Form and function of clausal particles in the Linear B documents from Pylos

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Abstract

This paper sets out to explore an idiosyncratic linguistic feature only attested on a number of Linear B documents from Pylos, namely the occurrence of sequences of particles in clause-initial, and sometimes also tablet-initial, position. These sequences are *o-a₂*, *o-da-a₂* and *o-de-qa-a₂*. In this paper, a contextual analysis of the form and function of these sequences will be carried out in order to arrive at a plausible, and convincing, interpretation of their usage. The examination of their occurrences is conducted by placing the usage of these sequences of particles within the backdrop of recording procedures of the Mycenaean palatial administration.

Keywords

Mycenaean Greek – Mycenaean Greek particles – *o-da-a₂* – Mycenaean linguistics – Mycenaean epigraphy – Linear B from Pylos

1 Introduction

A number of Linear B tablets from Pylos attest three sequences of clause-initial particles, namely *o-a₂*, *o-da-a₂* and *o-de-qa-a₂*. These are generally taken as coordinating expressions performing the function of introducing a new paragraph, on the same topic as the preceding one, within the body of an inscription as well as linking together consecutive records on separate tablets belonging to the same set.¹ In these latter instances, the sequence is not only clausal-initial,

1 *Interpret.* 57; *Docs*² 563; *DMic* s. vv.; Hooker 1980: 63; Duhoux 1998: 28, Duhoux 2008: 304, Duhoux 2016: 55; Jiménez Delgado 2017: 541.

FIGURE 1 Sequences of clause-initial particles

but also tablet-initial. The standard sequence is likely to be *o-da-a₂*, since the other two, which are seemingly the shortening (*o-a₂*) and the extension (*o-de-qa-a₂*) of the preceding one, occur only once each (Figure 1). This paper aims at elucidating the precise form (Section 2) and function (Section 3) of these sequences of particles.

2 Form

2.1 *Particles forming the sequences*

The sequences under examination are remarkable in that they attest to an accumulation of particles in clause-initial position, which, at least in prose, represent an unusual feature if compared to the behaviour of later Greek.² These sequences arguably comprise at most five particles: four are clearly readable, namely *o-*, *-de*, *-qe* and *-a₂*, while another one, seemingly rendered in the form of a plain *-a*, should be assumed based on the spellings *-da* in *o-da-a₂* and *-qa* in *o-de-qa-a₂*. This is because these spellings seem to be better explained as resulting from the elision of the vowel belonging to the preceding syllable when in contact with the following syllable starting with a vowel rather than the outcome of a regressive assimilation (this latter interpretation was advanced by Ruijgh 1967: 340).³ There is evidence that the particle hidden under the spelling *-qa* is indeed the Mycenaean particle *-qe*, given that on the tablet PY On 300 the final part of the string *o-de-qa-a₂* occurs over the erasure of a previously written *o-de-qe pe-ra* (with *pe-ra* representing the initial syllabic sequence of the following element on the entry, that is *pe-ra-a-ko-ra-i-jo*). This fact also lends support to the interpretation of the string *o-de-qa-a₂* as a lengthened form of *o-da-a₂* by the insertion of the particle *-qe*. By breaking these sequences into constituents, the particles involved turn out to be the following (Table 1).

2 See e.g. Denniston 1954: lviii–lix. For a comparison between Homeric Greek and Mycenaean particles see Duhoux 1998.

3 For issues pertaining Mycenaean writing and spelling rules, see especially: Melena 2014: 21–26; Meissner forthcoming.

TABLE 1 Constituents of Mycenaean
particle chain

1st	2nd	3rd	4th	5th
<i>o-</i>	<i>-de</i>	<i>-qe</i>	<i>-a?</i>	<i>-a₂</i>

1. Clause-initial *o-*
2. Enclitic *-de*
3. Enclitic *-qe*
4. A particle in the form of *-a*
5. A particle in the form of *-a₂*

2.1.1 First element: *o-*

These sequences have been generally taken as extensions of the introductory particle *o-/jo-* (for a detailed overview of possible readings see *Docs*² 467). The particle *o-/jo-* is in most of the cases tablet-initial (and also sentence-initial) and has been taken as deriving from the stem of either the relative (**yo*) or the demonstrative (**so*). Thompson (2002–2003: 325, 328) advances good reasons for taking it as an adverb /hō/ built to the stem of the relative **yo* with a meaning comparable to ‘how’.⁴ He explains the alternation between the two forms by regarding *jo-* as the ancient, historical spelling (only employed by Hand 1 and Hand 2, the most conservative scribes at Pylos), while *o-* as the current spelling, representing the outcome of the sound change *y > /h/* (with initial /h/ not represented in the script).⁵ A slightly different interpretation has been put forward by Probert (2008). Although agreeing with Thompson in considering *o-/jo-* as forms built to the stem of the relative, Probert interprets the different spellings as distinct case-forms of the relative pronoun, taking *o-* as the accusative neuter singular and *jo-* as the nominative masculine plural. Instead, both Duhoux (1998: 29) and Jiménez Delgado (2017: 538) argue for taking the first element

4 Thompson (2002–2003: 324) sensibly points out that “The idea that the *jo-* forms represent something built to the relative stem **yo* while the *o-* forms are built to the demonstrative stem **so-* (Greek *ὁ, ἡ, το*) can be rejected since the two are found in absolutely identical contexts, and with absolutely identical function”.

