Evidence of General Reading Ability Without Schooling in Bronze Age Crete

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Abstract

This paper presents the idea that a general reading ability of the population of Bronze Age Crete could have been possible without schooling, due to some special characteristics of the Eteocretan language, spoken at that era in Crete. The Eteocretan scribes deviced the Cretan Protolinear syllabary, by using the rebus principle, consisting of abstract/simplified images of natural objects for signs. The cognitive correspondence of those signs to the names/words of the depicted objects could have made reading feasible to the public, without the necessity of attending school, as it happens nowadays with the understandability of webdings and wingdings.
Keywords: Bronze Age; Minoan civilization; Crete; Eteocretan; Cretan protolinear; syllabary.

1. Introduction

In our modern times, free compulsory education, especially the primary one that includes reading and writing, is internationally considered and has been recognized as a human right, associated with schooling (Beiter, 2006). This is though a relatively recent trend in historical times (Cordasco, 1976). In Ancient Greece, although the concept of compulsory education had been recognized as essential by Plato in his work "The Republic" (Santas, 2010), only Sparta was known to have compulsory education and this concerned only boys focused on military training (Coulson, 1999). In the even earlier antiquity of Bronze Age (2nd and 3rd millenia BCE), a nation that praised literacy had been the Sumerian, that arguably developed one of the first known civilizations and writing systems (Fischer, 2004), along with Ancient Egypt and Indus Valley (King, 2015). The very name "Sumer", of conventionally unknown etymology (Toorn and Horst, 1990), was actually the Akkadian name for Sumerians, who called themselves "ùĝ saĝ gíg ga" (= the black-headed people). According to Kenanidis I. (2013), the word "Sumer" was actually pronounced "shömeer" by the Sumerians, meaning the literate person.

Literacy is connected with civilization. The first known indigenous European civilization is considered to be the Minoan that was developed in Crete during the Bronze Age (Chaniotis, 2004). One of the "trade-marks" of the Minoan Civilization is the syllabaries developed in Crete (Davis, 2010) that included Cretan Hieroglyphic (henceforth CH), Linear-A (henceforth LA) and Linear-B (henceforth LB). They are called syllabaries because most signs of them render a syllabic phonetic value of the pattern consonant-vowel (CV), which is a consonant followed by a vowel sound, or just a simple vowel (V). For this reason, the signs are also called "syllabograms". Willetts (1977) firstly suggested that those syllabaries (CH, LA and LB) should have a common linguistic ancestry, being called Cretan Protolinear syllabary (henceforth CP). Later on, (Kenanidis I., 1992;2013) not only reconstructed CP but also demonstrated beyond statistical doubt its affinity to a dialect very close to Archaic Sumerian, spoken by the predominant ethnic group of Minoan Crete: the Eteocretans ("True Cretans"). Furthermore, he suggested that the design of CP was realized in such a way to allow Eteocretans the reading ability without having to attend school. This innovative idea of his will be briefly presented, analysed and discussed in the following sections of this paper.

2. Materials and Methods

The overall linguistic affinity of the Eteocretan language and/or pictography to the equivalent Sumerian ones had been either suspected (Castleden, 2002; Fischer, 2004) or observed (Davis, 2011; Glarner, 2002; Szałek, 2008;2015; Woudhuizen, 2005). This affinity has been attested by (Kenanidis I., 1992;2013) and demonstrated repeatedly in numerous papers (Kenanidis I. K. and Papakitsos, 2015; Kenanidis I. K., 2016; Kenanidis I. K. and Papakitsos, 2017a;2017b;2017c; Kenanidis I. and Papakitsos, 2018a; Kenanidis I. K. and Papakitsos, 2018b;2018c; Papakitsos and Kenanidis, 2015;2016). According to the latter papers, the Eteocretan scribes developed CP by using the rebus principle, which had been originally invented by the Sumerians (Fischer, 2004). Following this principle, the image of an object renders a phonetic value that denotes the entire name of the depicted object and not a part of it, unlike the acrophonic principle. In this manner, the CP syllabary was created, consisting of 120 syllabograms (namely, signs).

Consequently in CP, every sign depicted the abstract/simplified image of an object, having its whole name as the corresponding sound (phonetic value) of the sign, used in writing regardless of the context. This creation was greatly facilitated by the nature of Sumerian language that had monosyllabic words for denoting the very basic/important objects of daily life (plants, animals, landscapes, human anatomy, cultural and religious artefacts, etc.). Only such very basic objects had been utilized for making CP syllabary, which where easily recognizable by everyone and understandable without the need of formal education. The used concept is similar to the understandability of modern webdings and wingdings (Kenanidis I., 2013). Nowadays, it is recognized by practically

anyone that webding { 🕷 } depicts a spider and wingding { ☺ } a happy/smilling face, without the need for schooling. That kind of knowledge is socially acquired. This concept will be exemplified in the next section, through the presentation of eight CP's syllabograms, noting that in Eteocretan language (as well as generally in Sumerian) the closing/final consonant of a monosyllabic word was silenced, unless followed by a vowel in the case of affixation. This phonological rule is denoted in the following examples by having the final consonant enclosed in parentheses.

