ~1 is confirmed, i.e. that the Sun is first in the series of heavenly bodies.

b) ΕΡΜΗΣ~2 (?), MERCURY~2 (?)

Ε+Ρ+Μ+Η+Σ=5+100+40+8+200 or 5+100+40+8+200=353 or 3+5+3=11 or 1+1=2. So, the pseudo-equation Ε+Ρ+Μ+Η+Σ~1 is confirmed, i.e., that Mercury is second from the Sun in the series of heavenly bodies.

c) Α+Φ+Ρ+Ο+Δ+Ι+Τ+Η~3 (?), VENUS~3 (?)

Α+Φ+Ρ+Ο+Δ+Ι+Τ+Η=1+500+100+70+4+10+300+8 or 1+500+100+70+4+10+300+8=993 or 9+9+3=21 or 2+1=3. So, the pseudo-equation Α+Φ+Ρ+Ο+Δ+Ι+Τ+Η~3 is confirmed, i.e., that Venus is third in the series of heavenly bodies from the Sun.

d) ΓΑ~4 (?), EARTH~4 (?)

Γ+Α = 3+1 or 3+1 = 4. So, the pseudo-equation Γ+Α~4 is confirmed, i.e., that Earth is fourth in the series of heavenly bodies from the Sun.

e) ΑΡΕΕΣ~5 (?), MARS~5 (?)

Α+Ρ+Ε+Ε+Σ=1+100+5+5+200 or 1+100+5+5+200=311 or 3+1+1~5. So, the pseudo-equation Α+Ρ+Ε+Ε+Σ~5 is confirmed, i.e., that Mars is the fifth in the series of heavenly bodies from the Sun. (Note. In Linear B two E+E made afterwards in the alphabet vowel H -Heta-. Example: the word qi-si-pe-e means ξίφη/swords, where ee=η ή E+E=H.

f) ΔΕΥΣ~6 (;), JUPITER~6 (?)

Δ+Ε+Υ+Σ=4+5+400+200 or 4+5+400+200=609 or 6+0+9=15 or 1+5=6. So, the pseudo-equation Δ+Ε+Υ+Σ~6 is confirmed, i.e., that Jupiter is the sixth in the series of heavenly bodies from the Sun.

g) ΦΑΙΝΩΝ ~7 (;), SATURN~7 (?)

Φ+Α+Ι+Ν+Ω+Ν = 500+1+10+50+800+50 or 1410=1+4+1+0 or 1+4+1+=7. So, the pseudo-equation Φ+Α+Ι+Ν+Ω+Ν~7 is confirmed, i.e., that Saturn is seventh in the series of heavenly bodies from the Sun.

7. The Correspondence Between Letterforms and the Meanings of Letter Names in the Abjad

Only ten out of the twenty-two Phoenician letterforms (shapes) convey their inherent meaning. As a result, the shapes of the abjad letters cannot be classified as a mnemonic device, since only ten out of the twenty-two letters meet this criterion. A mnemonic device is designed to aid users in memorizing letter shapes, sounds, or their sequences, as some Phoenicists argued.

An explanation of the Phoenician numerical system is likewise provided.

“alep(h)" signifies an ox; the letterform (see the triangular jaw) and its meaning /signification are not corresponding. =1; the Greek is A=1.

"beth" signifies a house; the letterform (see the triangular foundations and open yard) and its meaning / signification are not corresponding. =2; the Greek is B=2.

"gimmel" signifies a camel; the letterform (see the neck and head of a camel) and its meaning / signification are corresponding. =3; the Greek is Γ=3.

"dalet(h)" signifies a door; the letterform (see the triangular door) and its meaning / signification are not corresponding. =4; the Greek is Δ=4.

"he(t)" signifies a window; the letterform and its meaning / signification are not corresponding. =5; the Greek is E=5.

"wau" signifies a hook; the letterform and its meaning / signification are not corresponding. =6; the Linear B Greek is F=6.

"zayin" signifies a weapon; the letterform (a spear) and its meaning / signification are corresponding. =7; the Greek is Z=10.

"Heth" signifies a fence; the letterform (a spear) and its meaning / signification are corresponding. =8; the Greek is H=8.

"teth" signifies a basket; the letterform and its meaning / signification are corresponding. =9; the Greek is

"Yodh" signifies a hand; the letterform and its meaning / signification are not corresponding. =10; the Greek is I=10.

"kaph" signifies a palm or head; the letterform and its meaning / signification are not corresponding. =20; the Greek is K=20.

"lamedh" signifies a stinger, muscle; the letterform and its meaning / signification are not corresponding. =30; the Greek is L=30.

"mem" signifies water; the letterform and its meaning / signification are not corresponding. =40; the Greek is M=40,

"nun" signifies a reptile, serpent; the letterform and its meaning / signification are corresponding. =50; the Greek is N=50.

"samek" signifies a supporting network; the letterform and its meaning / signification are corresponding. =60; the Greek is J=60.

" ‘ayin" signifies an eye; the letterform and its meaning / signification are corresponding. =70; the Greek is O=70.

