

## Nunation from Arabic to Maltese

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### Abstract

This article discusses Maltese words containing an innovative final /n/, arguing that /n/ addition is motivated by speakers' expectation that lexical items resemble prototypical Maltese phonological words. /n/ is added to items that deviate from this prototype in containing a word-final stressed open syllable. Syllable closure through consonant addition eliminates this deviation. /n/ is the consonant chosen because of its pre-existing alternation with zero word-finally. Discussion of the details of this process and the items it does (not) affect sheds light on the history of Arabic and Maltese, as well as on the nature of irregular phonological change in general.

**Keywords:** loanword adaptation, etymology, syllable, paragoge

### 1 Introduction

In his article *Maltese etymological notes*, Saydon (1965: 72) observes that: “[i]t is a fact, hardly noticed by Maltese scholars, that foreign words ending in an accented vowel add a final consonant when they pass into Maltese, thus Ital. *gioventù* becomes in Maltese *ġuvintur*; Eng. *sofa* becomes *sufan*; Eng. *blue* becomes *blun*; Eng. *jury*, pronounced *ġurì*, becomes *ġurin*; Eng. (grain of) *coffee*, Ital. *caffè*, becomes *kafen(a)*, etc.” It is true that this phenomenon has received scant attention. In the period since the publication of Saydon's article it seems to have gone unmentioned other than in Aquilina's (1987: s.v. *N*) note in his dictionary that /n/ may appear as “a post vocalic accretion in the final open syllable, mainly in a few Eng[lish] loan-words. Exx. M[altese] *blun* ‘blue’; M[altese] *skrun* ‘screw’.” The purpose of the present article is to subject this phenomenon to detailed scrutiny for the first time: to produce as complete a list as possible of Maltese lexical items in which we find an etymologically unexpected final consonant (typically, but not exclusively, /n/); and, more importantly, to offer a reconstruction of how and why these consonants came to be added.<sup>1</sup> We will see in the course of our investigation that this topic intersects with

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<sup>1</sup> Earlier phases of the research for this article were presented at the 7th International Conference on Maltese Linguistics (*Lingwistika Maltija*) in Kraków, and the 4th Edinburgh Symposium on Historical Phonology, in July and December 2019. Our thanks are due to the audiences at both conferences for their valuable feedback. Note that in one important respect – concerning the etymology of the final /n/ in Maltese *xejn* ‘nothing’ – the analysis proposed here is quite different from that presented in 2019. This rethink is in large part the result of crucial input from Lameen Souag, to whom we would like to

and sheds light on some foundational issues in Arabic and general historical linguistics. These include: the nature of nominal inflection in the earliest stages of spoken Arabic, cognitive motivations for loanword adaptation, and how morphological regularities can feed irregular phonological change.

The article is structured as follows. §2 sets out the data and provides an initial sketch of our analysis. §3 then considers the reverse phenomenon, namely instances of inherited word-final /n/ which alternate with zero, these alternations being central to our account of how /n/ later comes to be appended to the items listed in §2. In §4 we consider the provenance of final /n/ in *xejn* specifically, an item whose etymology turns out to have important implications for our understanding of the history of Arabic. §5 then presents in detail our analysis of the factors motivating /n/ addition in the majority of items presented in §2, while §6 discusses the details of the etymology of all of these items. §7 concludes.

## 2 Data

In this section we first list the items under consideration, together with an initial indication of their likely etymologies, in Tables 1–5. We then provide an outline of our proposed analysis.

The items under consideration are arranged as follows. Table 1 presents every example we have been able to find,<sup>2</sup> in which the occurrence of an etymologically unexpected final /n/ is a normal part of standard Maltese (or used to be, in the case of items which have fallen out of regular use). As we will see in §3, several of the Arabic-derived items in Table 1 (in addition to a number of other Arabic-derived items whose final /n/ is not an innovation) may optionally be realized without this final /n/. These /n/-less realizations are best understood as informal or allegro variants. In Table 2, by contrast, we list all the items we have found in which forms both with and without etymologically unexpected final /n/ are attested in ordinary standard Maltese, while Table 3 presents all the items we have observed in which a standard form with no final /n/ is commonly replaced in informal or low-register speech by a form with final /n/ appended.

Item	Gloss	Etymon
<i>dan/din/dawn</i> ~ <i>dana/dina/dawna</i>	demonstrative pronoun/determiner	Ar. *ḏā/ḏī/ḏū

express our sincere gratitude. We would also like to thank Manwel Mifsud, Olvin Vella and Joseph M. Brincat for alerting us to several examples of Maltese /n/ addition that we had previously overlooked, as well as a number of colleagues who gave us very helpful feedback on an earlier draft via academia.edu. Any errors which remain are entirely our own.

<sup>2</sup> The items in Tables 1–2 and 4–5, as well as the historical/obsolete forms in Table 3, are all listed as (optionally) featuring final /n/ in Aquilina’s (1987) dictionary. The remaining items in Table 3 are the result of personal observation of informal and low-register contemporary Maltese speech.

<i>Ĝahan</i>	name of folklore character	Ar. *ĝuḥā
<i>ĝhefien</i>	‘chaff, wheat stalks; dirt’	Ar. *ḡafā ~ ḡafā? ‘chaff’ (?) or *ḡafān ‘mould’ (?)
<i>hdejn</i>	‘near’	Ar. *ḥiḏā? ‘opposite to, in front of’
<i>xejn</i>	‘nothing’	Ar. *šay? ‘thing’
<i>xulxin</i>	‘each other’	Ar. *šī l-šī ‘one part to another part’
<i>serkin</i>	‘sulky (cart)’	Eng. <i>sulky</i>
<i>skrun</i>	‘propeller’	Eng. <i>screw</i>
<i>sufan</i>	‘sofa’	Sic. <i>sufà</i>
<i>armajn ~ ormajn</i>	‘too late; nearly’	It. <i>ormai</i> ‘by now’
<i>gabrijolin</i>	‘cabriolet carriage’	It. <i>cabriolè</i>
<i>perun ~ pirun</i>	‘something of great value’	It. <i>Perù</i> ‘Peru’ (historically a major silver exporter)
<i>tabin</i>	type of silk	It. <i>tabì</i> ‘silk tafetta’
<i>biskwin</i>	‘biscuit porcelain’	Fr. <i>biscuit</i>
<i>paspartin</i>	‘cardboard picture frame’	Fr. <i>passe-partout</i>
<i>surtun</i>	‘surtout coat’	Fr. <i>surtout</i>

Table 1: Items in which presence of final /n/ is (or was) considered standard

Item	Gloss	Etymon
<i>blun ~ blu</i>	‘blue’	Eng. <i>blue</i>
<i>ĝurin ~ ĝurì ~ ĝurì</i>	‘jury’	Eng. <i>jury</i> , It. <i>giurì</i>
<i>kakin ~ kakì ~ kaki ~ kakir ~ kajki</i>	‘khaki’	Eng. <i>khaki</i>
<i>baxan ~ baxà ~ baxa ~ paxa</i>	‘Pasha’	It. <i>baschià</i> , Eng. <i>Pasha</i>

Table 2: Items in which presence of final /n/ is considered optional

Item	Standard form	Gloss	Etymon
<i>barbikjun ~ barbikjù</i>	<i>barbikju</i>	‘barbecue’	Eng. <i>barbecue</i>
<i>ĝuĝun</i>	<i>ĝuĝù</i>	‘jujube’	Eng. <i>jujube</i>
<i>kangaran</i>	<i>kangarù</i>	‘kangaroo’	Eng. <i>kangaroo</i>
<i>kjun</i>	<i>kju</i>	‘queue’	Eng. <i>queue</i>
<i>owkejn</i>	<i>owkej</i>	‘okay’	Eng. <i>okay</i>
<i>referin</i>	<i>referì</i>	‘referee’	Eng. <i>referee</i>

<i>sprejn</i>	<i>sprej</i>	‘spray’	Eng. <i>spray</i>
<i>stjun</i>	<i>stju</i>	‘stew’	Eng. <i>stew</i>
<i>xampun</i>	<i>xampù</i>	‘shampoo’	Eng. <i>shampoo</i>
<i>Ġisun</i>	<i>Ġesù</i>	‘Jesus’	It. <i>Gesù</i>
<i>tarin</i> <sup>3</sup>	<i>tari</i>	a pre-modern currency denomination	It. <i>tari</i>

Table 3: Items in which presence of final /n/ is considered non-standard but is attested in informal, low-register, or dialectal speech

Table 4 presents all the items we are aware of in which a base form ends in a vowel but an /n/ is (at least sometimes) appended to this base form when number suffixes are added.