3. Results and Discussion

In the presentation of the eight selected syllabograms below, the sources of images that have been used in the figures (Fig. 1-8) are: Kontogianni (2014) for LB signs, Falkenstein (1936) for ATU signs and Kenanidis I. (2013) for the rest of them. The syllabograms (/signs) are referred to with upper-case letters, while the phonetic values (/sounds) with lower-case letters enclosed in quotation marks. In this respect, the usage of the International Phonetic Alphabet (IPA) designation is avoided, because the exact pronunciation is uncertain due to the time elapsed (4-5 millenia). Finally, in the lexical entries of Sumerian, the corresponding Akkadian words (Akk.) are conventionally written in italics.

3.1. Syllabogram I.

This sign is designated by the number 28 in LB (Fig. 1a). It is also found in CH (Fig. 1b), where it is very common in words like DE-ĜE-I (= god), but not in LA for certain. It depicted a plant or grass, in general. In Sumerian Cuneiform, the related word appears as (Kenanidis I., 2013): u_2 "bread, loaf; food; grass, herb; pasture; plant(s)", Akk. *akalu*; *rîtu*; *šammu.*

The sign "u_2" was also used as a taxonomic element, defining any kind of plant. Its older pronunciation was "i", due to a relevant phonological rule of Sumerian (Kenanidis I. and Papakitsos, 2013). By seeing syllabogram I, any Eteocretan recognized the image of a plant, called "i", thus recalling syllable "i".

Figure-1. Signs for plants/grass.
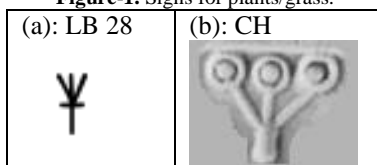
3.2. Syllabogram CE.

This sign is designated by the number 44 in LB (Fig. 2a). It is also found in LA (Fig. 2b) and in Sumerian Precuneiform (Fig. 2c-d). It depicted a sheaf of reaped cereals or reeds, roughly tied. In Sumerian Cuneiform, the related word appears as "gu/gu_2", while its pronunciation was "cœ" from an older "ce" (Kenanidis I., 2013). By seeing syllabogram CE, any Eteocretan recognized the image of a sheaf of reaped cereals/reeds, called "ce", thus recalling syllable "ce".

Figure-2. Signs for sheafs of reaped cereals/reeds.
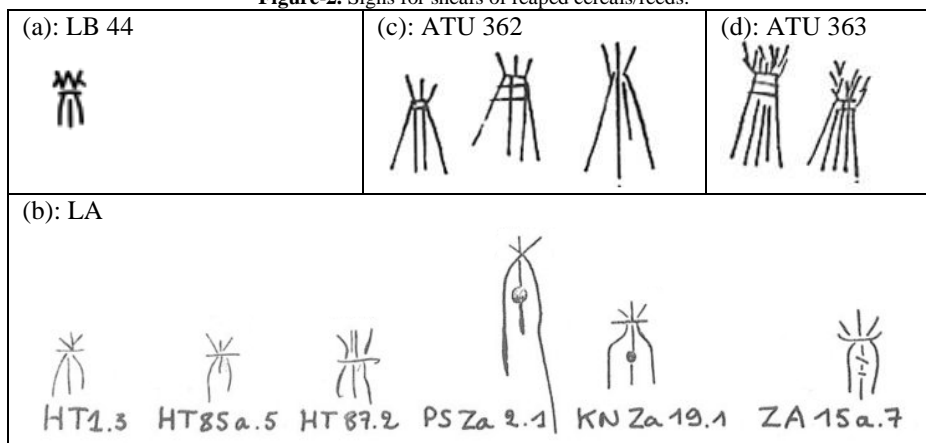
3.3. Syllabogram DI.

This sign is designated by the number 7 in LB (Fig. 3), also found with a similar form in LA. It depicted the cereal emmer. In Sumerian Cuneiform, the related word appears as (Kenanidis I., 2013): ziz_2 "emmer wheat", Akk. *kunšu.* Its older pronunciation was either "di(z)" or "di(d)", due to a relevant phonological rule of Sumerian (Kenanidis I. and Papakitsos, 2013). By seeing syllabogram DI, any Eteocretan recognized the image of emmer, called "di(z/d)", thus recalling syllable "di".