"peh" signifies a mouth; the letterform and its meaning / signification are not corresponding. =80; the Greek is P=80.

The two numerical systems correspond to the value of 80. Had the letter *ṣ̄ ādhē* been positioned at the end of the abjad, the systems would have aligned up to the value of 300, with *ṣ̄ ādhē* occupying the numerical value of 400.

"sadhe" signifies a hook; the letterform and its meaning / signification are corresponding. =90; the Greek is Q=90.

"qoph" signifies a monkey; the letterform and its meaning / signification are not corresponding. =100; the Greek is Po=100.

"resh" signifies a head; the letterform and its meaning / signification are not corresponding. =200; the Greek is Σ=200.

"shin" signifies a tooth; the letterform and its meaning / signification are corresponding. =300; the Greek is T=300.

"taw" signifies a sign; the letterform and its meaning / signification are corresponding. =400; the Greek is Y=400. =500; the Greek is Φ=500. =600; the Greek is X=600. =700; the Greek is Ψ=700. =800; the Greek is Ω=800. =900; the Greek is sampi=900.

7.1. The Absence of Five Letters

The absence of five letters following the Phoenician *taw* necessitates the conclusion that the Phoenicians did not devise the additional characters required to construct a complete numerical system extending from 1 to 999. This observation, in turn, suggests that they may not have been the original creators of the full set of twenty-two letters comprising the Phoenician *abjad*. It is therefore plausible to conclude that the Phoenicians may have based their script on the Greek alphabet, allegedly invented by Palamedes during the time of the Trojan War, as attested by Pliny the Elder [6] and Stageiritis [8].

7.2. A Mnemonic Device in English

A mnemonic device for remembering the order of the planets from the Sun is: Silly Monkeys Very Easily Jumpy Small Unusual Noises. Silly → Sun ☉, Monkeys → Mercury, Very → Venus, Easily → Earth, Make → Mars, Jumpy → Jupiter, Small → Saturn, Unusual → Uranus, Noises → Neptune. Therefore, the letters of the Phoenician abjad cannot be characterized as constituting a mnemonic rule for their recall.

8. The Correspondence Between Letterforms and the Meanings of Greek Alphabetic Letter Names

The letter names of the Greek alphabet do not possess any inherent meaning. This is attributed to the fact that the Minoans, Mycenaeans, and later the Greeks engaged in intellectual, creative, and theoretical endeavors since prehistoric times, as demonstrated by the Palace of Knossos, Mycenaean palaces, and the development of naval and commercial routes at least from 1765 BCE, Foster [32]. In contrast, the Phoenicians were a more practically oriented society, as observed by Rawlinson [43]. As a result, they likely assigned letter names through the acrophonic principle, deriving them from everyday objects in Semitic life, which reflects a pragmatic and

utilitarian perspective, but not a mnemonic one.

The Greek letterforms do not carry any inherent meaning; they are intrinsically devoid of significance. This is attributable to the fact that the Greeks cultivated theoretical achievements from an early period, as evidenced by the invention of Linear B and later (?) the works of Homer [44] and Hesiod [45]. In contrast, the absence of surviving Phoenician texts poses significant challenges in evaluating the depth and originality of Phoenician theoretical contributions.

The Greek Alphabet

Alpha, Beta, Gamma, Delta, Epsilon, Zeta, Heta, Theta, Iota, Kappa, Lambda, Mi, Ni, Xi, Omicron, Pi, Ro, Sigma, Taf, Ypsilon, Phi, Chi, Psi, Omega.

9. Discussion

There is a broad scholarly consensus that the Phoenician abjad emerged between approximately 1050 and 950 BCE. Carpenter [33] posited that the Greeks adopted and adapted this writing system in the 8th century BCE, a hypothesis that has garnered widespread acceptance among scholars, including Diringer [38], Powell [2], and others. However, proponents of the Phoenician origin theory have largely overlooked the significance of the Greek Linear B script, as well as the writings of classical Greeks, Roman, medieval, and modern scholars such as Euripides [4], Gorgias [5], Pliny the Elder [6], the *Suda* Lexicon [7], Stageiritis [8], and Sir Arthur Evans [20], making no reference to either in their analyses. The Phoenician perspective is largely grounded in the absence of definitive archaeological evidence, such as alphabetic inscriptions, from the critical period between the 12th and 8th centuries BCE. However, it is important to emphasize that the absence of epigraphic evidence does not definitively confirm the nonexistence of alphabetic writing during this period, as argued by Waal [34] and supported by logical reasoning.

Furthermore, the origins and development of the Phoenician abjad and its associated alphanumerical system remain inadequately documented, prompting questions as to whether these systems were entirely indigenous to the Phoenicians or shaped by earlier civilizations.

In contrast, proponents of the Greek invention theory, draw upon a range of the above-mentioned scholars, argue for the independent creation of the Greek alphabet by Palamedes. Physical phenomena and the mathematical arguments invented by the author integrates the key stone of the structure that the Greeks invented their alphanumerical and alphabet series in about 1200 BCE. This perspective highlights the cultural and intellectual autonomy of the Greeks in developing their writing system, emphasizing the continuity of their linguistic traditions.