Item	Gloss	Base form	Gloss	Etymon
<i>abbatini</i>	‘altar boys’	<i>abbati</i>	‘altar boy’	Sic./It. <i>abbati</i> (but also dim. <i>abbatinu/abbatino</i> )
<i>kafena</i>	‘coffee bean’	<i>kafè</i>	‘coffee’	It. <i>cafè</i>
<i>tenijiet</i>	‘teas’	<i>te</i>	‘tea’	It. <i>tè</i>
<i>kawxuna</i> ~ <i>gawxuna</i> ~ <i>gamxuna</i>	‘horse’s over-reach boot’	<i>kawcù</i>	‘hose pipe’ (< ‘rubber’)	Eng. (< Fr.) <i>caoutchouc</i>

Table 4: Items in which stem-final /n/ appears before singulative or plural morphemes

Finally, Table 5 presents all the items we are aware of in which a final consonant other than /n/ has been appended to a vowel-final etymon.

Item	Gloss	Etymon
<i>dawl</i>	‘light’	Ar. *ḡaw < *ḡaw?
<i>dikutell</i> ~ <i>dukutell</i> ~ <i>digudell</i>	‘a stone stood on its narrow dimension, cargo carried sideways, the last horizontal wooden strip of a cart’	Fr. <i>de côté</i> ‘sideways, on one side’
<i>ġuvintur</i>	‘young people’	It. <i>gioventù</i> ‘youth, young people’

<sup>3</sup> Aquilina (1987) gives only the form *tari*, but the form *tarin* is widely used for this denomination in works dating from the period it was in circulation (e.g. Snelling 1766: 23–24; Finlay 1803: 167).

Table 5: Items which feature an innovative word-final consonant other than /n/

What can immediately be seen from this full list of items is that Saydon's (1965: 72) generalization quoted in §1 is broadly correct: stem-final consonant addition has occurred overwhelmingly in the context of items whose etyma have a stressed final vowel (where this includes vowel-final monosyllables and the diphthongs ⟨ej⟩ and ⟨aw⟩). A majority of these etyma are loans from European languages, but several are inherited from Arabic. The only items with a non-etymological final consonant whose etyma appear not to have this property are: *Ġaħan* ['dʒəħən] (the name of a folklore character), *għefien* 'chaff, wheat stalks', *serkin* 'sulky cart', *għurin* 'jury', *kakin* 'khaki', *barbikjun* 'barbecue', and *abbati(ni)* 'altar boy(s)'. As we will see in §6, a closer look at the precise etymologies and likely adaptation processes of these items shows that they too conform to the generalization that non-etymological consonants are only added in Maltese to items with a stressed final vowel.

The question, then, is why final consonants are added in this context. Our answer, which we discuss and substantiate further in §5, is that items with a stressed final vowel, being of very low type frequency in the Semitic portion of the Maltese lexicon, are felt by native speakers to be poor exemplars of the typical Maltese phonological word. Final consonant addition is therefore a means of bringing such items into closer conformity with the phonological prototype. To answer the question of how and why it is (almost always) /n/ in particular that has been recruited for this purpose, we first need to understand the pre-existing alternations of word-final /n/ and zero that Maltese inherited from Arabic.<sup>4</sup>

### 3 Alternations of /n/ and zero in Arabic and Maltese

A basic feature of nominal (and adjectival) morphology in Standard Arabic is the grammatically conditioned alternation of /n/ with zero in case and number suffixes. Typical nouns and adjectives without a dual or plural suffix appear in one of three

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<sup>4</sup> A typological pilot study by VanDam (2004), examining a sample of 18 languages, suggests that "if a language permits a single word-final coda, it will be /n/" and that "[i]f word-final coda segments are added incrementally (synchronously or diachronically) the first segment allowed into word final coda positions will likely be /n/" (2004: 132). It may therefore be tempting to speculate that the human language faculty somehow specifies /n/ as the archetypal coda consonant, and that this is thus (part of) the reason why it is /n/ in particular that Maltese speakers use to close final stressed open syllables. Blevins (2004: 159–164), however, shows on the basis of a much more extensive survey that the evidence for a universal preference for sonorant codas is weak, and argues that where languages do exhibit a tendency of this sort, it is best explained through a combination of chance and independently motivated sound changes. Our focus here is therefore on Maltese-specific factors that will have favoured the rise of /n/ addition, though we do not exclude the possibility that both Maltese-specific and more general factors may have worked together to have this result.

cases, each indicated by a suffix consisting of one of the three short-vowel phonemes /a, i, u/. In the default situation, the case suffix is then followed by a final /n/, in a process called *tanwīn* by Arabic grammarians, and usually translated as *nunation* (i.e. ‘the process of adding the letter *nūn* to a word’) in English. Absence of nunation is caused by various factors, most notably prefixing of the definite article (*a*)/-, as well as the noun or adjective in question being non-final in a synthetic genitive construction, as illustrated in (1). In a similar but distinct process, the dual and masculine plural suffixes are allomorphic: they appear with a final /nV/ by default, this /nV/ ending being obligatorily absent when the host element is non-final in a synthetic genitive construction (but not when it is prefixed by the definite article), as illustrated in (2).

(1) Standard Arabic

- a. *samiʕa*                    *l-walad-u*                    *ṣawt-a-n*                    *yarīb-a-n*  
 hear.PRF.3SG.M    DEF-boy-NOM                    sound-ACC-NUN                    strange-ACC-NUN  
 ‘The boy heard a strange sound.’
- b. *samiʕa*                    *r-raġul-u*                    *ṣawt-a*                    *walad-i-n*  
 hear.PRF.3SG.M    DEF-man-NOM                    sound-ACC                    boy-OBL-NUN  
 ‘The man heard a boy’s voice.’

(2) Standard Arabic

- a. *samiʕa*                    *t-tābiʕ-ūna*                    *l-ʔāḥar-īna*  
 hear.PRF.3SG.M    DEF-follower-PL.NOM                    DEF-other-PL.ACC  
 ‘The followers heard the others.’
- b. *samiʕa*                    *tābiʕ-ū-ka*                    *ʔaḥaw-ay-ka*  
 hear.PRF.3SG.M    follower-PL.NOM-2SG.M                    brother-DU.ACC-2SG.M  
*l-ʔaṣṣar-ayni*  
 DEF-small.ELA-DU.ACC  
 ‘Your followers heard your two younger brothers.’

Case inflection on nominal elements is absent in the contemporary Arabic dialects and Maltese, as is nunation of the kind illustrated in (1), although, as we shall see in §4, some residues of the latter do survive. But the dual and plural suffixes are preserved, and, in the case of the dual suffix, the grammatically conditioned alternation between /n/ and zero also survives: where the possessor of a noun bearing the dual suffix is pronominal, the dual morph lacks the final /n/. Thus in Maltese we have an alternation between *-ejn* [ɛɪn] and *-ej* [ɛɪ] (with the variant *-ajn* [əɪn] vs. *-aj* [ɛɪ] after guttural consonants), as illustrated in (3), where we also see that this originally exclusively dual suffix has taken on an additional function as a marker of simple plural: the so-called “pseudodual” (see Blanc 1970; Fenech 1996). This pseudodual plural marking occurs with nouns referring to body parts – such as eyes, ears and hands – that come in pairs in humans. Note that reference to such body parts is obviously relatively

frequent in ordinary speech, and that the nouns used for this reference are typically both plural (i.e. two or more, thus carrying the pseudodual suffix) and carry a possessive suffix pronoun.