Figure-3. Sign for emmer

LB 7

3.4. Syllabogram DO.

This sign is designated by the number 14 in LB (Fig. 4). It depicted the cereal barley. In Sumerian, the related word appears as (Kenanidis I., 2013) the duplicated "dub-dub" (= plain barley). Its older pronunciation was "do(b)", due to a relevant phonological rule of Sumerian (Kenanidis I. and Papakitsos, 2013). By seeing syllabogram DO, any Eteocretan recognized the image of barley, called "do(b)", thus recalling syllable "do".

Figure-4. Sign for barley

LB 14
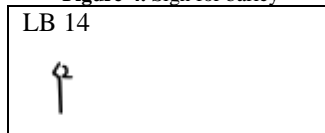
3.5. Syllabogram QA.

This sign is designated by the number 16 in LB (Fig. 5). It depicted the human face, with the line of neck below and two curved lines left and right as ears. In Sumerian, the related word appears as "qa(r)" (Kenanidis I., 2013). By seeing syllabogram QA, any Eteocretan recognized the image of face, called "qa(r)", thus recalling syllable "qa".

Figure-5. Sign for face

LB 16
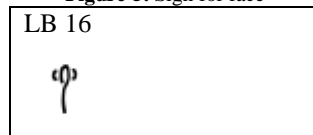
3.6. Syllabogram QI.

This sign is designated by the number 21 in LB (Fig. 6a). It is also found with many forms in LA (the simplest being the one of (Fig. 6b) and similarly in Sumerian Precuneiform (Fig. 6c). It depicted a wild sheep. In Sumerian, the related word appears as "gir₃", while its archaic pronunciation was "qi(r)" (Kenanidis I., 2013). By seeing syllabogram QI, any Eteocretan recognized the image of a wild sheep, called "qi(r)", thus recalling syllable "qi".

Figure-6. Signs for wild sheep.

(a): LB 21	(b): LA	(c): ATU 42
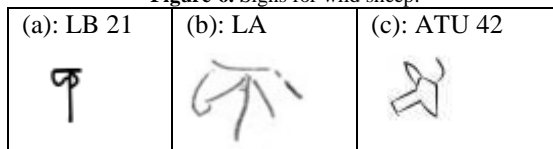
3.7. Syllabogram QO.

This sign is designated by the number 32 in LB (Fig. 7a). It is also found (Kenanidis I., 2013) in LA (Fig. 7b), in CH (Fig. 7c) and in Sumerian Precuneiform (Fig. 7d). It depicted the mountain. In Sumerian, the related word appears as "kur", pronounced "qo(r)" (Kenanidis I., 2013). By seeing syllabogram QO, any Eteocretan recognized the image of a mountain, called "qo(r)", thus recalling syllable "qo".

Figure-7. Signs for mountain.

| (a): LB 32	(b): LA	(c): CH	(d): Sumerian Precuneiform
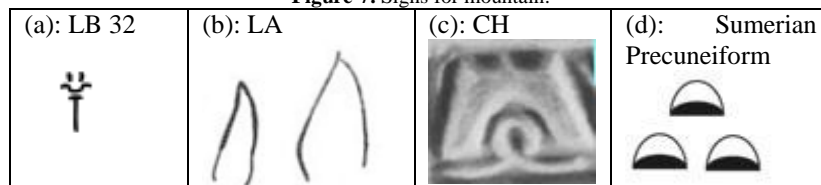
3.8. Syllabogram WE.

This sign is designated by the number 75 in LB (Fig. 8a). It is also found reversed in LA (Kenanidis I., 2013) and duplicated in Sumerian Precuneiform (Fig. 8b), obviously depicting the opposite banks of the river/canal. It depicted a river. In Sumerian Cuneiform, the related word appears as (Kenanidis I., 2013):

- id₂ (i₇); id₃ (i₈); id₆; id₇; id₅ "river, watercourse, canal", Akk. *nāru.*

These forms of "id" rendered the pronunciation "ed" from an older "we(d)". By seeing syllabogram WE, any Eteocretan recognized the image of a river, called "we", thus recalling syllable "we".

Figure-8. Signs for river.

(a): LB 28	(b): ATU 841
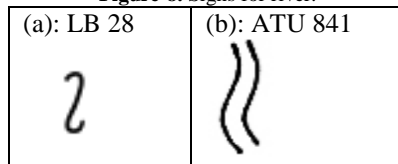
4. Conclusion

In this paper, it has been demonstrated, through the presentation of eight selected syllabograms from the CP syllabary of 120 signs, that massive/general education in reading could have been possible without schooling in Bronze Age Crete. This possibility could have been realized due to the special characteristics of the Eteocretan language, which was a rather conservative dialect of Archaic Sumerian. Eteocretan used monosyllabic words for the main objects of natural environment. Thus, the abstract image of such an object rendered a readily recognizable syllable, corresponding exactly to the phonetic value of the associated sign, by using the rebus principle for devicing the CP syllabary.

Acknowledgements

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