5 Mycenaean shows examples of the sound change **s > /h/* in initial and intervocalic position, as e.g. the occurrences of *a₂* demonstrate (see especially Pierini 2012). Some pieces of evidence would suggest that also initial **y* followed the same development, i.e. **y > /h/* (see especially Pierini 2012: 130–135; Jiménez Delgado 2008: 87–89), although this is slightly more controversial. On aspiration (and its representation) in Mycenaean, see Jiménez Delgado 2008.

o- in the sequence *o-da-a₂* as derived from the stem of the demonstrative (**so*), given that the sequence shows no instances of alternative spelling in *jo-*.

2.1.2 Second element: *-de*

The second particle has been interpreted as the enclitic particle *-de*, performing the function of clause-connective—attested, e.g. in Mycenaean *da-mo-de-mi*—to be compared to later Greek δέ (see *DMic* s.v.). A reading as /hōde/ seems unlikely in the light of *o-a₂* being taken as a shortening of *o-da-a₂*, thus supporting the assumption that the beginning *o-de-* of the sequences comprises two distinct particles.

2.1.3 Third element: *-qe*

The interpretations advanced to account for the third particle of the sequence have been the most bizarre (see list in *Docs*² 467). However, since the only comparable particle attested in Mycenaean is enclitic *-qe*, to be related to alphabetic Greek τε, it seems more sensible to suppose its presence here rather than advocating the occurrence of another, otherwise unattested, particle (although this latter hypothesis cannot be excluded *a priori*). The weak point of this assumption is that *-qe* is unlikely to be taken as clause-connective in this context due to the comparable interpretation given to *-de* in the sequence (see above). In fact, in case we wanted to take both *-qe* and *-de* as performing a clause-connective function, we should assume some kind of redundancy (cf. e.g. τε καί).⁶ Therefore, it is likely that in this sequence of particles *-qe* might have performed a different function. In this respect, it is worthwhile pointing out that Pylos is the only site providing us with further evidence of a non-connective behaviour of *-qe*, alongside its standard connective function. This non-connective behaviour is assumed in those contexts where *-qe* occurs attached to a verbal form, namely *e-ke-qe* ‘(s)he has’ and *e-ko-si-qe* ‘they have’.⁷ In these instances *-qe* cannot be taken as performing a connective function due to the contexts making its

6 For a discussion of the uses of the Mycenaean particles *-qe* and *-de*, see Ruijgh 1966.

7 *e-ke-qe* occurs at Pylos on tablets of the Eb and Eo series (Hand 41), on tablets of the Ep series (Hand 1), and on Va 15.2 (Stylus Group Cii). *e-ko-si-qe* occurs at Pylos on An 724.11 (Hand 1) and Eb 321.A (Hand 41). A possible non-connective behaviour of *-qe* may also be assumed in those instances where *o-u-qe* occurs alone, i.e., not in correlation with another negative, and appears to behave as a simple negation (‘not’). This happens on: KN Sd 4405.a, 4412.a, 4416.a, 4422.a.b, 4450.b; PY Aq 64.3.4, Eb 149.1, PY Ep 613.4. However, the behaviour of *-qe* in simple negative *o-u-qe* is likely to be given a different interpretation from non-connective *-qe* as used in Pylos after a verb. On Mycenaean *o-u-qe*, see Salgarella 2018. On the non-connective behavior of the Mycenaean particle *-qe*, see ultimately Salgarella forthcoming (with further bibliographical references).

interpretation as a coordinating particle hard to assume. However, the precise function of the so-called “non-connective *-qe*” still remains unclear.⁸