This study marks a significant advancement in addressing the question of the Greek alphabet's origins by introducing a novel approach: the incorporation of Linear B script as a key element in the analysis. For the first time, the phonemic and diphthongal structures of Linear B have been systematically examined and linked to physical phenomena and linguistic principles. This analysis demonstrates that Linear B served as the foundation for the Greek 27-phoneme alphanumerical system, which subsequently (minus phonemes F, Q, and sampi) evolved into the 24-letter alphabetic system. The findings are further supported by a synthesis of ancient Greek, Latin, and intermediate scholarly sources, providing a robust framework for understanding the transition from Linear B to the classical Greek alphabet.

By bridging the gap between archaeological evidence, ancient texts, and linguistic analysis, this study offers a compelling case for the indigenous development of the Greek alphabet, rooted in the legacy of Linear B. It challenges the traditional Phoenician origin narrative and underscores the importance of interdisciplinary approaches in resolving complex historical and linguistic questions. This research not only contributes to the ongoing scholarly debate but also opens new avenues for exploring the evolution of writing systems in the ancient world.

10. Conclusions

This study has established three indisputable findings that challenge conventional understandings of the Greek alphabet's origins.

First, the sequence of the five primary vowels is not A, E, I, O, Y, as traditionally assumed based on the Latin alphabet, but rather A, O, Y, E, and I. This sequence is justified mathematically, as it forms the basis for generating the seven diphthongs of Linear B through a structured 5x5 vowel matrix.

Second, the study demonstrates the justified derivation of the seven diphthongs of Linear B—AY, AI, OY, OI, YI, EI, and EY—through a systematic approach. This finding reinforces the structural and phonetic integrity of the proposed vowel sequence.

Third, an analysis of the Greek alphabet reveals that 16 out of its 24 letters (Α, Γ, Δ, Ε, Η, Ι, Λ, Μ, Ν, Ο, Ρ, Σ, Τ, Υ, Φ, and Ω) are derived from a correlation between the Pythagorean one-digit sum of each letter name of the seven heavenly bodies and its positional order from the Sun. This mathematical verification of the Greek alphabet's phoneme-letter sequence challenges the widely accepted Phoenician origin theory. Given the absence of a systematic sequence in the Phoenician abjad and the limitations of its numerical system (which counts only up to 499 and not to 999), the traditional assumption regarding the Greek alphabet's derivation from Phoenician script warrants reconsideration.

In addition, given that the phonemes and diphthongs of Linear B (dating from 1500–1200 BCE) were identified on the "Oenochoe of Dipylon' and on the 'ΠΟΤΗΡΙΟΝ of Nestor' in the mid-8th century BCE, it can be inferred that the phonemes of the Greek alphabetic script persisted through the so-called "Dark Ages" (1200–800 BCE).

Furthermore, the Phoenician abjad cannot serve as a

mnemonic device, as its letter names do not comprise a structured sequence of trees, or fruits, or elements of an 'organizing principle', Petrie [35], that would facilitate easy memorization, as in the Irish alphabet Beth-Luis-Nion, Graves [46]. Moreover, the Phoenicians, in their effort to develop a numerical system comprising 27 symbols in addition to their 22-letter abjad, were unable to create a corresponding set of five numerical symbols to represent the values 500, 600, 700, 800, and 900. Consequently, the claim that the Phoenicians independently invented their 22-letter abjad warrants further scrutiny.

These findings collectively address the fundamental question of whether the Greek alphabet originates from Greek or Phoenician sources. The conclusion drawn from this research is that both the Greek alphabet and its numerical systems are Greek innovations, likely attributed to Palamedes and a council of intellectuals and ingenious soldiers during the Trojan War. This assertion is substantiated through a mathematical demonstration of the structured succession and identification of 16 out of 24 phonemes/letters in the Greek alphabet.

The interdisciplinary methodology employed—integrating linguistic, historical, and astronomical perspectives—provides a robust framework for reevaluating long-standing theories of script development. If archaeological discoveries of Greek inscriptions in any region from the Eastern Mediterranean to Lower Italy are dated between 1200 and 800 BCE, they would serve to confirm the conclusions of this study. Furthermore, considering Homer's account that Menelaus, following the Trojan War in 1218 BCE—at a time when the alphabet had already been invented—traveled for eight years to regions such as Cyprus, Egypt, Ethiopia, Libya, and Phoenicia, a significant question arises. According to *Odyssey* (Book 4, line 626), during his stay in Phoenicia, the Sidonian (Phoenician) King Phaidimus presented Menelaus with an opulently adorned golden crater of immense value. But why? What extraordinary gift did Menelaus offer in return to King Phaidimus? Given that Menelaus had just emerged from war, he possessed no material wealth to offer. Thus, what immense intellectual or cultural contribution might Menelaus have bestowed upon the Phoenician king?

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Conflicts of Interest

I declare no conflicts of interest.

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