(3) Maltese

- a. Irrid nibqa' b'-seba' għajn-**ejn**, il-hin koll-u.  
 want.IMPF.1SG stay.IMPF.1SG with-seven eye-PL DEF-time all-3SG.  
 'I want to remain totally vigilant [lit. 'with seven eyes'] the whole time.'  
 [Korpus Malti v3.0 literature20]
- b. Żommu għajn-**ej**-kom u widn-**ej**-kom miftuħ-in...  
 hold.IMP.2PL eye-PL-2PL CONJ ear-PL-2PL open.PTCP.PASS-PL  
 'Keep your eyes and ears open...' [Korpus Malti v3.0 literature7]

The /n/~zero allomorphy that Maltese inherits from its spoken Arabic ancestor is thus robustly maintained, as it is in the majority of contemporary Arabic dialects. What is less typical about Maltese is that, in informal speech, the /n/~zero alternation in (pseudo)duals is optionally extended beyond possessive contexts, as illustrated in (4).

(4) Maltese

- a. Wie[h]ed minn dawn se jkun fost-na ix-xahar  
 one from DEM.PL FUT be.IMPF.3SG.M among-1PL DEF-month  
 id-die[h]el! Min hu u [x' inhu] il-program  
 DEF-enter.PTCP.ACT who 3SG.M CONJ what PRED DEF-programme  
 ta[?] jum-**ej** se n[h]abbru nhar is-Sibt...  
 GEN day-DU FUT announce.IMPF.1PL day DEF-saturday  
 'One of these people will be with us next month! We will announce who it  
 will be and what the two-day programme will be on Saturday...'  
 [https://twitter.com/milanclubmalta/status/669147517188243456, accessed  
 04/06/2020]
- b. kemm imma[çç]ja najs il-kulu[r]-i ta-l-iskarf  
 how\_much match.IMPF.3SG.M nice DEF-colour-PL GEN-DEF-scarf  
 [u] it-tinda. It-**tnej** blun-i.  
 CONJ DEF-tent DEF-two blue-PL  
 'How nicely the colours of the scarf and the tent match. They're both blue.'  
 [https://daphnecaruanagalizia.com/2012/04/super-one-its-a-bitchfest/,  
 accessed 04/06/2020]
- c. Zew[ġ] saq-**aj** zopp-i kell-na di-d-darba.  
 two leg-PL lame-PL POSS.PRF-1PL DEM-DEF-time

‘We had two lame legs at that time.’

[<http://archive.maltatoday.com.mt/commentary/0603.html>,  
accessed 04/06/2020]

Note that this is not a straightforward, productive phonological rule ( $n > 0$  V<sub>I</sub>\_#) that is blind to morphology: non-duals *dejn* ‘debt’ and *ghajn* ‘eye; spring’, for example, never seem to be realised without the final /n/. On the other hand, while this optional deletion rule is mostly restricted to the morphological context of the (pseudo)dual, this is not absolute: there are a handful of non-dual word stems ending in /εn/, in which the final /n/ is uncontroversially a retention rather than a recent innovation, where we also find optional /n/ deletion. Most notably there are the various compounds involving \*ʔayn ‘where’: *fejn* ‘where’ (< \*fi ʔayn ‘in where’), *mnejn* ‘from where’ (< \*min ʔayn ‘from where’), and *ghalfejn* ‘why’, as illustrated in (5). Note that *fejn* may also take pronominal suffixes. When it does so the final /n/ is typically retained, but not in all cases, as shown in (6).<sup>5</sup>

(5) Maltese

- a. Tinsew-x                      minn **fej’**      ġej                      id-dawl  
forget.IMP.2PL-NEG from where come.PTCP.ACT DEF-light  
u      d-dell-ijiet.  
CONJ DEF-shadow-PL  
‘Don’t forget where the light and the shadows come from.’  
[Korpus Malti v3.0 literature11]
- b. għax      ma      taf-x                      il-**mnej’**                      u      l-**fej’**  
because NEG know.IMP.2SG-NEG DEF-from\_where CONJ DEF-where  
‘[...] because you do not know the where and the whence’ [Similitudni<sup>6</sup>]
- c. mi-t-tgawdija              ta-l-ħajja              insum                      u              nistaqsi  
from-DEF-happiness GEN-DEF-life abstain.IMP.1SG CONJ ask.IMP.1SG  
**ghalfej’**.  
why  
‘I abstain from the happiness of life and ask myself why.’  
[Korpus Malti v3.0 news62852]

(6) Maltese

- U      r-raba’                      u      l-ghelieqi      **fejn-hom?** **Fej-hom**      il-biedja  
CONJ DEF-countryside CONJ DEF-field.PL where-3PL where-3PL DEF-agriculture

<sup>5</sup> A search of the MLRS Korpus Malti v3.0 for *fej*[ja,k,u,ha,kom,hom] returns 9 distinct matches, versus more than 400 for *fej*n[i,ek,u,ha,kom,hom]. The 1PL suffix was omitted from both searches as it fails to distinguish between the two stems, giving rise to *fejna* in either case.

<sup>6</sup> *Similitudi Din, dwar daqs l-Imħabba*, a poem by Leanne Ellul, available online at <https://www.um.edu.mt/library/oar/bitstream/123456789/37075/21/Similitudni%20din%20C%20dwar%20daqs%20l-imhabba.pdf> (accessed 04/06/2020).

u s-sajd?  
 CONJ DEF-fishing  
 ‘And where are the countryside and the fields? Where is the agriculture and fishing?’  
 [Korpus Malti v3.0 news92922]

Final /n/ is also occasionally omitted with *bejn* ‘between’ (< \*bayn), as illustrated in (7), but hardly ever when pronouns are suffixed.<sup>7</sup>

(7) Maltese  
 Ghidt **bejn-i** u **bej’** ruh-i... “Di-l-ħajja...”  
 say.PRF.1SG between-1SG CONJ between soul-1SG DEM-DEF-life  
 ‘I said to myself: “This life...”’  
 [Korpus Malti v3.0 news64774]

A more complex case concerns *lejn* ‘to, towards’, which is occasionally realized as *lej* when used with a nominal complement, as in (8).

(8) Maltese  
 z-żjara tagħ-na **lej** Sugarshake  
 DEF.visit GEN-1PL to PN  
 ‘our visit to Sugarshake’  
 [Korpus Malti v3.0 opinion1221]

The precise etymology of *lejn* is uncertain. Sutcliffe (1936: 203) and Barbera (1939a: s.v. *lejn*) are both of the opinion that it derives from a directional preposition involving /l/ – presumably ultimately \*ʔilay ‘to, towards, until’ – plus \*ʔayn ‘where’. It is hard to accept this proposal, however, since *lejn*, unlike *fejn* and *mnejn*, never functions as an interrogative adverb, always only as a preposition ‘to, towards’. Moreover, forms apparently cognate to *lejn*, but with the meaning ‘until’ (apparently deriving from \*ʔila ʔin ‘until’), are widespread across the Arabic dialects, e.g. Bahrain (*i)lēn* (Holes 2001: s.v. *L-Y-N*<sup>2</sup>). It therefore seems likely that the Maltese form *lejn* is inherited and has shifted its meaning from temporal ‘until’ to directional ‘towards’.

This picture is complicated by the fact that when *lejn* takes pronominal suffixes, /n/ is omitted 99.9% of the time in the Korpus Malti, giving forms such as *lejja* ‘to me’ and *lejhom* ‘to them’.<sup>8</sup> These suffixed forms are best understood as being directly cognate with Classical Arabic *ʔilayya* ‘to me’ and *ʔilayhum* ‘to them’. That is,

<sup>7</sup> There are 13 distinct strings in the Korpus Malti containing *bej* functioning as a free-standing preposition, versus more than 200,000 matches for *bejn*. A search for *bejn*[i,ek,u,ha,kom,hom] returns over 2500 matches, whereas *bej*[ja,k,u,ha,kom,hom] returns just three meaningful matches.

<sup>8</sup> The search *lej*[ja,k,h,ha,kom,hom] returns over 15,000 matches in the Korpus Malti. *Lejn*[i,ek,u,ha,kom,hom] returns 16 meaningful matches.

although unsuffixed *lejn* and suffixed *lej-* behave in synchrony as allomorphs of a single lexeme, ultimately they go back to distinct etyma: the compound form \*ʔila ʔin (< \*ʔilay ʔan) ‘until’ in the case of *lejn*; and the single preposition \*ʔilay ‘to, towards’ in the case of *lej-*. The form *lej*’ with nominal complements therefore represents another instance of final /n/ deletion.