2.1.4 Fourth element: *-a*

The presence of a particle spelled as *-a* has been hypothesised on the assumption that Ruijgh's proposal of a regressive assimilation in order to account for the spelling *-da* in *o-da-a₂* should be dismissed in the light of the form *o-de-qa-a₂*, which clearly preserves *-de*. In fact, if a regressive assimilation were involved, we would expect the spelling *-da* to occur in *o-de-qa-a₂*, given that *o-de-qa-a₂* is regarded as an enlargement of the previous string. The strongpoint of this assumption rests on the fact that no other similar cases of regressive assimilation in a syllable endowed with a proper function seem to be attested so far. On the other hand, on this assumption, it is problematic to claim the existence of an element difficult to account for and not elsewhere attested. In searching for a possible alphabetic Greek parallel which could represent a particle spelled as *-a-* according to Mycenaean spelling rules, the most suitable candidate is $\check{\alpha}\rho\alpha$.⁹ In this specific context the particle would have occurred in the form $\check{\alpha}\rho$,¹⁰ which would be written as *-a-*, given that in Mycenaean /r/ is not written in word-final position. However, a problem arises when considering that in this context the final /r/ of $\check{\alpha}\rho$ does not occur in word-final position, since the particle is here followed by another syllable. In this respect, we may have expected /r/ to be written. According to Mycenaean spelling conventions, liquids, when occurring in word-internal position, are not written before stops (e.g. *ka-po* /karpos/ ‘fruit’), and may not be written before nasals and /w/, as well (e.g. *a-mo* /armo/ ‘wheel’, *ko-wo* /korwos/ ‘boy’).¹¹ Thus, in case of $\check{\alpha}\rho$ the lack of the spelling of /r/ might be similarly explained by the fact that /r/ appears in the coda of a syllable followed by another syllable starting with a consonant, namely /h/ belonging to the sequence /ha/ implied by the presence of *-a₂*.

8 On non-connective *-qe* see especially: Ruijgh 1966; Lillo 1996; Ruipérez 1997; Salgarella forthcoming.

9 Duhoux 1998: 30; Jiménez Delgado 2017.

10 $\check{\alpha}\rho$ instead of $\check{\alpha}\rho\alpha$ is often employed in Homer before consonants, e.g. *Iliad* XIII, 307 (Deniston 1954: 32; Chantraine 2009: 96).

11 An exception is apparently *a-ra-ru-wo-a₂* /ararfoha/, neuter plural perfect participle from a root $\ast\check{\alpha}\rho$, where /r/ in the coda of a syllable is spelled as *-ru-* with *-u-* as a “dead vowel”. In this case, since /r/ belongs to the verbal root, this spelling may have been employed to make the word more intelligible, as it would clearly be anomalous to spell the reduplication in full but not the root. On Mycenaean spelling rules, see: Melena 2014: 21–26; Meissner forthcoming.

Otherwise, the lack of the spelling of /r/ may mean that the particle represented by $-a_2$ occurs in juxtaposition with $\check{\alpha}\rho$, which, being perceived as an independent word, is spelled as if presenting /r/ in word-final position. Besides, it is worth noting that, since $o-da-a_2$ and $o-de-qa-a_2$ are strings of particles and not (strictly speaking) lexical items, each particle contained in the sequence may have been treated as an independent element to some extent. In past readings, the presence of $\check{\alpha}\rho\alpha$ was proposed to account for the final syllable $-a_2$ of the strings (*Docs*² 467). In my view, this interpretation is difficult to hold because $\check{\alpha}\rho\alpha$ does not present the initial aspiration marked by $-a_2$ (as clearly pointed out by Ruijgh 1967: 340). In conclusion, assuming the presence of a particle $-a$, which may represent the Mycenaean spelling of alphabetic Greek $\check{\alpha}\rho\alpha$, represents a proposal which could fit the context adequately, accounting at the same time for both the lack of an expected regressive assimilation in $o-de-qa-a_2$ and the absence of the aspiration implied by $-a_2$.

2.1.5 Fifth element: $-a_2$

The element represented by $-a_2$ has been the most controversial. Dismissing its reading as $\check{\alpha}\rho\alpha$ (given that the preceding particle is more likely to be interpreted as such), further interpretations have been advanced. Risch (1968: 694, 696) proposes that $-a_2$ might represent a particle which is paralleled by Hittite $-san$ and still preserved in Mycenaean, but disappeared later on. Bader (1967: 366–368) proposes a possible relation of $-a_2$ with the Hittite particle $-ya$ ‘and’, which may be objected to because Mycenaean employs enclitic $-qe$ with the function of the coordinating particle meaning ‘and’. Following another track, Duhoux (1998: 30, 2008: 304) takes $-a_2$, read as /hāi/, as a form of the relative pronoun and supports his assumption by comparing it to the Heracleian Doric occurrences $\check{\alpha} \mu\acute{\epsilon}\nu \dots \check{\alpha} \delta\grave{\epsilon} \dots$ ‘on the one hand ... on the other hand ...’. Finally, Dunkel (2014: 346) takes $-a_2$ as deriving from $*h_2i-a$ representing an “adverbiale Ableitung” from the Proto-Indo-European particle $*h_2o$, with $*h_2i$ as “Suppletivvariante”. All these considerations are taken into further account in the following interpretation of the form of the sequences, which is advanced here.

