

Linguistic and Cultural Aspects of Disyllabic Signs in the Cretan Protolinear Script**Ioannis K. Kenanidis^{1*}, Evangelos C. Papakitsos²**¹Directorate of Primary Education of Kavala, Hellenic Ministry of Education, Research & Religious Affairs, Ethn. Antistasis 20, 65110 KAVALA, Greece²Department of Education, School of Pedagogical and Technological Education, Iraklio Attikis, Greece***Corresponding author***Ioannis K. Kenanidis***Article History***Received: 04.10.2017**Accepted: 13.10.2017**Published: 30.10.2017***DOI:**

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**Abstract:** The present study describes the ten attested signs of the Cretan Protolinear script which render disyllabic phonetic values, unlike the monosyllabic ones of the Consonant-Vowel type, which is the common phonetic pattern for the rest of the signs. The Cretan Protolinear script has been proposed as the script that all the Aegean scripts of Bronze Age evolved from. The linguistic affinity of these disyllabic signs to the Sumerian language is demonstrated, in terms of lexicographic reference, phonetic correspondence and pictographic resemblance. In addition, the description of these signs' phonetic features is accompanied by valuable cultural information, wherever available.**Keywords:** Cretan Protolinear script, Aegean scripts, Linear A, Cretan Hieroglyphics, Linear B, disyllabic syllabograms, archaeolinguistics, paleolinguistics**INTRODUCTION**

The Cretan Protolinear script (henceforth CP) has been proposed as the script that all the Aegean scripts of Bronze Age (2nd and 3rd millennia BCE) evolved from [1-6]. These scripts include, among others [7], Linear A (henceforth LA), Cretan Hieroglyphics (henceforth CH) and Linear B (henceforth LB) syllabaries, the latter being the one that this work mostly focuses on. They are referred to as syllabaries because each of their signs usually renders one syllabic phonetic value of the pattern Consonant-Vowel (CV). Thus, each sign is a “syllabogram”. The Aegean scripts have been found mostly on clay-tablets, but also on other artifacts (pottery, seals, stone inscriptions), mainly in Crete and Peloponnese (LB). With the exception of most inscriptions of CH, the rest of them (LA and LB) are usually account-keeping documents, just like most cuneiform tablets of the Mesopotamian civilizations (e.g., Sumerian and Akkadian).

The linguistic connection of the Aegean scripts to Sumerian has been repeatedly demonstrated [2-6, 8-12] independently of the languages conveyed by the scripts [4], with detailed reference only to Mycenaean Greek (henceforth MG) [13] which is indisputably conveyed by LB. In this respect, it has been demonstrated that the phonetic values of CP syllabograms too correspond to the Sumerian names of the objects depicted by those syllabograms [2-6, 11]. Interestingly, not all of the syllabograms render a CV phonetic value. Few of them exhibit more complex phonetic values which could be written by a pair of syllabograms CV+V or CV+CV, but instead of such pairs single signs were mostly used, and those single signs are here named disyllabic signs. It is estimated that CP included fourteen (14) such disyllabic signs [3]. Ten (10) of them, being well attested, are presented in this study [i-x], along with linguistic observations and occasionally cultural aspects concerning those syllabograms.

PRESENTATION

In the following presentation, the syllabograms of CP are conventionally designated according to the particular script they are best known to belong to with the number assigned to them (e.g., LB 87, [13]). They are presented in the modern alphabetical order of their phonetic value, together with an alternative rendering (e.g., “cue/cwe” [i]) in some cases. In addition, it is noted that the final consonant (coda) of a Sumerian word was not pronounced, unless it was followed by another vowel, as in the case of compounding or affixation (p. 336 in [4]). In such cases herein, the final consonant can be enclosed in parentheses, as in “cwe(p)” below [i], to remind that it was treated as mute.