Thus the rule of  $n > \emptyset \text{ V}_1\_\#$ , while not fully productive, does seem to be able to apply optionally with a handful of non-dual lexemes. Strikingly, however, deletion of final /n/ (in words where that /n/ is a retention, not an innovation) does not appear to occur in any other phonological environment. The only apparent exception to this generalization that we have been able to find concerns *hawn* ‘here’, which is optionally realised as *haw* /*ʋʊ*/. We discuss this item in §6, where we show that the historical relationship of this form to *hawn* is unlikely to be one of /n/ deletion at all. The wider phenomenon of optional final /n/ deletion in Maltese should therefore be understood as fundamentally a morphological process, albeit with some phonologically-driven analogical extension to lexical items whose rhymes happen to be identical to the (pseudo)dual suffix that is the core context for the process. More important for our purposes than the precise analysis of /n/ deletion, however, is the basic observation that the upshot of this process is a rather frequent optional alternation between zero and /n/ (but no other consonants) word-finally in Maltese. As a consequence of this pre-existing alternation, when Maltese speakers later felt the need to repair words with a stressed final vowel by closing the syllable with an additional consonant, /n/ was the obvious candidate.

We cannot automatically assume, however, that every etymologically unexpected word-final /n/ in Maltese is necessarily the result of this process. A particularly interesting case in point concerns *xejn* ‘nothing’, to which we now turn.

#### **4 *xejn* and its implications for the history of dialectal Arabic**

Despite being well aware that /n/ may appear as “a post vocalic accretion in the final open syllable”, Aquilina (1987: s.v. *xejn*; *għefien*) makes the interesting claim that the final /n/ in *xejn* ‘nothing’ (< \*šayʔ ‘thing’) is not just another instance of /n/ addition in Maltese, but is rather “a residue of the accusative case of [C]lassical Ar[abic]... a sporadic case of nunation in M[altese]”.

On the face of it, there are several reasons to treat this claim with scepticism. Notwithstanding these considerations, the surprising truth is that Aquilina’s claim is almost certainly correct: the final /n/ in *xejn* is indeed a fossilized retention of nunation. In what follows, we first review the reasons for scepticism before turning to the decisive arguments in favour.

The first reason for scepticism is that this would indeed be “sporadic”: there are no other instances of word-final /n/ in Maltese that can plausibly be analysed as retention of nunation. Aquilina (1987) himself suggests only one, namely the (now largely obsolete) item *għefien* ‘chaff; dirt’, which seems to correspond to Classical

Arabic *yafāʔ* (*yafāʔan* with accusative case and nunation) or the alternative form *yafā* (indeclinable *yafan* with nunation), also meaning ‘chaff’. But this is completely implausible.<sup>9</sup> As a concrete, noncount, low-frequency noun, this item will rarely have been indefinite, and thus rarely have carried nunation in the first place, certainly not frequently enough for it to plausibly be reanalysed as part of the stem also in definite contexts. If *għefien* indeed straightforwardly derives from *yafāʔ* ~ *yafā*, this must therefore rather be an instance of the more general Maltese-internal phonological process of /n/ addition that is the primary topic of the present work (but see §6 for evidence that *għefien* in fact derives from a different item in which /n/ is part of the root).

This brings us to the second reason for scepticism regarding Aquilina’s claim about *xejn*, namely that *xej*’ (without the final /n/) is both a frequently occurring variant form, and the expected Maltese reflex of \*šayʔ without nunation. It also provides the precise phonological context for /n/ addition that we identified above: having a stressed vowel (here diphthong) in final position. Absent positive evidence in favour of the retained nunation etymology, it would therefore seem more parsimonious to analyse this as another regular instance of Maltese /n/ addition.

Thirdly, the cognate items to *xejn* in the most closely related Arabic varieties (urban dialects of Tunisia and western Libya) are not reported to have any final /n/ (e.g. Singer 1984; Yoda 2005; Pereira 2010), despite sharing with Maltese (but apparently no other Arabic varieties) the property of having negative meaning (‘nothing’) when used alone in fragment answers (Borsley & Krer 2012).

Finally, there is in fact one item in present-day Maltese whose etymon featured nunation, namely the negative determiner *ebda* ‘no..., not a single...’. Despite its innovative function (apparently not shared by any Arabic variety),<sup>10</sup> this item clearly derives from Arabic \*ʔabadan ‘(n)ever’, with nunation and accusative case. This is proven by its survival with the same meaning ‘never’ in the folk saying cited by Aquilina (1987: s.v. *ebda*) and reproduced in (9).

(9) Maltese folk saying

Ħanin-i      mar                      Buġebda, u      minn hemm ma      jġi  
 darling-1SG go.PRF.3SG.M PN                      CONJ from there NEG come.IMP.F.3SG.M  
**ebda!**  
 never  
 ‘My darling went to Buġebda and is never coming back!’  
 (Aquilina 1987: s.v. *ebda*)

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<sup>9</sup> See also Zammit (2014: 35) for a critique of Aquilina’s (1987) almost exclusive use of dictionaries of Classical rather than dialectal Arabic for the relevant etymologies in his dictionary of Maltese.

<sup>10</sup> For the development ‘never’ > negative determiner, compare the archaic/dialectal English negative determiner *nary* < *never*.

This item *ebda* shows what is in fact the expected reflex of nunation (and accusative case) in an element of this kind – /a/ < \*ā < \*an – also evident in the widespread dialectal Arabic greetings (*yā*) *hala* < \*ʔahlan (Piamenta 1996: 130) and *marḥaba* < \*marḥaban (Stokes 2020), as well as Tunis Arabic *dīma* ‘always’ < \*dāʔiman. From this point of view, retention of nunation as /n/ in *xejn* is thus doubly unexpected.

On the other hand, it is true to say that a form of nunation in which the /n/ is retained does survive in a number of Arabic dialects: this is the so-called “dialectal *tanwīn*” illustrated in (10) (see Stokes 2020 for an overview and historical analysis).<sup>11, 12</sup>

(10) Najdi Arabic

ǧā-na                      ḥarbiyy-**in**    tuwīl

come.PRF.3SG.M-1PL Harbi-NUN tall

‘A tall Harbi man came to us.’

(Ingham 1994: 48)

As Stokes points out, however, in all the dialects that exhibit dialectal *tanwīn* of this type,<sup>13</sup> it appears only on indefinite nouns that have some following attributive element, typically an adjective, as in (10), or occasionally a relative clause or similar element. These noun phrases are then typically interpreted as having specific indefinite reference. These conditions will rarely, if ever, hold for uses of an indefinite pronoun like *xejn*. If we wish to maintain an analysis of the /n/ in *xejn* as fossilized nunation, therefore, we will not be able to argue that it is an instance of dialectal *tanwīn*. Instead, we will have to argue, as Aquilina does, that this is a retention of nunation of a Classical type. This is a difficult argument to make, as it is now very

<sup>11</sup> All Arabic dialects which are spoken in a diglossic relationship with Standard Arabic (i.e. the great majority) have in their lexica a number of borrowings from Standard Arabic. Some of these items are borrowed with nunation, e.g. *šukran* ‘thank you’, *abadan* ‘(n)ever’, *šafwan* ‘sorry’. Since Maltese has not been in a diglossic relationship with Standard Arabic since the medieval period, such items are unsurprisingly absent.

<sup>12</sup> This feature is absent in contemporary Maltese, and there is no evidence of it in any historical sources. Corriente & Vicente (2014) claim to have found an instance in the fifteenth-century poem *Il-Kantilena*, but their analysis is unsustainable. The phrase in question is *betiragin mucsule*, which all agree translates something like ‘with wet steps’. Corriente & Vicente appear to think that *tiragin* should be analysed as the collective ‘steps’ (contemporary Maltese *taraġ*) plus dialectal *tanwīn* (-in). But then the final vowel of the agreeing passive participle *mucsule* (contemporary Maltese *maḥsula*) is unexplained. The correct analysis is instead that *tiragin* as a whole represents the broken plural form of this item (contemporary Maltese *turġien*), with which the passive participle regularly agrees by adding the feminine singular suffix -e (contemporary Maltese -a).