2.2 Tentative explanation

As far as the first element is concerned, it is doubtful that it is the same as initial $o-/jo-$ for a number of reasons. First, the very scribes who show alternation between the spellings $o-$ and $jo-$ in clause-initial position, namely Hand 1 and Hand 2, are also the only ones together with Hand 21 to employ $o-da-a_2$. However, $o-da-a_2$ is never spelled with $jo-$, but consistently with $o-$. Given that these scribes are understood to have been the most trained and learned

in Pylos,¹² such a pattern may not be merely due to chance. In particular, since *o-/jo-* is likely to be a form built to the relative stem **yo*, the initial *o-* of these strings is more likely to represent a form built to the demonstrative stem **so*, as sensibly suggested by Jiménez Delgado (2017: 538). This explanation may effectively account for such a consistent spelling in *o-*. In fact, by the time of the tablets, Proto-Indo-European **s* had already undergone a process of sound change **s* > /h/ and, since Linear B does not possess a series of syllabograms to render aspiration apart from *a₂* /ha/, the outcome /ho/ may be rendered by the same syllabogram employed for the vowel /o/. Moreover, it should be pointed out that this first element needs to be a tonic one, as it clearly functions as host for the following enclitic *-de*, which occurs in second position in accordance with Wackernagel's Law,¹³ and is in turn followed by other particles. In these terms, the first element may be parallel to the alphabetic Greek adverb *ὥς*, which is built to the stem of the demonstrative **so* and, by bearing the accent, is opposed to *ὡς*, built to the stem of the relative **yo*.¹⁴ Moreover, in contrast to the cataphoric function performed by relative *ὡς*, demonstrative *ὥς* generally has an anaphoric function. An anaphoric function attributable to the first element of the sequence *o-da-a₂* would indeed explain the employment of *o-da-a₂* as a linking device referring to a preceding record. Another possible interpretation may be put forward on the basis of a parallel with Hittite and Old Irish. Watkins (1963) pointed out that these languages preserve a series of clause-initial connectives which can be paralleled both formally and syntactically: these are Hittite *nu*, *tu*, *šu* and Old Irish *no*, *to*, *so*, deriving from the stem of the deictic pronouns **(e)no-*, **to-*, **so-* and generally followed by enclitics. Watkins proposed to relate Mycenaean *o-/jo-* to these connectives. This, however, is difficult to maintain not only because *o-/jo-* is plausibly etymologically related to **yo* and not to **so*, but also because it does not seem to act as clause-connective. However, in my view, Watkins' proposal should not be dismissed entirely, as just a slight correction may be needed to make sense of the parallel. On the assumption that *o-* in *o-da-a₂* is different from *o-/jo-*, which is arguably a formation from the demonstrative **so*, the Hittite and Old

12 See especially Palaima 1988. Thompson (1996–1997: 327–329) has also pointed out that Hand 1 and Hand 2 are linguistically conservative for being the only scribes retaining historical spellings.

13 Wackernagel's Law states that in Indo-European syntax, clitic (unstressed) elements are placed after the first accented element in a clause, therefore occurring in syntactic second position (Wackernagel 1892). This Law is respected in Mycenaean, as shown by *da-mo-de-mi* occurring at the beginning of a clause, where enclitic *-de* occupies the second position after the noun *da-mo*.

14 *DELG* s.vv. 1 ὥς and 2 ὡς.

TABLE 2 Hittite particle chain

1st	2nd	3rd	4th	5th
connective particle: <i>-ya-</i> , <i>-a-</i> , <i>-ma-</i> ('and') or <i>-man-</i> ('but')	particle of indirect speech: <i>-wa(r)-</i>	enclitic forms of the 3rd person pronoun	reflexive pronoun: <i>-z(a)-</i>	'local particle': <i>-kan</i> , <i>-san</i> , <i>-an</i> , <i>-(a)pa</i> , <i>-(a)sta</i>

Irish connectives may find a correspondence in this initial *o-* instead of in *o-/jo-*. Moreover, an equivalence might be specifically posited between Hittite *šu*, Old Irish *so* and Mycenaean *o-*, provided that they developed from the demonstrative stem **so*. As for the other particles included, it should also be noted that a long sequence of particles makes Mycenaean peculiar compared to later Greek, which does not share this feature.¹⁵ However, Hittite makes considerable use of the so-called “particle chain” of enclitics, comprising up to six particles in fixed order,¹⁶ as shown in Table 2.