[i] cue / cwe

First of all, the phonetic value of “cue/cwe” in CP is proven by the fact that this sign is often substituted by “ku-we” or “tu-we” in LB, by scribes who forgot this uncommon letter or did not readily think of using it. It is conventionally believed that this letter was a “twe”, which is only another misconception that began with disregarding the fundamental

distinction between {q} and {k} (here we refer to the different articulatory positions of velars {q, g} and palatals {k, c}) in LB and CP, although this difference was known since the beginning of the decipherment of LB [14] (and we use q, g / k, c not as in the International Phonetic Alphabet, but rather conforming to the established usage of the letters for LB). Scholars who thought that this sign was a “twe” did not realize that there was naturally a syllable “kwe” (palatal “k”) in MG, clearly different from “qe” (velar “q”). There was a specific syllabogram for “kwe” in LB (Fig 1a), therefore it was “cwe” or “cue” in CP, “c” denoting an emphatic palatal. This syllabogram is also found in LA (Fig. 1b). It is obvious that the letter depicts a bow. The bow in Archaic Sumerian was called “cwep”, although this word was rather “old-fashioned” during the Cuneiform era in Mesopotamia. Indeed, the main word that meant the classic Sumerian bow with its two arcs (the most precious such arcs consisted of two horns of a wild-goat or other animal) was “cwep”, and in Cuneiform this word is not readily obvious, but it is also not entirely lost. In Mesopotamia, “cwep” was corrupted into various forms (rules 5.0.4 and 5.0.15 in [15]) so the word in Sumerian Cuneiform looks mostly like “ceŋ-” or “cœŋ-”. However, in Crete and its colonies the word “cwep” (= bow) was faithfully retained. When a CP scribe used this letter, it was instantly recognized as a “bow”, a “cwe(p)” in Sumerian, and thus called to mind the syllable “cwe” (or “cue”; pp. 160-165 in [3]). Possibly, the same sign is the origin of “kse” in the Greek Cypriot Syllabary (Fig. 1c). Since the Cypriot Greeks did not need a “kwe”, they applied the sign for “kse” which was really useful for them; it also represented a final -ks.

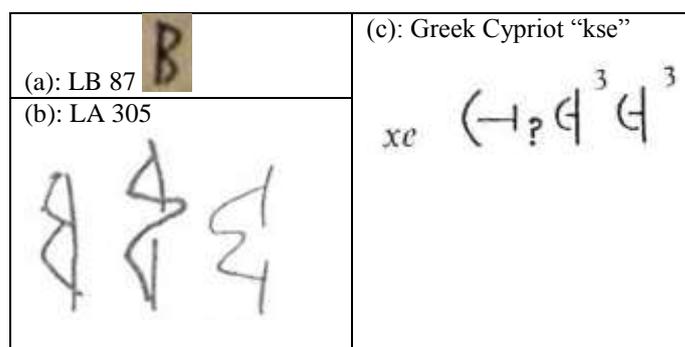


Fig-1: Syllabogram “cwe” of CP.

[ii] cwo / cuo

This letter (Fig. 2a) is easily recognized as depicting a fish. Unfortunately, it is conventionally believed to be a “two”, while at the time that LB was first deciphered it was suspected to be a “kwo”. So, it is another “victim” of disregarding the fundamental linguistic knowledge that distinguishes between velars and palatals. Because scholars thought that “kwo” is another syllabogram [x], they were misled to presume that this one must be a “two”. In Sumerian Cuneiform, “fish” is well-known as “ku₆” (i.e., /gwo/), also used as a determinative (a classifying sign) for the names of fish and other aquatic creatures. The Cuneiform signs used as determinatives are all present in CP, because they signify basic categories of things, so they are very important in the life and mind of people, consequently the most readily recognizable signs: that is, precisely the kind of signs sought for use in CP. So this word was “gwo” in Archaic Sumerian, which in Crete became “cwo” (the Cretan dialect regularly palatalizing the emphatic velars). Thus, the syllabogram that depicted a fish was used in CP to render “cwo” (or “cuo”; pp. 175-176 in [3]). This is also confirmed by the Greek Cypriot Paphian “ko” (Fig. 2b), which is easily seen to depict a fish (different to the non-Paphian “ko”, which depicted a mountain).

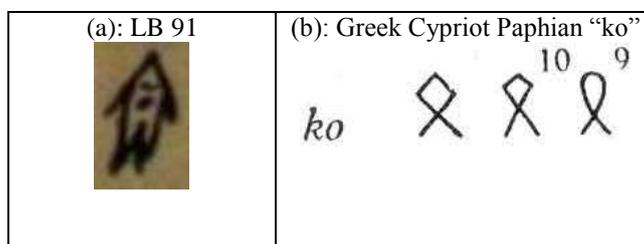


Fig-2: Syllabogram “cwo” of CP

[iii] dwe / due

Carefully observing the syllabogram LB 71 (Fig. 3a), we see the face of an animal summarily rendered at the top (the same way that another animal’s face is sketched as the LB sign 70), with a characteristic long muzzle and a pair of tusks protruding on the right and left. One of the sign variants (right-most in Fig. 3a) has three tiny straight lines on each side, which means that, apart from the tusks, other teeth were also pointed out. This animal cannot be other than a wild boar. The snout is depicted long and rigid, with two lines continuing from the wider top of the face, but the end of

the snout was not meant as pointed: the side lines are made parallel and wide at the bottom, just to indicate the flat end with the nostrils of a wild boar. Two ancient lemmata of Sumerian lexica:

- giš-DUN MIN([ša-ah] a-bi) MIN(^dMUŠ₃ e-gi)
- giš-DUN MIN([ša-ah] a-bi)

clearly indicate that DUN meant “wild boar” (which is more commonly written ŠAH.GIŠ.GI in the Sumerian Cuneiform). The old word for “wild boar”, was “dweḡ”; hence “DUN” (that is: /dœŋ/) of Sumerian Cuneiform. On the other hand, the sign DUN is often used for writing the word “šah₂” (= pig). According to [16], from a total of 1117 entries of “šah”, 1097 times it is written with the sign DUN (Fig. 3b) and only 20 times with the sign “šah” (Fig. 3c). In Crete, the word remained as “dweḡ”, so each CP user instantly recognized this syllabogram as “dwe(ḡ)” and thus recalled the syllable “dwe” (or “due” pp. 165-167 in [3]).

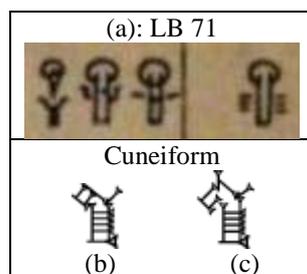


Fig-3: Syllabogram “dwe” of CP

[iv] dwo/duo

This sign’s pictorial origin (Fig. 4a) is obvious too, since it is homomorph to the “ideogram” LB 118 (Fig. 4b) that represented a pair of scales implying a *talanton* (a unit of measurement by weight). In the Sumerian Cuneiform, the *talanton*, called “*cwon*”, (written “*gun₂*” or “*gu₂-un*”) was found 5551 times: it is one of the commonest words on the cuneiform tablets, given that the vast majority of them were accounting documents. There are also related words found with “d-”: importantly, the word “*dugud*” (= heavy). Also, the word “*kù-dun*” (literally, “silver weighted”, that is money paid), which according to [16] generally means profit, and it is found in [17] apparently meaning the remuneration of craftsmen and workers. In [18], proverb No. 1165, “*dù.ù*” appears to be the phonetic writing of the word meaning “balance” (scales) in Emesal (the feminine dialect of the Sumerian language; p. 31 in [15]). The Sumerian “*gun₂*” or “*gu₂-un*” was originally pronounced /cwoŋ/; in Crete it became /dwoŋ/, due to a regular phonetic change (5.0.9 in [15]). Clearly “*dwoŋ*” was easier to pronounce than “*cwoŋ*”, because palatal consonants are not so easily pronounced with {w}. All languages tend to change palatals+w into something easier. Thus, the CP users of this syllabogram immediately recognized it as a “weighing balance / talanton of weight”, called “*dwo(ḡ)*”, for using it to write the syllable “*dwo*” (or “*duo*”; p. 176 in [3]).

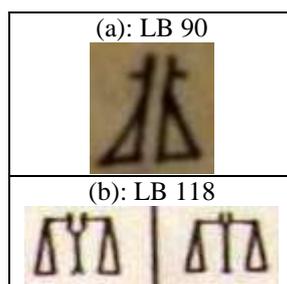


Fig-4: Syllabogram “dwo”

[v] jow / jou

This syllabogram (Fig. 5) depicted a hog, which in Sumerian Cuneiform is found as “šah₂; šah” [iii]. There is strong evidence that shows the original form of “šah₂; šah” was /fox/: the word was borrowed by ProtoIndoEuropeans as “*suh-*” (/sux/) [19] from neighbouring Altaic people, that is people speaking a language identical or almost identical to ancient Sumerian. (Since ProtoIndoEuropean lacked a /ʃ/, the /ʃ/ had to be borrowed as /s/, while the “u” came from a close “o” in the original Altaic language). Also, that old word has given Old Turkic “*çoçuk*” (meaning “piglet”; -çuk being a diminutive suffix, and “ç” being the common Turkic form of ProtoAltaic /ʃ/).