<sup>13</sup> There are a few highly conservative dialects spoken in the Tihama region of Yemen and southwestern Saudi Arabia which exhibit a form a nunation with a distribution similar to that of Classical Arabic (Behnstedt 2016: 64–67).

widely acknowledged that Classical Arabic cannot be the ancestor of the contemporary Arabic dialects (and Maltese), and Classical-style nunation, while safely reconstructible to Proto-Arabic (Huehnergard 2017: 20), is already absent<sup>14</sup> in the attested Old Arabic inscriptions in the Safaitic script, which likely date to between the 1st century BCE and the 4th century CE.

There are thus a number of reasons to be sceptical about Aquilina's etymology for *xejn*. The reasons to think that it is nevertheless almost certainly correct are as follows. The key piece of evidence is that, although it is extremely rare, optional retention of nunation with cognates of *xejn* is in fact attested in at least some Arabic varieties (or was until the mid-20th century). Thus Prémare (1995: 247) reports a form *šāyən* as being attested in the meaning 'anything, whatever, nothing' in certain traditional registers of Moroccan Arabic such as proverbs and oral literature, while Souag (2020: 8) gives the same form for the Algerian coastal dialect of Dellys. These are both varieties for which an explanation for the final /n/ in terms of Classical-style nunation seems inevitable. At the other end of the Arabic-speaking regions, Johnstone (1967: 117) observes that in eastern Arabian dialects "šāyyin occurs rather as an occasional variant of šāyy in non-final positions", though the reference to "non-final positions" may be an indication that in this case we simply have an example of the aforementioned dialectal *tanwīn*.

The analysis of final /n/ in *xejn* as retention of Classical-style nunation is also supported by several other considerations. First, note that, in marked contrast to *għefien* 'chaff' discussed above, *xejn* is a generalizing indefinite pronoun restricted to negative polarity contexts. That is, it occupies the extreme indefinite end of a continuum of (in)definite contexts. This does not of course guarantee that a marker of indefiniteness such as nunation should be retained in this context, but it is consistent with it being the final context to lose nunation as a general marker of indefiniteness.

Second, *xejn* is listed as having final /n/ (and no /n/-less form is noted) in the early dictionaries of Vassalli (1796) and de Soldanis (2016 [1766]). Of course, this does not rule out the possibility of this being an early instance of phonological /n/ addition in Maltese, but note that the opposite is true of the item whose basic form today is *hdejn* 'near': this is listed by Vassalli (1796) only as *hdej* (see §6.4 for more on this item). This discrepancy is consistent with the /n/ in *xejn* being a retention rather than an innovation.

The final piece of evidence supporting the nunation analysis of *xejn* concerns the etymologically related item *x'inhu* 'what is...'. This item has cognates in a wide range of Arabic varieties, including most Western dialects, to which Maltese is most closely related, as well as Sudanese, Iraqi and Gulf dialects. In all of these it functions simply as 'what', without the predicative function carried by the Maltese reflex, which was nevertheless clearly the function of the ancestral form. The basic etymology of *x'inhu*

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<sup>14</sup> Though with some vestigial occurrences: see Al-Jallad (2015: 69).

is uncontroversial: \*ʔayy šayʔ hū ‘which thing is it’. Formulated like this, however, the medial /n/ is left unexplained. Thus, in a comprehensive survey of the various instantiations of the meaning ‘what’ across the Arabic dialects, Behnstedt & Woidich (forthcoming) observe that seemingly all who have touched on the matter are in agreement that the medial /n/ in *x’inhū* and its cognates must therefore be traced to nunation on \*šayʔ. As Behnstedt & Woidich point out, however, this is far from the only possible analysis.<sup>15</sup> Indeed, taken in isolation, a nunation analysis here should be suspicious for the same reasons cited above for *xejn*: an analysis in terms of dialectal *tanwīn* is untenable, the Arabic dialects are not descended from Classical Arabic, and nunation is already absent or vestigial in the earliest pre-Islamic Arabic inscriptions. But it is no longer necessary to consider the etymologies of *xejn* and *x’inhū* in isolation. When we consider them together we see that they are mutually reinforcing, making inevitable the conclusion, however surprising it may be, that the /n/ in both items is a reflex of nunation of the kind found in Classical Arabic.

Note that this conclusion in no way forces us to accept the traditional idea that the Arabic dialects (and Maltese) are in fact directly descended from Classical Arabic. The evidence against this is by now overwhelming (see, e.g., Retsö 2011; Retsö 2013; Huehnergard 2017 for some of the key arguments). The significance of our finding here is rather that it constitutes fresh evidence of just how similar the actual ancestor of the Arabic dialects (and Maltese) was to Classical Arabic, especially as regards nominal morphology. In particular, it shows that Owens (1998) is wrong to suggest that evidence of nunation in the Arabic dialects is restricted to dialectal *tanwīn* (or “linker -Vn” as he calls it), and that dialectal *tanwīn* is a separate development to the nunation of Classical Arabic. Instead, it must be the case that the system of nunation found in Classical Arabic in fact approximates the system of Proto-Arabic, and both dialectal *tanwīn* and the /n/ in *xejn* and *x’inhū* must be relics of this system.

A final issue to be dealt with here concerns the variant form *xej’* (without final /n/), as illustrated in (11).

(11) Maltese

...[ji]en m’-għand-i **xej’** aktar.  
 1SG NEG-POSS-1SG nothing more  
 ‘...I have nothing left.’

[Korpus Malti v3.0 news81770]

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<sup>15</sup> In the context of Maltese *x’inhū* specifically (though with reference to the ancestral Arabic situation), Ambros (2006: 70) suggests analogical extension of the medial /n/ from *min hu* ‘who is...’ as an alternative to the nunation retention analysis. Whether or not we accept this proposal, it is clear that the use of *inhū* as a predicator with *kif* ‘how’, *jekk* ‘if’ and other items, which is unique to Maltese, is indeed an instance of analogical extension from *x’inhū*.

What is the historical link between *xej*' and the full form *xejn*? There are two possibilities, which are not in fact mutually exclusive. The first is that the form *xej*' derives from *xejn* and represents one instance of the wider process of optional /n/ deletion discussed in §3 in relation to (pseudo)duals as well as *fejn* 'where' and *bejn* 'between'. The second is that Maltese has always had an /n/-less form of this item, as we see in Libyan and Tunisian Arabic, alongside the form with unexpected retention of nunation, the latter merely happening to conventionalize at an early stage as the default form. Either or both of these scenarios are compatible with the fact that Vassalli (1796) and de Soldanis (2016 [1766]) list only forms with /n/ in their dictionaries.

## 5 Motivations for /n/ addition

We saw in §3 that /n/ is unique among the consonants of Maltese in its word-final behaviour, in virtue of its frequent alternation with zero in the pre-Romance, Arabic-derived lexicon. This is why it is the natural choice for Maltese speakers who feel the need to close word-final stressed open syllables (including in monosyllabic items). But why should Maltese speakers have felt this need?

The first issue to consider in addressing this question is whether the phonological conditions under which we observe word-final /n/ addition can be sufficiently narrowly defined as to show that this is an exceptionless change of the Neogrammarian type. If this were the case, then we would have a straightforward answer to the question above: word-final stressed open syllables became ungrammatical and had to be repaired. There seems to be no prospect of viewing /n/ addition as a Neogrammarian-type change, however. While non-etymological /n/ is only<sup>16</sup> added to word-final stressed open syllables, there are a number of instances where this phonological environment conspicuously fails to trigger /n/ addition.

Most notably, there are the Arabic-derived monosyllabic items (mostly function words) listed in Table 6 (together with their token frequencies in the Korpus Malti v3.0).<sup>17</sup>

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<sup>16</sup> See §6 for a discussion of the apparent exceptions to this claim listed in §2.