It is worth noting that the precise sequence of the Hittite particle chain seems to be reflected in Mycenaean too. This could give us a clue for a closer interpretation of the particles included in the Mycenaean sequences. Specifically, the first particle of the Hittite chain is an enclitic clause-connective, either with copulative value “and” (*-ya-*, *-a-*, *-ma-*) or adversative “but” (*-man-*): in *o-da-a₂* this value may be shown by *-de*. In second position in Hittite, a particle of indirect speech (*-wa(r)-*) can occur, which is not attested in Mycenaean. For the next element in the chain, Hittite requires the enclitic forms of the third person pronoun: Mycenaean attests a similar sequence in *da-mo-de-mi* (no personal pronoun is indeed required in a form such as *o-da-a₂*).

The last two places of the Hittite chain are filled with the reflexive pronoun (*-z(a)-*), which is not attested in Mycenaean, and a “local particle” (*-kan*, *-san*, *-an*, *-(a)pa*, *-(a)sta*), conveying relational rather than lexical information; if we admit the abovementioned parallel, a similar usage may be supposed for *-a₂*. In particular, this final particle may have been comparable to Hittite *-san* since, reckoning with both the phonology of Mycenaean and its spelling rules, a particle comparable to *-san* may have been spelled as /ha/, implied by *-a₂*, under the assumption that Indo-European initial pre-vocalic, and intervocalic **s* had

15 On occasion, alphabetic Greek may show agglomerations of particles in clause-initial position, somewhat comparable in function to those possibly comprised in the sequence *o-da-a₂* (Perpillou 1978), but without a close parallel.

16 Kammenhuber 1979; Rosenkrantz 1979; Luraghi 1990: 12–15.

already developed into /h/ by the time of the tablets. Another possible candidate to account for $-a_2$ performing a kind of “local” adverbial function may be an adverbial formation deriving from the stem of the relative, since there seems to be evidence in Mycenaean that $-a_2$ could represent /ha/, showing aspiration due to the loss of either $*s$ (most frequently) or $*y$.¹⁷ In these terms, it is worth mentioning that Dunkel (2014: 346 n. 1) explains $-a_2$ occurring in $o-da-a_2$ as an adverbial derivation $*h_2i-a$ from Proto-Indo-European particle $*h_2o$, having $*h_2i$ as “Suppletivvariante”. However, the weak point of Dunkel’s proposal is that this posited particle does not have any actual parallels.

3 Function

The apparent function of the sequences was to introduce and link together consecutively paragraphs or tablets having the same topic, most often in order to avoid the repetition of some information previously booked (e.g. a heading).¹⁸ However, despite performing this overall similar function, the sequences seem to be employed in a slightly different manner depending on the series of tablets preserving them. In particular, since in this case each series is by a different hand, the slightly inconsistent usage of the sequences appears to be contingent upon each scribal hand. A complete list of the attestations is given below (Table 3), along with an overview of the different layout structures which can be identified on page-shaped (Figure 2) and palm-leaf (Figure 3) tablets respectively, with reference to the series preserving each one.

The elements in the series are next examined as to whether they preserve the standard sequence $o-da-a_2$ or the variant sequences $o-a_2$ and $o-de-qa-a_2$.

3.1 Standard sequence

3.1.1 Aq series (Hand 21)

As we have it, the Aq series consists of only two tablets (Aq 64 and Aq 218), made up of consecutive paragraphs, all introduced by $o-da-a_2$ except for the first paragraph of Aq 64, which may thus have been the initial tablet of the series. However, as Aq 64 is *mutila* on the upper left side, the possible presence

17 I am referring to $qe-te-a_2$, which is also attested as $qe-te-jo$ in the singular; and toponyms beginning with a_2-ki- , possibly related to $*yag-$ (e.g. $a_2-ki-ra$, $a_2-ka-a_2-ki-ri-ja-jo$, $a_2-ka-a_2-ki-ri-jo$). However, the latter group is much more uncertain.

18 *Interpret.* 57; *Docs*² 563; *DMic* s.vv.; Hooker 1980: 63; Duhoux 1998: 28, Duhoux 2008: 304, Duhoux 2016: 55. In particular, Jiménez Delgado (2017: 541) would see such a connective function performed by the particle spelled as $-a$, which he reads as $\check{\alpha}p(\alpha)$.

