THE LINEAR B SIGN *64 AND ITS PHONETIC VALUE (ZI)

Abstract: After discussing occurrences and distribution of the Linear B sign *64, the author accepts none of the syllabic values suggested so far. On the basis of "external" and "internal" evidence he posits the phonetic value zi for *64. The lexical analysis proves that this proposal is perfectly suitable in all cases where the sign in question appears.

I. Occurrences.
The syllabic sign *64 is attested in the following words, i.e. "forms" (see Lejeune 1972:86):

1. a-*64-ja (ethnic): PY Aa 701 (scribal hand 1); PY Ab 515.B (scribal hand 21).
   1a. a-*64-ja-o (ethnic in gen. pl.): PY Ad 315 (scribal hand 23); Py Ad 326 (scribal hand 23).
2. a-*64-ja (woman's name): PY Vn 1191.2 (scribal hand unknown).
3. a-*64-jo (man's name) KN Sc 261 (scribal hand "124" f); PY Cn 1287 (scribal hand unknown); PY Fn 324 (scribal hand 45); PY Jn 832 (scribal hand 2).
   3a. ]-*64-jo (man's name): KN X 5516 (scribal ?), probably to be restored as [a]-*64-jo.

Thus, in the material published so far, the sign *64 appears 10 times (including the fragment X 5516), of which 8 times in 3 different forms from Pylos, and 2 times (most probably in the same form) from Knossos.

II. The phonological structure of *64.
The Linear B sign *64, as well as its Linear A equivalent (see Sect. IV), occurs: (a) only in medial position; (b) only after a vowel, presumably a; (c) always before syllabograms of the j-series (namely before -ja and -jo).

As the sign *64 is preceded by a vowel in all certain instances, known till now, it should be suggested a priori that *64 cannot repre-
sent a pure vowel, but it stands for a consonant plus vowel (or a consonantal group plus vowel). Moreover, *64 occurs always before syllabograms of the \(j\)-series and this distribution suggests \(i\)-vocalism, as supposed by some scholars. It might be identified not only as \(nwi\) (Gallavotti 1956:24, 26, 115), \(swi\) (Gallavotti 1958:53; Merlingen 1959:1 <15>; Chadwick 1968:63–64; 1988:79; Bartoněk 1987:78), \(ri^2\) (Palmer 1959:431; 1963:22) or \(twi\) (Melena 1995), but also as \(dwi, pti, zi\) or the like.

III. A short review of the values proposed for \(*64\).

Several suggestions for the Linear B sign \(*64\) have been given so far (cf. Vilborg 1960:29; Heubeck 1961:9), but I think that none is convincing enough. With the exception of Georgiev’s suggestion \(pha\), based on an unjust identification of \(*64\) with \(*56\) \(pa_3\) (Georgiev 1956:80) and Tritsch’s \(re_2\) (1958), the remaining proposals contain the sound \(\text{„}i\text{“}\) in the syllable: \(nwi, swi, twi\) and \(ri^2\).

The value \(nwi\) was proposed in 1956 by Carlo Gallavotti on the basis of identifying the man’s name \(a-\ast\,64-jo\) with \(a_3-wi-jo\) PY Na 533 (i.e. in Gallavotti’s transcription \(an-wi-jo\)). However, when it turned out that \(a_3\) stands only for the diphthong \([ai]\) and \(a_3-wi-jo\) represents a Messenian place-name (but not an anthroponym), the Italian scholar has retracted his earlier opinion. He put together the personal name \(a-\ast\,64-jo\) and \(a-sti-wi-jo\) (PY Cn 285.12; Eq 146.11; KN Df 1469.B; MY Au 653.5; Au 657.11) and the ethnic adjectives \(a-\ast\,64-ja\) and \(a-sti-wi-ja\) (PY Fr 1206). Both these comparisons allow him to propose the value \(swi\) for \(*64\) (Gallavotti 1958:53). This view was accepted by Weriand Merlingen (1959:1 <15>) and later developed by John Chadwick (1968:63–64)\(^1\). The second Gallavotti’s hypothesis seems as uncertain as the first one, since both rely on some speculative variant spellings.