<sup>17</sup> As well as the items listed in Table 6, there are a few verbs with this phonological profile in their 3SG.M or 3PL perfect forms, e.g. *ta(w)* 'he (/they) gave', *ġie/ġew* 'he (/they) came', as well as the SG.M active participle *ġej* 'coming'. These are not included in Table 6 as they are plausibly explained away as counterexamples to a putatively exceptionless rule of /n/ addition: these forms participate in regular inflectional paradigms, in which, for example, 3SG.M perfect is signalled by the bare (unsuffixed) root. That /n/ cannot be added in this context is reinforced by analogy with hundreds of other verbs where /n/ is also not part of the inflection for the 3SG.M perfect.

Item	Gloss	Instances per million words in Korpus Malti v3.0
li	complementizer	37,850.2
u	additive conjunction	23,000.32
ta'	possessive marker	20,446.14
ma	negator	6,492.03
se	future marker	3,763.73
jew	disjunctive conjunction	3,358.88
xi	indefinite determiner	2,724.03
hu	3SG.M pronoun	1,556.04
ma'	'with'	1,427.11
fi	'in'	1,283.17
hi	3F.SG	741.34
bla	'without'	321.2
le	'no'	260.82
sew	'truth; honest; correctly'	223.48
ġo	'inside'	71.25
ħu	'brother'	11.69

Table 6: Frequencies of Arabic-derived vowel-final monosyllabic function words in the Korpus Malti v3.0

In addition to these, there are a very few Arabic-derived items with more than one syllable in which the final syllable is both open and stressed. One such is the predicator *inhu* [ɪ'nɔ] (discussed in §4), as well as its feminine form *inhi* [ɪ'nɪ]. /n/ is never added to these.<sup>18</sup> In addition, there is the whole class of agent nouns or active participles with a weak final root consonant. These items end in a stressed diphthong *-ej* [ɛɪ], cognate with Classical Arabic *-āʔ*. Examples include *ghaddej* 'passing', *mexxej* 'leader; one who walks a lot', and *xerrej* 'buyer'. There is also *Mulej* 'Lord (God)', in which the final diphthong is an innovation of Maltese (compare Tunis Arabic *mūla* 'lord, owner'; Singer 1984: 225) – perhaps a backformation from *Mulejja* 'my Lord' – but which nevertheless behaves similarly to the class of participles in never adding /n/.

Moreover, it is certainly not the case that all loans into Maltese with the relevant phonological profile (having word-final stressed open syllables) receive an additional final /n/. Unsurprisingly, higher-register or learned items, and items which are known

<sup>18</sup> One can, however, make a similar argument here as in fn.15 for verbs: *inhu* is an inflecting form (SG.M: *inhu*, SG.F: *inhi*, PL *inhuma*) in which the inflecting element is identical to the 3rd person pronouns. Since the singular pronouns *hu* and *hi* do not, for whatever reason, take an additional final /n/, it is not surprising that the homophonous (and etymologically related) inflections of *inhu* do not take an additional final /n/ either.

by their users to have (near-)identical counterparts in other European languages (e.g. *ineffabilità* ‘ineffability’), never take an additional /n/. Similar considerations presumably underlie the fact that only some speakers (sometimes) add /n/ with the items listed in Table 3, and that /n/ addition with these items is considered low-register or sub-standard. But note that there are also very frequent, basic loans to which /n/ is never added by any speakers as far as we are aware, for example *digà* ‘already’ and its truncated form *gà*, as well as nursery forms such as *pipì* ‘urine’ and *kokò* ‘faeces’. It cannot therefore be argued that /n/ addition only fails to apply with the relevant loanwords when these are high-register or learned items.

Maltese /n/ addition is therefore not an exceptionless change of the Neogrammarian type. But neither is it totally sporadic. How then can we explain the fact that speakers feel the need to add /n/ in some instances, despite the basic acceptability of the relevant phonological sequences? And what factors intervene in the case of those items where /n/ is never added in the same phonological context?

We propose that the first question is best answered in terms of the prototypicality of phonological words. As we have seen, while word-final stressed open syllables do occur in the pre-Romance portion of the Maltese lexicon, words containing such syllables make up a tiny proportion of the overall whole; that is, they have very low type frequency. As such, they are poor exemplars of the prototypical Maltese phonological word. While such items have very low type frequency, their token frequency is conversely very high in general, as shown in Table 6. This inverse relationship between type and token frequency is unlikely to be coincidental. As has been clear since at least Hooper (1976), high token frequency has the effect in diachrony of inhibiting analogical change while promoting irregular, reductive phonological change, which is why, crosslinguistically, the lexical items with the highest token frequency typically display a range of irregularities (i.e. they have features which are rarely found in the lexicon as a whole). In a discussion of the productivity of competing morphological patterns, Bybee (2001: 118–130) shows that new additions to the lexicon are assimilated to inflectional classes with the highest type frequency, and that high token frequency of an existing pattern actually serves to inhibit its availability as a model for inflectional class assignment (see also Albright 2002 for a similar finding). We suggest that the same principles apply to the kind of non-Neogrammarian sound change under investigation here. When native speakers of Maltese started to be confronted with increasing numbers of words (principally loanwords) which exhibit the very low type-frequency property of having a word-final stressed open syllable, they felt pressure to adapt the phonology of these items to something more prototypical, despite the fact such sequences do occur in the pre-Romance lexicon. They chose /n/ addition as the means of adaptation for the reasons discussed above.

An analogous process of widespread but non-systematic adaptation of loanwords from non-prototypical (but still grammatical) phonological patterns can be found in

the history of English.<sup>19</sup> As Svensson (2004) shows, English words of more than one syllable loaned from French within the last few centuries exhibit a very gradual tendency towards adaptation of the stress pattern – from the final stress typical of French to the initial stress typical of Germanic languages – a process which appears to still be ongoing, despite the fact that final stress can in no way be described as ungrammatical in present-day English (precisely because of the significant number of French loanwords stressed in this way). For example, British English has *amateur* and *déficit* but *cigarette* and *colonnade*, while British English tends in general towards greater Germanicization of such loans than does North American English, as can be seen in the differing pronunciations of words such as *garage*, *massage* and *debris*, and names such as *Bernard*. Although the strategies for improving the phonology of loans differ in the English and Maltese cases, we nevertheless witness directly parallel processes: large numbers of loanwords with non-prototypical phonology are absorbed; because their phonology is not actually ungrammatical in the recipient language they are non-systematically adapted to a more prototypical phonology; and since many remain unadapted, these have the effect of making the relevant pattern less marginal than it was prior to the influx of loanwords.

We now turn to the question of what factors intervene in the case of those items with the relevant phonology where /n/ is never added. Let us note first of all that in the preceding paragraphs we have proceeded as if the phonological process of /n/ addition is essentially restricted to loans from Romance (and English). Table 1 shows that this is not accurate in absolute terms. However, once we set aside *xejn* (which we saw in §4 is a retention), as well as *dan/din/dawn* and *hdejn* (which we will see in §6 likely added /n/ for independent reasons), the restriction to loanwords comes closer to being total. Nevertheless, it is not total, and it would be surprising from an acquisitional point of view if it were, given that not all speakers can be expected to identify a word on first exposure as loaned rather than inherited. Instead, we suggest that the apparent bias of /n/ addition towards loans is in fact epiphenomenal. It is not entirely clear what the precise mix of factors is that prevents /n/ from being inserted across the board in word-final stressed open syllables, but we can make the following suggestions.

First, as we saw above, it is to be expected that high-register loanwords and loans that are known by speakers to have close equivalents in locally prestigious languages will resist phonological adaptation. This phenomenon can be observed in high-register British English where one can observe (attempts at) non-native nasal vowels in French loans such as *genre* and *restaurant*. At the other end of the register scale, the failure of nursery forms (such as *pipì* ‘urine’ and *kokò* ‘faeces’ referred to above) to add a final /n/ can be understood in terms of a universal preference in such forms for CV syllables (and reduplication; Jakobson 1971: 25).

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<sup>19</sup> We are grateful to Steve Rapaport for pointing out to us this parallel.

More generally, since we have established that /n/ addition is not an exceptionless Neogrammarian sound change, it should probably instead be seen as a series of analogical extensions, whose continued semi-productivity is made possible by the fact that /n/ addition is optional for a number of items, for at least some speakers (see Tables 2 and 3). Once cases of the sort discussed in the previous paragraph have been excluded, as a first approximation we can propose that a given item will resist this analogical spread of /n/ addition in proportion to its token (not type) frequency. As noted above, Bybee (2001: 124–126) shows that lexical items with high token frequency “achieve a certain autonomy from related forms”, plausibly explaining the /n/-resisting behaviour of the items in question. As can be seen from Table 7, most, but not all, of the /n/-resisting items (italicized) are more frequent than the forms which do take /n/ (bold), and vice versa.