TABLE 3 Occurrences of clausal particles sequences

Sequence	Occurrence	Scribal hand
<i>o-a₂</i>	Vn 20.1	25
<i>o-da-a₂</i>	Aq 64.12	21
	Aq 218.1.9	21
	Ed 317.1	1
	Ed 847.1	1
	Ed 901.1	1
	En 74.2.12.21	1
	En 609.4.11	1
	En 659.2.9.13.16.19	1
	Eq 36.4.6.10.12.15	1
	Eq 146.1.3.4.5.9.11	1
	Eq 213.3.4.5.6	1
	Ma 90.2b	2
	Ma 120.2	2
	Ma 123.3	2
	Ma 124.2	2
	Ma 193.3	2
	Ma 221.2	2
	Ma 225.2b	2
	Ma 365.2	2
	Ma 378.2b	2
	Ma 393.3	2
	Ma 397.3	2
	Un 718.7.11b	24
<i>o-de-qa-a₂</i>	On 300.8	Cii

of *o-da-a₂* at the beginning of its first paragraph cannot be ruled out. Besides, since it also preserves lines left blank at the end, unlike Aq 218, the order might have been the reverse with Aq 218 preceding Aq 64 and arguably preceded by another tablet due to Aq 218 showing *o-da-a₂* in the first paragraph. In my view, this interpretation is more plausible given that *o-da-a₂* does not seem to repeat any element of the first paragraph of Aq 64; on the contrary, in each paragraph of the diptych the string precedes a different heading, pointing to diverse recording subjects (the commodities booked are *171, *VIR* and an unknown one always in the quantity of *ZE* 1). As a result, the function of the string seems

Structure 1 Separate paragraphs without heading	Structure 2 Separate paragraphs with heading	Structure 3 Single paragraph
<div><div>.1 .2 ...</div><div>.1 <i>o-da-a₂</i> .2 ...</div><div>.1 <i>o-da-a₂</i> .2 ...</div></div>	<div><div>.1 (heading) .2 <i>o-da-a₂</i> .3 .4 ...</div><div>.1 (heading) .2 <i>o-da-a₂</i> .3 .4 ...</div></div>	<div><div>.1 (heading) .2 <i>o-da-a₂</i> .3 <i>o-da-a₂</i> .4 <i>o-da-a₂</i> ...</div></div>
Aq series, Un718	En series	Eq series

FIGURE 2 Layout arrangements on page-shaped tablets

here to be related to the specific nature of the transaction rather than to linking records with the same topic. What is more, there are clues pointing to this transaction as being a prospective one, i.e. a future contribution, since the verb *a-ke-re-se* in Aq 64 is best taken as a future (*DMic* s.v.) and the heading *a-na-ke-e o-pe-ro-te* on Aq 218.1 may be intended as “those who are required/obliged to perform military service” (assuming that *o-pe-ro-te* had a meaning comparable to that of alphabetic Greek $\delta\phi\epsilon\iota\lambda\omega$). Therefore, the function of the string may have been to indicate that the records were relative to the same kind of transaction.

3.1.2 Ed, En, Eq series (Hand 1)

The Ed, En, Eq series record land-holdings and are all by Hand 1. This scribe appears to have employed *o-da-a₂* in different ways according to tablet series. The Ed series consists of five tablets: four by Hand 1, where *o-da-a₂* occurs at the beginning of the first of two lines (except for Ed 236 and Ed 411 without the string), and one (Ed 411) by both Hand 1 and Hand 41. The contents of the records are the same, namely land holdings of the type *o-na-to* (‘beneficial plot

Structure 1		Structure 2	
Tablet 1	<div><div>.1 <i>o-da-a₂</i></div><div>.2</div></div>	Tablet 1	<div><div>.1</div><div>.2 <i>o-da-a₂</i></div></div>
	<div><div>.1 <i>o-da-a₂</i></div><div>.2</div></div>		<div><div>.1</div><div>.2 <i>o-da-a₂</i></div></div>
...		...	
Ed series		Ma series	

FIGURE 3 Layout arrangements on palm-leaf tablets

of land’) given to important people. However, there does not seem to be a heading on Ed 236 either, which does not show *o-da-a*₂ and is seemingly the first tablet of the series.¹⁹ Thus, if the string repeats something, it is not clear what, since all or almost all the elements are booked repeatedly every time. In this case, it makes more sense to regard the string as a device to refer to the same kind of transaction. The En series consists of four tablets by Hand 1, showing *o-da-a*₂ (except for En 467) at the beginning of the second line, and contains the totaling documents of the corresponding Eo series. On the basis of the internal structure of the entries, the sequence of the tablets seems to be: En 609 (presenting the heading), En 74 (long paragraphs like the previous tablet), En 659 (with short bookings at the end), En 467 (only three short entries, without *o-da-a*₂).

As for paragraph structure, each paragraph shows formulaic expressions in the following order: first line specifying the land-holder (*te-re-ta*) and the total extent of land, second line with *o-da-a*₂ introducing the list of his beneficiaries (*o-na-te-re*), following entries listing one by one the *o-na-te-re* with the extent of their *o-na-to*.²⁰ Contextually, *o-da-a*₂ seems to function as a specification of the previous heading by introducing the specific list of *o-na-te-re* rather than repeating any previous information. In fact, when *o-na-te-re* are not recorded (as on En 467), *o-da-a*₂ does not occur.