Recently, J. L. Melena (1995) classifies the value of \(*64\) as \(twi\) by analogy to his earlier reinterpretation of \(*82\) as \(twa\) and not \(swa\). In my opinion, a better candidate for the syllabic value \(twi\) is \(*19\) (see Witczak 1992). On the other hand, in another paper I suggest that the most probable value of \(*82\) is \(wa_2\) or \(wja\) (Witczak 1993a:120–121), which should be reinterpreted as \(ja_2\), if we accept, following A. Heubeck, the Mycenaean development of \(-wj- > -ij-\).

The competitive value \(re_2\) or \(ri^2\) was firstly reported by Franz J. Tritsch (1958:430, n.48 and 444, n.72), who made a comparison between \(a-\ast\,64-jo\) and the personal names \(a-re-jo\) (KN Vc 208) or \(a-re-i-jo\) (KN Le 641.1; PY An 656.6). In the same time Palmer (1959:431) drew attention to the improbability of the reading \(a-ze-ti-nu-ja\)

\(^1\) Also Bartoněk (1987:78) posits (with a question mark) the value \(swi\) for \(*64\), although earlier he was inclined to accept the value \(re_2\) (Bartoněk 1969:100).
on the Knossian tablet L 1568.a against a-ze-ti-ri-ja elsewhere. The tablet was later examined by G. Huxley, and he found that nu was a misreading by the editors of Knossos Tablets I for the syllabic sign *64, which it resembles in general outline. It followed that if a-ze-ti- *64-ja was an alternative spelling for a-ze-ti-ri-ja, then the value of *64 should be defined as ri₂. Both Tritsch’s and Palmer’s suggestions were adopted by some researchers, e.g. by Deroy (1962:92–93), who unconvincingly suggested the double transcription re₂/ri₂. But the argument is weak, as nowadays the reading a-ze-ti-ri-ja appears to be quite accurate. There is no reason to suggest a doublet value re₂ and ri₂. It cannot be forgotten that when the phonetic value of a sign is being determined, all possibilities of hitherto undiscovered phonetic-syllabic values should first be exhausted, and only then could doublets be supposed. I consider this as the only correct method for further work in the decipherment of the remaining Linear B signs. In this case I do not think that all possibilities have been exhausted for discovering in *64 a syllable which was not among the signs deciphered so far.

IV. „External“ evidence for the value zi.

Taking into consideration the fact that the Linear B sign *64 contains most probably the sound [i], we can suggest (excluding doublets) the following values: dwi, nwi, twi, pti or zi. Four of these values represent the so-called „complex“ signs, the latter one belongs to the fundamental values.

The origin of the „complex“ signs has not yet determined. According to Yves Duhoux (1985:51–53), four among six deciphered „complex“ signs, namely dwe, dwo, pte and two, do not appear in Linear A inscriptions, found till now, and they represent innovational syllabic signs introduced to the Mycenaean syllabary by the Greeks themselves. He thinks, however, that the two remaining „complex“ signs, twe (🏇) and nwa (.borderWidth(48, 91)), were adopted from the Linear A script. In this reasoning he follows J. Raison and M. Pope (1977:60), who identify these complexes with the Linear A signs L66 (Ξ) and L114 (Ἀ), respectively. None of the equations is certain. The first is accepted neither by Daniel Was (1981), nor by Louk C. Meijer (1982) and not even by Louis Godart and Jean-Pierre Olivier (1985:XXII). Differences between these researchers are noteworthy. Was (1981:16) reads the sign L66 as do₂, thus abandoning its resemblance with *87 (twe), Meijer (1982:43, 87–88) prefers an equation of *87 (twe) with L88 (§), while Godart and Olivier find a variant form of a sign to be equated with *87. Meijer (1982:41) classifies the Linear A sign L66 in class 5, which means nothing else than „keine Identifikation möglich“. 
Also in the second case the equation is far from being certain. Meijer (1982:44) considers the Linear A sign L 114 ($\tau\nu\alpha\mu$) as eventually identical ("eventuell identisch") with *48 ($n\nu\alpha\mu$) resembling 'crossed arms', while Olivier (1989:51) decidedly objects to such an equation. We can hardly accept Linear A ancestors for both Linear B signs *48 ($n\nu\alpha\mu$) and *87 ($t\nu\omega$), thus this gives us reason to think that all deciphered "complex" signs in the Linear B script (i.e. $d\nu\epsilon$, $d\omega\omicron$, $p\tau\epsilon$, $t\nu\omega$, $t\omega$ and $n\nu\alpha\mu$) are some innovations made by the Greeks themselves.