Item	Gloss	Instances per million words in Korpus Malti v3.0
<i>li</i>	complementizer	37,850.2
<i>u</i>	additive conjunction	23,000.32
<i>ta'</i>	possessive marker	20,446.14
<i>ma</i>	negator	6,492.03
<i>se</i>	future marker	3,763.73
<i>jew</i>	disjunctive conjunction	3,358.88
<i>xi</i>	indefinite determiner	2,724.03
<i>hu</i>	3SG.M pronoun	1,556.04
<i>ma'</i>	‘with’	1,427.11
<i>fi</i>	‘in’	1,283.17
<i>hi</i>	3SG.F	741.34
<i>bla</i>	‘without’	321.2
<i>le</i>	‘no’	260.82
<i>diġà</i>	‘already’	255.68
<i>sew</i>	‘truth; honest; correctly’	223.48
<i>inhi</i>	3SG.F predicator	181.73
<i>inhu</i>	3SG.M predicator	154.85
<i>ġo</i>	‘inside’	71.25
<b>xulxin</b>	‘each other’	95.12
<b>Ġesù (/ Ġisun)</b>	‘Jesus’	34.03 (/ 0)
<b>ġuri (/ ġurin)</b>	‘jury’	28.13 (/ < 1)
<i>ħu</i>	‘brother’	11.69
<b>blu (/ blun)</b>	‘blue’	11.5 (/ < 1)

<b>kafè (/ kafena)</b>	‘coffee (bean)’	11.27 (/ < 1)
<i>ġa</i>	‘already’	8.93
<b>kju (/ kjun)</b>	‘queue’	5.69 (/ < 1)
<b>owkej (/ owkejn)</b>	‘OK’	~5 (/ < 0) <sup>20</sup>
<b>sufan</b>	‘sofa’	2.15
<b>Ġahan</b>	name of folklore character	1.73

Table 7: Items with at least one instance per million in the Korpus Malti v3.0 that have non-etymological /n/ or a word-final stressed open syllable (excluding verbs, demonstratives and *ħdejn*)

Since not all the /n/-resisting forms are more frequent than all the forms which do add /n/ (viz. *ħu* ‘brother’ and *ġa* ‘already’), token frequency is unlikely to be the whole story of what promotes or inhibits /n/ addition. An alternative proposal, which seems to offer a closer fit with the data, is that it is especially those items which rarely attract nuclear or contrastive stress – that is, items whose status as independent phonological words is relatively doubtful – that resist /n/ addition. This looks to be a promising line of inquiry, but we leave a more thorough investigation of this proposal to future work. For now, we turn in the following section to a discussion of the etymologies of the individual items in Tables 1–5 (other than *xejn*, which was dealt with in §4).

## 6 Etymologies of individual items

### 6.1 Straightforward cases

The etymologies of the following items are uncontroversially as listed in Tables 1–3 and their final /n/ is straightforwardly the result of /n/ addition to close a final stressed open syllable: *skrun* ‘propeller’, *sufan* ‘sofa’, *ormajn/armajn* ‘too late’, *gabrijolin* ‘cabriolet carriage’, *perun/pirun* ‘something of great value’, *biskwin* ‘biscuit porcelain’, *paspartun* ‘cardboard picture frame’, *surtun* ‘surtout coat’, *blu(n)* ‘blue’, *ġuġù(n)* ‘jujube’, *kangariù(n)* ‘kangaroo’, *kju(n)* ‘queue’, *owkej(n)* ‘okay’, *referi(n)* ‘referee’, *sprej(n)* ‘spray’, *stju(n)* ‘stew’, *xampù(n)* ‘shampoo’, *Ġisun (Ġesù)* ‘Jesus’, *tari(n)* ‘a pre-modern currency denomination’.

### 6.2 Cases with an intermediate stress shift

Several items in Tables 1–3 must have undergone a two-stage adaptation process. This can be seen most clearly with *kaki(n)*, borrowed from English *khaki* as *kaki*, with a stressed, long initial vowel. The first stage in the adaptation process is that, surprisingly, stress is shifted from the first syllable – a pattern with high type frequency in the Arabic-derived lexicon – to the final, open syllable – resulting in a

<sup>20</sup> This item is mostly spelled <OK> in the corpus, but a significant proportion of the sentences containing this string are English, not Maltese.

pattern whose type frequency, as we have seen, is so low in the Arabic-derived lexicon that speakers often feel the need to repair it by adding /n/. So why did speakers not simply retain initial stress here? The answer must be that by the time *khaki* was borrowed (not earlier than the late nineteenth century), sufficient Romance items with a final stressed open syllable had already been borrowed, and not (yet) repaired by /n/ addition, that speakers came to feel that a prototypical loanword (as opposed to a fully integrated Maltese word) should have a final stressed open syllable, and they then adjusted the stress of *kaki* – to *kakì* – accordingly.

We can draw a parallel here with the way in which English verbs such as *download* are adapted once borrowed into Maltese, namely with gemination of the initial consonant, suffixation of a palatal glide to the stem, and conjugation according to the weak-final verbal inflectional class, as in *iddawnlowdġajna* ‘we downloaded’ (see Mifsud 1995; Lucas & Čéplö 2020: 277–279). These adaptations bring such loaned verbs into line not with inherited, Arabic-derived verbs, but with the highest type-frequency verbs loaned from Italo-Romance. In both this case and that of *kakin*, we see that, while loaned material is adapted to bring it into closer conformity with the Arabic-derived lexicon (viz. assignment to the weak-final conjugation class and /n/ addition, respectively), the mixed nature of the Maltese lexicon is such that loanwords come to have their own prototypical features, distinct from what is prototypical of Arabic-derived items, and more recent loans are adapted to conform more closely specifically to the loanword prototypes (viz. initial gemination plus glide insertion, and stress shift, respectively). In addition to *kaki(n)*, the items from Tables 1–3 that must have (optionally) undergone this stress shift as a prerequisite for (optional) /n/ addition are *serkin* ‘sulky cart’ and *barbikju(n)* ‘barbecue’.

The items *ġurin* ~ *ġurì* ~ *ġuri* ‘jury’ and *baxan* ~ *baxà* ~ *baxa* ~ *paxa* ‘Pasha’ represent a similar case, except here the doublets with final/non-final stress (*ġurì* vs. *ġuri* and *baxà* vs. *baxa*) result not from an intra-Maltese adaptation process, but from having been borrowed separately from two different sources: English *jury* and *Pasha* with initial stress, and Italian *giurì* and *bascià* with final stress. It is the latter, with the expected final stressed open syllable that give rise to the forms *ġurin* and *baxan* with /n/ addition.

### 6.3 Table 4 items

As far as we are aware, there are no attestations of the base forms of the items in Table 4 – *abbati* ‘altar boy’, *kafè* ‘coffee’, *te* ‘tea’ and *kawċù* ‘hose pipe’ – that feature an added /n/. But with each of these items a stem-final /n/ is (at least sometimes) inserted when number suffixes are added: *abbatini* ‘altar boys’, *kafena* ‘coffee bean’, *tenijiet* ‘teas’ (nonstandard; standard form *teġiet*), *kawxuna/gawxuna/gamxuna* ‘horse’s over-reach boot’. This is best understood as the suffixed and unsuffixed forms exhibiting different layers of borrowing and adaptation. When originally borrowed, *kafè*, *te* and *kawċù* must have undergone /n/ addition in

the speech of at least some Maltese speakers (who also made other adaptations to the phonology of *kawċù*, including substituting /ʃ/ for /tʃ/). *Kawxuna*, *kafena* and *tenijiet* are the outcome of the singulative morpheme *-a* and the plural morpheme *-ijiet* being suffixed to these forms that have undergone /n/ addition. The present-day base forms without final /n/ must then represent reborrows from the respective source languages. *Abbati(ni)* likely represents a slightly different case, in that both Sicilian and Italian attest diminutive forms of the base *a(b)batì* ‘altar boy’ with the suffix *-ino/-inu*, giving *abatino/abbatinu* ‘little altar boy’, with plural *a(b)batini*. It seems that both the base and the suffixed forms were borrowed into Maltese, with the base form conventionalizing as the singular and the diminutive form conventionalizing as the plural. A parallel case can be found in *uffiċċju* ‘office’, whose plural for some (perhaps most) speakers is not the expected *uffiċċji*, but *uffiċċini*, which is clearly originally the plural of the diminutive form *uffiċċina*.