So we know that the old Sumerian word was /fox/, on one hand, and, on the other hand, we know that the “hog” syllabogram was used in LB for the MG syllable which is “au-” in Classical Greek. Of course, it is quite likely that the

Classical Greek au- was jow- in MG, or, even if it was “jaw-”, that “jaw-” was pronounced /jəw/, or, possibly, /jaw/ in MG, thus resembling /jow/ so much that the CP sign for “jow” was ideal to stand for MG “jaw-”.

Since it is well known (rule 5.0.28 and 5.0.11 in [15]) that the Sumerian -h (i.e. /x/) sometimes corresponds to “w”, especially in the end of words (where a consonant had to be silenced or turned to a semivowel as w); that Cuneiform Sumerian “a” was largely derived from a rounded vowel (“o”) (rule 5.0.2 in [15]); and that Cuneiform “š” sometimes corresponds to Cretan Sumerian /j/, (rule 5.0.26 in [15]), we conclude that the word for hog was /jow/ in the Cretan dialect of Sumerian, so the sign depicting a hog was used for the sound “jow” or “jou” (pp. 170-172 in [3]).

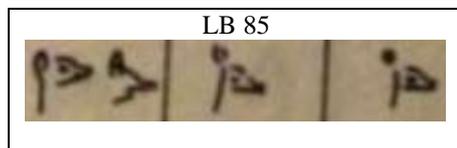


Fig-5: Syllabogram “jow”

[vi] lja / li(j)a

This is LB 76 (Fig. 6a), in LA found almost exclusively in a word “sa-lia” (Fig. 6b), which contextually appears to be a person’s name. In LB the sign sometimes replaces the “ri-ja” syllabogram pair, so it was reasonably named “ra₂” in the sense of “rja” or “lja”. This syllabogram depicted a pair of wings. The wing in Archaic Sumerian was called *ljaq, which in Cuneiform became “šac” and “šec” (rules 5.0.3 and 5.0.29 in [15]), while this “šec” is usually written with “i” and “s”. In the conservative dialect of Crete it became “lja(q)”, so the syllabogram depicting “wings” was applied for the syllable “lja”, and probably also “lja” and “lia” (pp. 172-175 in [3]).

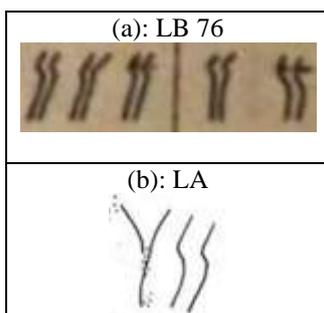


Fig-6: Syllabogram “lja” of CP

[vii] ljo / li(j)o

This syllabogram, LB 68 (Fig. 7a), is substantially identical to the Sumerian Pre-cuneiform sign on p. 48 in [20] depicting a scorpion that was called, according to the author of [20], LUL or “lu₅(l)”. The Pre-cuneiform sign (Fig. 7b) corresponds to the form of Cuneiform GIR₂ (Fig. 7c). The sign sketched the back of a scorpion and its pincers; by mere coincidence it came to be similar to the shape of another sign that depicted a “knife” (pp. 735-736 in [11]). It is noteworthy that the word for “crab” was etymologically related to the word for “scorpion”. So, the scorpion and similar arthropods was Cuneiform LUL or “lu₅(l)”, in Mesopotamia probably pronounced /lyœl/, from older “ljo(l)” which was preserved in Crete (pp. 176-173 in [3]).