It is indisputable that the Linear B sign *64 was borrowed from a Linear A source. As all the deciphered "complex" signs were not used in the Linear A inscriptions and were later added in the Linear B script, we have to take into consideration the fact that the sign *64 contains a consonant plus vowel and belongs rather to the fundamental values than to the doublets and complexes. If so, then the value $\xi\iota$ is to be expected on the basis of "external" evidence.

V. Evidence from scribal conventions.

In connection with the study of handwriting and reading of the Mycenaean inscriptions, three scribal "schools" of using the so-called "complexes" can still be distinguished. The first "school", represented by most Knossian scribes, requires the use of "complex" signs (e.g. $n\nu\omega$, $p\tau\epsilon$, $t\nu\omega$) and resignes throughout from their double equivalents (like $n\nu\omega\nu$, $p\tau\epsilon\tau$, $t\nu\omega\nu / t\omega\nu$). In Pylos, only the scribe No. 43 conforms regularly to the Knossian usages.

The second scribal "school", which used no "complexes", is represented by the Pylian scribe No. 2 (see below). The third liberal "school" grouped the scribes, who tried to use alternatively both "complexes" and their graphical variants (e.g. scribe 26 writes both $d\nu\epsilon$ and $d\nu\epsilon\omega$, scribe 1 uses $d\omega\omicron$ and $d\omega\omicron\omega$, $t\nu\omega$ and $t\omega\nu$, 41 has both $d\omega\omicron$ and $d\omega\omicron\omega$).

It is worth emphasizing that the Pylian scribe 2, who also utilized *64 (see PY Jn 832: $a\ast\nu\epsilon\omicron\ast\ast\epsilon\omicron\ast\ast\omicron$), belonged to the second scribal

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2 According to Olivier (1989:51), "the sign resembling 'crossed arms' is clearly attested as a syllabogram in both the Cretan hieroglyphic and Linear B scripts, but it is absent in Linear A".

3 The same statement refers to the innovational Linear B sign *19, if, of course, the suggested value $t\nu\omega$ (Witczak 1992) is correctly established.

4 The sign L43 is commonly regarded as a Linear A prototype for *64 (Meijer 1982:40; Raison-Pope 1977:60).

5 It is worth emphasizing that all the Linear B signs of the z-series (*17 za, *74 ze, *20 zo and *79 zu?) originate from their Linear A equivalents (L23, L16, L10, L101, respectively), see Raison-Pope (1977:60) and Meijer (1982:39,44).

6 For the evidence, see especially Panagiotou (1987).

group. He declines all the „complexes“ and always writes down two Linear B signs7:

[1] *pe-ru-si-nu-wa* PY Ma 126.1, Ma 225.2 (scribal hand 2) versus *pe-ru-si-nwa* KN So 4442.b (scr. hand 131), *pe-ru-si-nwa-o* PY Ub 1317 (scr. hand 32), *pe-ru-si-nwa* MY Oe 111.1 (scr. hand 51).

[2] *di-nu-wa-ta* PY Jn 725.24 (scr. hand 2) versus *a-di-nwa-ta* KN As 1517.2 (scr. hand 102 ?).


[5] *o-tu-wo-we* PY Jn 725.5 (scr. hand 2) versus *o-two-wo-o* PY An 261.2, 3 (scr. hand 43), *o-two-wo-o* PY An 261.4,5 (scr. hand 1), por. tež *o-to-wo-we-i* PY Vn 851.9 (scr. hand 12).