19

As in *PTT* I 109–110.

20

On the formulaic expressions in the landholding documents from Pylos and their interpretation, see also Jiménez Delgado 2005.

The Eq series consists of three tablets by Hand 1, preserving *o-da-a₂* seemingly delimiting consecutive booking sequences concluded by *to-so-de pe-mo* ('total land extent'). Eq 36 and Eq 146 record land extents in relation to individuals, while Eq 213 represents an inspection of land-holdings at different places carried out by an officer. As for Eq 36 and Eq 146, since *o-da-a₂* is preserved on the first line of the latter, it may have followed the records of the former, which, despite being highly fragmentary, seems to preserve a heading (ll. 1–2). If this is the case, arguably the structure is similar to that of the En series by Hand 1 with *o-da-a₂* possibly functioning as a device to refer to the same kind of economic procedure being involved. A heading is clearly present on Eq 213, followed by consecutive entries beginning with *o-da-a₂*. Given the brief entries and the presence of the heading, the use of *o-da-a₂* seems to be redundant. However, it may well have functioned here as a means to avoid the repetition of the long heading as much as a device for specifying that the kind of administrative procedure was the same.

3.1.3 Ma series (Hand 2)

The Ma series consists of eighteen tablets, of which eleven contain *o-da-a₂* introducing the final entry. The tablets record under three consecutive entries the assessment of payment of different commodities²¹ in relation to a specific place (l. 1), the amount so far paid (*a-pu-do-si*) during the current year or the deficit from the previous year (*o-pe-ro*) (l. 2), an exemption granted to a group of contributors (l. 3). Here the string introduces neither a new paragraph nor a new tablet, but only a new entry, which is, moreover, the last one, stating an exception. Hence, *o-da-a₂* seems to mean 'concerning the same kind of transaction', followed by the specification of the entities involved in it, but without performing any mere linking function between separate components.

3.1.4 Un series (Hand 24)

Un 718, along with Er 312, Er 880 and Wa 731, form the so-called "*dossiers sa-ra-pe-da*" (Lejeune 1973) written by Hand 24: the Er tablets record land-holdings on the basis of which the prospective contributions recorded on Un 718, arguably representing religious offerings (*do-so-mo*) given to Poseidon, are assessed. Here *o-da-a₂* might well stand for the heading, since the following paragraphs only specify the different contributors (in the second paragraph the verb *do-se* is also repeated). However, since every paragraph involves the same type of

²¹ On the commodities recorded on the Ma series, see Killen 2008.

contribution, the hypothesis of *o-da-a₂* performing the function of indicating the specific kind of transaction fits here as well.

3.2 *Variant sequences*

3.2.1 Vn 20 (Hand 25): *o-a₂*

This is the only tablet written by Hand 25 and deals with the disbursement of large amounts of wine to several districts (Palaima 1988: 91). The string differs from *o-da-a₂* inasmuch as *o-a₂* appears in tablet-initial position without apparently functioning as link to any previous tablet. Thus, there seem to be two possible explanations for this circumstance: (1) The tablet was preceded by another one which has not been preserved and thus *o-a₂* served to link them together, performing the supposed “introductory linking function”. However, this tablet seems to contain the heading (ll. 1–2), so that *o-a₂* was not meant here to stand for the heading of a previous tablet. Nevertheless, it could simply have been a mark to indicate that the two tablets were somehow related in content (maybe in relation to either the recorded subject or the toponyms involved). Or (2), *o-a₂* was employed here with a function different from the abovementioned one, an assumption that can be supported by the fact that this string does not contain the connective particle *-de*, which seems to have acted as the chief linking element. However, we cannot exclude the possibility that the lack of *-de* in *o-a₂* could simply be a scribal omission.

3.2.2 On 300 (Stylus Group Cii): *o-de-qa-a₂*

This severely damaged tablet records quantities of an unknown commodity (*154) along with local officials (*ko-re-te*), each defined by a place-name adjective deriving from the district centres forming the two Provinces (Hither and Further) of Pylos. The first paragraph, whose text is mostly missing (in lacuna), lists the officials of the Hither Province, while the second, seemingly introduced by the string *o-de-qa-a₂*, those of the Further Province. Besides, the second paragraph seems to be headed (l. 7) by the *da-mo-ko-ro* ‘the Province governor’ defined as *pe-ra-a-ko-ra-i-jo* (l. 8) ‘of the Further Province’, whereby it is likely that the *da-mo-ko-ro* of the Hither Province headed the first paragraph as well. As to the function of *o-de-qa-a₂*, since a possible heading (*da-mo-ko-ro*) seems to occur, the string might have been employed to indicate that the paragraphs are related in content. Besides, given that the adjective *pe-ra-a-ko-ra-i-jo* referred to *da-mo-ko-ro* occurs after *o-de-qa-a₂* on l. 8, it may be thought that the string was employed with the function of specifying the information recorded on the above line, which might have been the role played by the inserted particle *-qe*. However, anything more is difficult to say due to the severely damaged state of the preserved text.