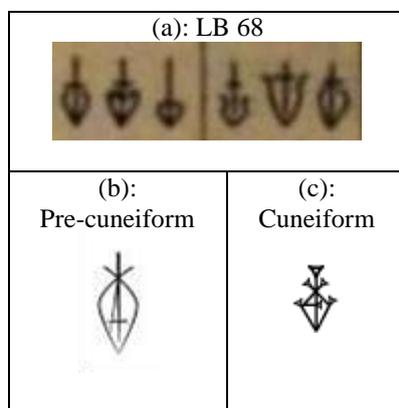


Fig-7: Syllabogram “ljo” of CP

[viii] nua / nwa

In LB this syllabogram is known in several forms (Fig. 8a). In LA it was found only once (Fig. 8b). In CH, this syllabogram is well known, e.g., in stamp #302 (Fig. 8c). It represents the two hands of a human being. The “hand” syllabogram was read /no/ (p. 339 in [4]). This one representing two hands was read /nwa/ or /nua/ or /noa/; the similarity of the words “no” (hand) and “nua” (the name of this sign with both hands) cannot be irrelevant. “Nua” derived from “no+a”; then this –a seems to be a suffix of a dual number (totally unknown in Sumerian) or a plural suffix which is not documented in Sumerian. We do not interpret that –a as a plural suffix; instead, we are of the opinion that it was the well known Sumerian nominalizing suffix –a, added to verbs to form a participle. This means that the word “no” (hand) was anciently used as a verb too, meaning “to make a gesture”, so “noa” (then “nua” or “nwa”) meant a gesture, possibly a specific gesture, like the Latin “numen”.

Gestures are always ceremonially important, no less important in ancient times, if we only remember the hundreds of Indian “mudras” used in yoga, healing, dancing, ritual and iconography.

Indeed, the CH sign seems to depict a specific gesture: the two arms are crossed at the wrists or the forearms and the two palms face the front, not the person who is doing the gesture. By making this gesture, anyone feels like defending against an enemy, stopping danger or even enforcing peace. This was probably the meaning of this gesture to the Minoans. So, seeing this letter, the Minoans recognized it as a “gesture”, thus recalling “noa”, “nua”, or “nwa” (the word for gesture) and using the syllabogram to write “noa”, “nua”, or “nwa” (pp. 167-168 in [3]).

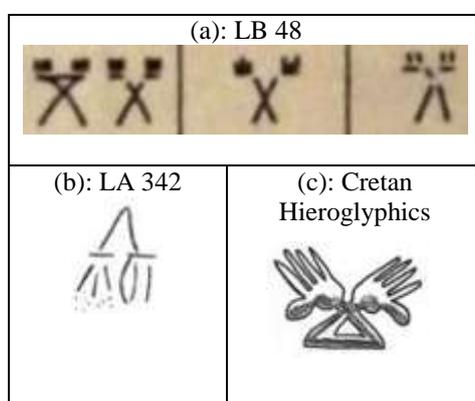


Fig-8: Syllabogram “nwa”

[ix] pete

The LB 62 syllabogram (Fig. 9a) is the well-known Minoan sacred symbol, which the imagination of archaeologists describes as “bull horns” or, more rarely “wings”. The Minoans never thought of it as bull horns or wings, but sometimes they could connect it to a pair of ears (due to a pun that will be explained).

This same symbol is common in the Pre-cuneiform script, sometimes identical to this CP sign (Fig. 9b), but more often depicted on a carrying pole (a “Tragstange” in Falkenstein’s words) as a sacred symbol that it was. There are many variants of the sign in Pre-cuneiform (Fig. 9e), which reflect the many variants of the actual sacred symbol. Older people in Greece today remember that the “Vlachs” (people living on mountainous areas, many of them speaking a Romance language) used to carry such a symbol with the two “peaks” on a pole while dancing to celebrate a wedding or any happy occasion. In the Christian Orthodox church, there is a very similar sacred object, called δίκηρον [21]: today it symbolizes the dual nature of Christ, but it was originally nothing else than this very symbol sketched by the CP sign “pete”.

Falkenstein [22] notes that this sign is the early form of the Cuneiform sign named PI (Fig. 9c). This symbol belonged to the worship of “An”, father and lord of all Sumerian gods, just as the double axe (hence syllabogram “a”: p. 338 in [4]; p. 734 in [11]). Concerning its phonetic use, it was not only its name PI: it must be noted (based on p. 49 in [23] and entry 279.1.7 in [24], remarked in [2]) that the Cuneiform sign PI was also used for “nede” (in [16] also “neda”), which reveals that the PI sign was read /nede/, from an earlier /pe(t)/ that gave the sign its name “PI”.