[6] *to-qi-de-we-sa* PY Ta 711 (scr. hand 2) = *torkidwessa* versus *te-mi-dwe-ta* PY Sa 791, Sa 793 (scr. hand 26), *te-mi-de-wete* PY Sa 1266.a (scr. hand 26) = *termidwenta, -te.*

It is now obvious that the syllabogram *64* cannot belong to the „complex“ signs, such as *dwi, nwi, pti, swi or twi*, for the scribe No. 2, who never utilized the „complex“ signs, is also the author of *64.

The above observations (see IV and V) give us reason to make a test replacing sign *64* with the phonetic value *zi* in all the forms where it appears.

VI. „Internal“ evidence.

The Mycenaean z-series is a separate series which contains at least the three following syllabograms: *za* (*18), *ze* (*74) and *zo* (*20). It is possible to connect the fourth syllabic sign *zu* with Linear B *79*, but the decisive argument is absent.

What was the value of the Mycenaean z-series? The question is still under dispute8. It will therefore be convenient to begin by enumerating shortly those points which have won general acceptance

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7 I omit here three items: *a-ko-to-wo* PY Cn 45.8, Cn 254.9, *de-we-ro* PY Jn 320.4, *me-tu-wo* PY Fr 1202 (scr. hand 2 in all the cases), the shape of which is uncertain.

and those about which there are still differences of opinion. It is generally agreed that:

(a) the results of the Indo-European groups *dy, *gy and in some cases initial *y are all represented in Mycenaean Greek by signs of the same series, the consonant of which is traditionally transcribed by z; it is concluded that these sounds had fallen together by the Mycenaean period.

(b) the results of Proto-Greek *t(h)y, like that of s+s and dental plosive plus s, are represented in Mycenaean Greek by signs of the s-series.

(c) the development of *dy and *t(h)y did not give parallel results in Mycenaean, but the voiceless stop had progressed further towards assimilation than the voiced one.

Various answers have so far been given to the following questions: What was the Mycenaean reflex of Indo-European *k(h)y, and how was it written? What is the character of the variations between the k- and z-series? Are the signs of the z-series also employed to represent voiceless sounds in some cases? What was the phonetic value of the Mycenaean z-series?

In my opinion, *k(h)y had become an affricate or sibilant which was represented in Mycenaean only by s (so Heubeck, Gallavotti, Hart); the k-/z-variations represent evidence for palatalized g before e (so Heubeck, Bartoněk); the signs of the z-series represent only voiced sounds, which might be the palatalized geminates g'g' or the cluster zg' or the affricated geminates like Greek ζ (so Risch, Safarewicz) rather than simple palatalized plosives k'/g' (Palmer, Hart) or simple voiceless clusters such as sk, skh, sk', skh' (Melena).

I do not agree with the opinion that ignoring the distinction between the voiced and voiceless sounds was a normal Mycenaean practice (so Mühlestein, Lejeune, Heubeck, Bartonek and others).9

The above dispersion of opinions reflects the apparently contradictory nature of the somewhat meagre evidence for the Mycenaean phoneme z-. The Classical descendant remains the voiced geminate -zz- (written ζ) and the Mycenaean equivalent cannot be nothing other than a geminate originated from a cluster with *y. As a group ji is structurally impossible in Mycenaean Greek, the syllabogram zi must have been of low frequency. It could appear secondarily in the formations ending with -i-jo/-i-ja, which create the ethnic and patronymic names. The syllabogram zi, as correctly pointed out by Lejeune, was possible only in such secondary formations and probably

9 My opinion is expressed especially in Witczak (1993; 1996), where I prove the existence of the labial opposition between the voiceless p- and the voiced b-series in the Linear B script.
never in others, if, of course, we omit the Pre-Greek distribution, on which nothing concrete can be said\textsuperscript{10}.

The distribution of the sign *64 fully agrees with that expected for the syllabogram zi, thus „internal“ evidence confirms the suggested value.