4 Conclusions

There is good reason to believe that the first element introducing the strings *o-a₂*, *o-da-a₂* and *o-de-qa-a₂* is different from initial *o-/jo-*, given that the first element is always spelled as *o-* and, what is more, this spelling is consistently used by the very same hands who elsewhere show alternation *o-/jo-*. Therefore, I would endorse Jiménez Delgado's interpretation that the first element *o-* originated from the demonstrative stem **so*, in contrast to *o-/jo-* built to the relative stem **yo*. In support of this interpretation goes the fact that this first element needs to be stressed, given that it acts as host for the following enclitics occurring in the Wackernagel position. In these terms, it can be paralleled with the alphabetic Greek demonstrative adverb ὤς, which differs from relative ὡς in bearing the accent.

As to the other particles included, apart from those readily intelligible (*-de*, *-qa*, *-a₂*), another particle spelled as *-a* occurring in penultimate position can be detected on the basis of the spellings *o-da-a₂* and *o-de-qa-a₂*. Jiménez Delgado (2017) advances good arguments to posit that the underlying particle might have been one comparable to alphabetic Greek ἄρα, specifically occurring in the form ἄρ. Turning to the other elements, a significant parallel is offered by the Hittite particle chain, which is apparently reflected, at least in part, in these strings. On this assumption, the Hittite chain may lend support to: (1) the Mycenaean second element *-de* performing a connective function similar to that performed by the Hittite equivalents; and (2) the Mycenaean final element *-a₂* representing a "local particle". In particular, a candidate suitable for such a comparison may be Hittite *-san*, which may have been spelled as *-a₂* according to Mycenaean phonological and spelling rules.

Finally, a particle seems to be left aside, namely *-qe*, which generally acts as connective in Mycenaean. However, since in these strings, based on the previous argumentation, the connective function seems to be performed by *-de*, the function of *-qe* becomes difficult to determine, also in the light of the single attestation of *o-de-qa-a₂*. Thus, unless supposing a redundancy of connectives, here we may be faced with its "non-connective" function. As to the function of the string, apart from *o-a₂* and *o-de-qa-a₂*, which occur only once each, *o-da-a₂* seems to have been employed in a slightly different manner according to the series of tablets where it appears. In the case of page-shaped tablets, the simplest structure is that preserved on the Aq tablets and on Un 718, where *o-da-a₂* occurs at the beginning of consecutive paragraphs but the first of the series. A similar structure is preserved on the En series, but there *o-da-a₂* occurs at the beginning of the second entry preceded by a heading. Instead, on the Eq tablets, *o-da-a₂* occurs at the beginning of consecutive entries within a para-

graph, which may also be introduced by a heading (as on Eq 213). With respect to palm-leaf tablets, *o-da-a₂* may either occur at the very beginning (as on the Ed series) or be preceded by an entry (as on the Ma series). However, in this latter series, in contrast to the other ones, the string seems to possess an adversative value by introducing an exception to the previous transaction.

Overall, on the basis of the extant evidence it is hard to find a unifying explanation. Nevertheless, the point I would like to make is that the function of the string(s) seems to be more related to the specific nature of the transaction, functioning as a device to indicate that the records involved the same kind of transaction, rather than merely indicating a link between consecutive records. Moreover, the evidence provided by the Ed palm-leaf tablets leads one to suppose that the presence of *o-da-a₂* on page-shaped tablets might be a relic of the string being initially employed on separate records to refer to the same kind of transaction and subsequently copied together with the records when page-shaped tablets were compiled.

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List of abbreviations

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- Docs*² Ventris, Michael & John Chadwick. 1973 [1956]. *Documents in Mycenaean Greek*. 2nd edn. Cambridge: Cambridge University Press.
- DMic* Aura Jorro, Francisco & Francisco Rodríguez Adrados. 1985–1993. *Diccionario micénico*. Madrid: Consejo Superior de Investigaciones Científicas.
- Interpret.* Palmer, Leonard R. 1963. *The interpretation of Mycenaean Greek texts*. Oxford: Clarendon Press.
- PTT I–II* Bennett, Emmett L. Jr. & Jean-Paul Olivier. 1973–1976. *The Pylos tablets transcribed*. Rome: Edizioni dell'Ateneo.

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