Another testimony to the corresponding Cuneiform sign’s phonetic value was the word “ġidlam”, in fact pronounced “ġetəlam” in Sumerian, since the Akkadian lexicographers rendered it as “ni-ta-lam” or, sometimes, as “gi-id-lam”. In “ġetəlam”, and the transcription of Sumerian in general, we use “ə” for a vowel often used as epenthetic, generally pronounced /ɜ/ as we have pointed out in another work. That “ġetəlam” surely comes from “petədam”

(petā+dam, where petā=completeness and dam=spouse), given that older “p” is usually changed to “ḫ” in Cuneiform Sumerian (phonetic rule 5.0.15 in [15]). The name of this symbol was “pet”, usually with an –e (or epenthetic “ə”, see above) so that the “–t” could be pronounced, but sometimes without a vowel after it the “–t” was muted. This “pete” meant “a pair”, which implied “completeness”, and it was a sacred word, because it signified completeness in the world, a completeness consisting of the “yin” and “yang”, negative and positive, female and male etc.

Although there was no objective connection of this word and symbol with ears, or horns, or wings, there is evidence that the ancient Sumerians made a pun due to the similarity between “pete” (pair, completeness) and /peθ/ (= ear) and also due to the similarity of the symbol to a pair of an animal’s (e.g. horse’s) ears. Thus, in Cuneiform, the word “ḡeštug” (=ear) was written with the PI sign: out of 263 occurrences in [16], 242 times “ḡeštug” is written with phonetic signs and the PI added as an image of ears, while 21 times it is written with the PI sign alone. Another two times the Emesal form of “ḡeštug” is written with phonetic signs only, without the PI. (However, LB used a different syllabogram depicting a human ear: LB 72 named “pe”).

Also there was a word “giz-zil_x-AN-urudu”, where “giz-zil_x” is another word for “ear” (“ḡizzal [EAR]” in [16]); “urudu” is a determinative for copper objects; here AN probably meant “the sky God An”; so, “giz-zil_x-AN-urudu” = “God’s ears” (copper object), so we understand that they made a copper object called “ears of God”. All this evidence shows that the object “pete”, although it had nothing to do with horns or wings, it was sometimes compared to a pair of ears (that is, symbolic ears of God who listened to the worshipper’s prayer). So, every Minoan seeing this syllabogram immediately recognized the sacred symbol “pete” (signifying a pair, completeness) and thus called to mind the syllables “pete” (pp. 168-170 in [3]).

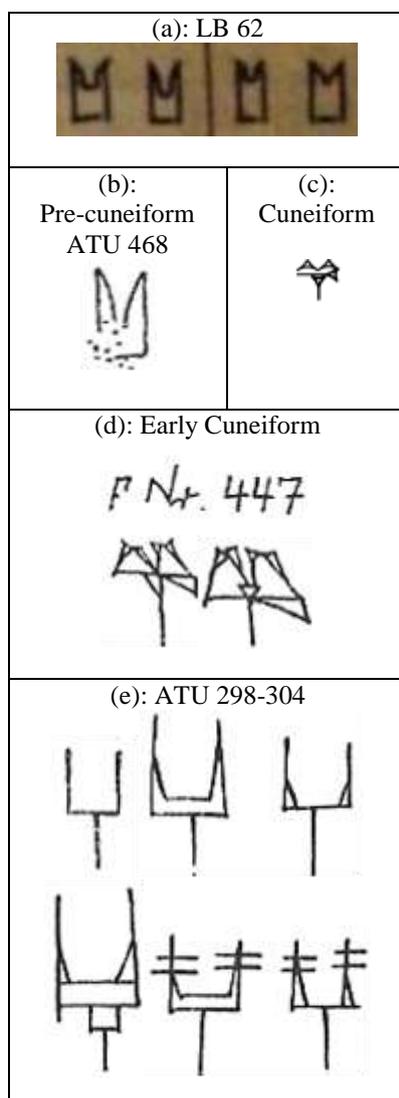


Fig-9: Syllabogram “pete”

[x] quo / qwo

This is the very common syllabogram LB 32 (Fig. 10a), used for MG “qo”. It is also one of the commonest syllabograms of CH (Fig. 10b). In LA it is not used at all and this is a matter of concern: if the sign rendered the simple syllable “qo”, then it would have to be common or at least not so rare in the language(s) of LA. The absence of this sign in LA is well explained when we understand that it did not render a simple “qo”, but the syllables “qwo” or “quo”. A simple “qo” was rendered in LA and CH by another syllabogram depicting a mountain: pp. 108-109 in [3], while the same “mountain” syllabogram is used in the Greek Cypriot non-Paphian signary for “ko”. Then why did LB prefer this “qwo” syllabogram and made no use of the “mountain” syllabogram for simple “qo”?