VII. Lexical evidence.

A. a-zi-ja (PY Aa 701, Ab 515.B), a-zi-ja-o (PY Ad 315; Ad 326).

The ethnic feminine forms a-zi-ja (nom. pl.) and a-zi-ja-o (gen. pl.) are well known from the tablets from Pylos. According to Chadwick (1988:49,58), there are the following occurrences of the ethnic forms in question:


Ad 315: pu-ro, a-zi-ja-o, ko-wo VIR [GRA 10 DA TA NI 10]

Ad 326: re-u-ko-to-ro, ri-ne-ja-o, a-zi-ja-o, ko-wo VIR 3 ko-wo 1

Since the word ri-ne-ja [linejai] 'flax (or linen) workers' (PY Ad 326) represents an occupational term derived from ri-no i.e. λίνον 'linen' (Chadwick 1988:83), it is obvious that a-zi-ja (as correlated with ri-ne-ja) must be a feminine ethnic adjective derived from a toponymical base (see Lingren 1973:II, 28)\textsuperscript{11}. As the designation a-zi-ja applies to thirty five women at Pylos (pu-ro) and Leuktron (re-u-ko-to-ro), we should seek the motivation for this ethnic form in the Pylian (i.e. Messenian) toponym rather than in the primaeval name of the later Lydia, called Aššuwa- in Hittite cuneiform records, i.e. in the Greek name of Asia\textsuperscript{12}. In fact, the ethnic adjective a-zi-ja can be safely derived from the place-name a-zo (PY Cn 485.10),

\textsuperscript{10} The syllabic sign L43, i.e. the Linear A equivalent of *64, occurs twice in one form on two tablets from Hagia Triada (HT 17.1; 19.1).

\textsuperscript{11} I generally agree with Tritsch’s argumentation (1958:430, n. 48): „Since A-64-ja also applies to a very large group of women and children on Aa 701 and Ab 515, this cannot be an individual name, but only an ethnic or an occupational name. If the latter, it would not be easy to find a profession suitable for both men and women, particularly one that was acceptable as a personal name of both. Vn 1191 lists women of high rank (...) who would certainly not bear personal names denoting „mental tasks“, and men like those on KN Sc 261 would not have names denoting typically „women’s occupations“. But the confirmation comes from Ad 326 where a whole group of A-64-ja are described as ri-ne-ja (presumably linen workers) which is undoubtedly an occupational name since it is applied to several other groups (nine in all) in the same way. Consequently, A-64-ja must be the ethnic in this case“. \textsuperscript{12} Cf. Tritsch’s notes on the origin of a-*64-ja/-jo: „Since it occurs several times as a personal name, it is unlikely to come from abroad“ (Tritsch 1958:430, n. 48).
attested in the area of the Mycenaean Kingdom of Pylos (Jorro 1985:125). Thus the term a-zi-ja denotes 'women who originate from the place named a-zo'.

B. a-zi-jo (KN Sc 261; PY Cn 1287; Fn 324; Jn 832).

This denotes a personal name "Aζιος, attested firmly in the Greek inscriptions from Asia Minor (Zgusta 1964:48; Dornseiff-Hansen 1978:335). It is probably a derivate from the man's name "Aζος (Zgusta 1964:48). By analogy, the anthroponym a-ze-o (KN Dv 1226.B) can be equated with the personal name "Aζειος (Zgusta 1964:48).

C. a-zi-ja (PY Vn 1191.2).

The hitherto unknown Greek woman's name *Άζια may underlie the above-mentioned ethnic form. It is not documented, but it represents a feminine variant of the personal name "Aζιος (= a-zi-jo). The anthroponym in question may be easily derived from the ethnic adjective a-zi-ja or alternatively it may be also a diminutive form of the feminine personal name a-zu (a-*79), attested in both Knossos (KN Ap 618.2) and Mycenae (MY Oe 123).

It is clear from this analysis that the value zi for *64 is perfectly suitable in all cases where this sign appears.

Thus, I believe that there are no obstacles to embrace the value zi for the Linear B sign *64. The investigations, as well as „internal“ and „external“ evidence, have confirmed my suggestion.

REFERENCES