One reason is that CP afforded a sign for “qwo” that was welcome for writing Greek “q^wo” (“q” used for all MG velar plosives, including voiced and aspirate): the CP “qwo” sign was preferred to a sign for mere “qo”, because the Greek “q” (velar plosives) was accompanied by a secondary “w”; while there was no other available syllabogram with “qw”, with vowels other than “o”, to use for the Greek “labiovelars”, which were necessarily written with the CP signs of the simple q- series.

Another important reason was that the CP sign for “qwo” depicted a bull, and the bull (oxen in general) had a MG name “g^wow-”, outstandingly similar to “qwo”, the name of this sign. So, the syllabogram was named not only after Sumerian “qwo” (bull, “gu₄” in Cuneiform), but also after Greek “g^wow-” (bull, bovines) at the same time. There was no reason to use the “mountain” sign for “qo” in writing Greek, because MG had no “qo” but “q^wo” and that “q^wo” appeared to be the Greek name of what the sign depicted: a bull.

This sign had a very long history: it was one of those oversimplified animal sketches that were repeated to form bands as decoration on Mesopotamian pottery of the Pre-cuneiform era (early 3rd millennium BCE) and much earlier (Fig. 10c). On those decorative bands, the oversimplified sketch of the bull has the same form as this syllabogram: the animal’s head in front view is rendered with a thin T shape on which two tiny horizontal lines on both sides denote the ears, while the upper two vertical lines depict the horns.

Why was the bull used for decoration on pottery, and art in general? And why was the bull sign so very common on CP? The bull was the most sacred animal in that era; the ancients knew that the Spring equinox occurred in the Taurus (“bull”) constellation; in any case, the bull was admired for its strength and vigour, it was a symbol of vitality (pp. 159-160 in [3]). The word for bull was often a part of men’s names, as it was even many centuries later among Turkic tribes: Mahmud Kashgari in the 11th century AD records “Altunbuqa” (golden bull) as a typical Turkic man’s name [25]. This, and possible use of the word in names of divinities too, explains why the sign is common in CH while it is absent in documents of LA.

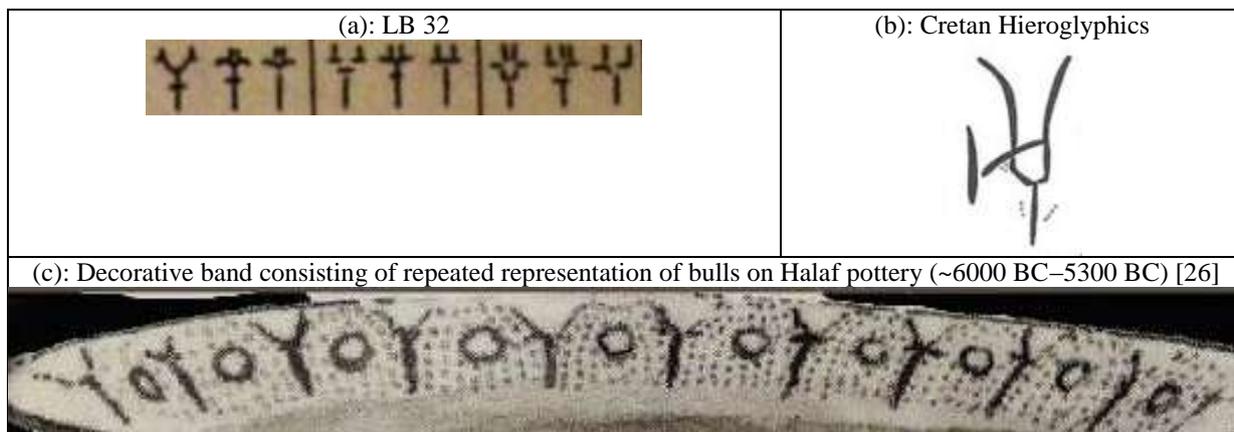


Fig-10: Syllabogram “qwo”

CONCLUSION

The present study was focused on the ten attested syllabograms of CP that render more complex phonetic values than a single syllable of the CV type, which is the common phonetic pattern for most syllabograms. The linguistic affinity of these “disyllabic” signs to Sumerian was demonstrated (as was done with the monosyllabic signs in previous works) in terms of lexicographic reference, phonetic correspondence and pictographic resemblance. The CP theory provides coherent evidence regarding the origin of the Aegean scripts and the phonetic values of their signs, along with valuable cultural information.

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