## 6.4 Arabic-derived items

### 6.4.1 *xulxin*

Stumme (1904: 122) links this item, with a dialectal variant *xilxin* (Aquilina 1987: s.v. *xilxin*), to an ultimate etymon \*šay? li-šay? ‘(one) thing to (another) thing’. This seems to be correct, but the vowel qualities suggest specifically \*šī l-šī as the immediate phrase from which this item was lexicalized. As far as we are aware, no Arabic dialect forms reciprocal pronouns in this way (the usual main etymon being \*bašd ‘some, a part’). Additionally, while \*šī as an indefinite determiner is very widespread in Arabic dialects and Maltese, it cannot typically stand alone with a pronominal function (i.e. its function is more like English *every* than *all*). This points to \*šī l-šī being a partial calque on an Italo-Romance form similar to Italian *l’un l’altro* ‘each other’ (lit. ‘the one the other’). Whatever the precise details of the etymology, there is no doubt that the final /n/ in this item is a straightforward case of /n/ addition, since once this phrase underwent univerbation it would have been left with a final stressed open syllable, and the word is cited – without /n/ – as *xilxi* in the *Mezzo Vocabolario* of c.1765 (Cassola 1996: 170; Kontzi 1999: 421).

### 6.4.2 *Hdejn*

*Hdejn* ‘near’ could be seen simply as a straightforward case of /n/ addition. But there is reason to think in this case that other factors were responsible for the addition of /n/ than just the presence of a final stressed open syllable. What is clear about this item is the following: it is cognate with Classical Arabic *hīdāʾ* ‘opposite to’ and Tunis Arabic *h̄da* and *baḥ̄da* ‘near’; the original form of this item in Maltese is *h̄ada*, also meaning ‘near’; the form *h̄ada* only appears with nominal complements, not pronominal

suffixes; and with pronominal suffixes the form is (almost always<sup>21</sup>) *ħdej*. This form is somewhat unexpected. The expected form, on the basis of comparative Arabic and Maltese-internal evidence would be *ħdie-*. Compare Tunis Arabic *ħdā-* (Singer 1984: 627) and how Maltese *-na* and *-ha* become *-nie-* and *-hie-* before a suffix pronoun, as in *jibghat-ha* ‘he sends it’ (send.IMPF.3SG.M-3SG.F) versus *jibghat-hie-lu* ‘he sends it to him’ (send.IMPF.3SG.M-3SG.F-DAT.3SG.M). Note, however, that Maltese *wara* ‘behind’ behaves in the same anomalous way, with the suffixed form being *waraj-* instead of the expected *wara-* [wəˈrəː] (compare Tunis Arabic *urā-*; Singer 1984: 627). These diphthongal forms presumably arose by analogy, though with which item(s) precisely is not clear. Possible candidates are *lej-* and the pre-suffixal form of *ghal* ‘for’, which is *ghali-* [vˈliː], but which must earlier have been *ghalej-* (compare Classical Arabic *ʕalay-* and Cairo Arabic *ʕalē-*, not *ʕalī-*). In any case, the form *ħdej* used independently in place of *ħada* must have been a backformation from the suffixed forms. Regarding /n/ addition with the independent form, note that once we have a suffixing form *lej-* and an independent form *lejn* conceived of as allomorphs of a single item (see §3), along with a suffixing form *ħdej-* and an independent form *ħdej*, there is clearly strong analogical pressure to create an independent form *ħdejn*. We take this analogical pressure to have been the primary factor promoting /n/ addition in this case.

#### 6.4.3 Near demonstrative *dan(a)* (m.), *din(a)* (f.), *dawn(a)* (pl.)

All who have addressed the matter agree that these items derive from the Arabic demonstrative elements *ḏā* (m.), *ḏī* (f.), *ḏū* (pl.). Aquilina (1987: s.v. *dan*) notes of *dan* that “[f]inal *n* is often omitted in the spoken language”, though we should probably view this as retention of unsuffixed *da* rather than secondary loss of /n/. The disagreement among etymologists concerns the provenance of the final /n/. Thus Barbera (1939b: 108) points out that a suffix *-ni* is added to both personal and demonstrative vowel-final pronouns in Sicilian<sup>22</sup> (e.g. *chistu* ‘this’ > *stuni*) and suggests that something like this process was replicated for the Maltese demonstratives, resulting in suffixation of /n/ to these. Saydon (1965: 72) asserts that “[n]othing is farther from the truth” than Barbera’s proposal, and instead highlights the widespread addition of /n/ in Maltese, citing the instances quoted in §1, and arguing that “*da* becomes *dan*, independently of any Sicilian influence.” Aquilina

<sup>21</sup> The search *ħdej*[ja,k,h,ha,kom,hom] returns over 3000 matches in the Korpus Malti. *ħdejn*[i,ek,u,ha,kom,hom] returns 3 distinct matches.

<sup>22</sup> Rohlfs (1968: 468–469) shows that optional suffixation of *-ni* (or *-ne*) to a range of functional items with a final stressed open syllable is rather widespread across Italo-Romance varieties going back at least to the thirteenth century. The fact that this suffix is itself always vowel-final (and that it targets especially high token-frequency items) means it cannot be seen as the source of Maltese /n/ addition in general. But the obvious similarity between Italo-Romance *-ni/-ne* suffixation and Maltese /n/ addition presumably played at least some role in establishing the latter as a stable feature of Maltese.

(1987: s.v. *dan*) also disagrees with Barbera’s suggestion of influence from Sicilian, suggesting instead that the presence of /n/ in these items is in fact a pre-Maltese dialectal Arabic innovation, citing, from O’Leary’s (1923: 160) comparative grammar of Semitic languages, such forms as “Tripoli” *hādūn* and “Morocco” *hādūn*. Such forms are indeed attested in North African Arabic varieties (e.g. Jewish Tripoli; Yoda 2005: 127), but only as plurals, where *-ūn* is a plural suffix. A final /n/ in the singular demonstratives is unknown in any Arabic variety beyond Maltese (see Magidow 2013). Aquilina’s suggestion that this feature is inherited is therefore untenable.<sup>23</sup>

A crucial point to note here is the fact that, unlike all the other instances of word-final /n/ considered in this article, with these demonstratives it is not merely /n/ that alternates with zero word-finally but also *-na*. The one discussion of these demonstratives to date that takes account of this fact is Fischer’s (1959: 67–71), which draws a crucial parallel with the various Maltese forms expressing ‘here’: *hawna*, *hawn*, and *haw*. Fischer’s only mistake is to assume that all three of these forms derive from presentative \*hā prefixed to \*hunā ‘here’, and that *haw* must arise from *hawn* through deletion of the final /n/. As we saw in §3, there is no general rule of final /n/ deletion in Maltese: it is entirely restricted to the pseudo(dual) suffix and to the coincidentally similar *fejn* ‘where’ (and derivatives) and *bejn* ‘between’. Instead, while *hawn(a)* clearly does derive from \*hā hunā,<sup>24</sup> *haw* should rather be seen as a retention of a form – derived from \*hā hu(wa) ‘here he/it is’ – that existed in Maltese from the beginning and which is still to be found in Tunis Arabic (Singer 1984: 259). Aside from on this point, Fischer’s reconstruction seems correct: once we have the semantically near-identical forms *haw* and *hawna* alternating, it is natural to view *-na* as a suffix and to optionally extend this to the demonstrative pronouns, presumably starting with the plural *daw*, giving the alternation *daw* : *dawna* (and then *da* : *dana* and *di* : *dina*). The optional loss of the final /a/ in both *hawna* and the newly extended demonstratives (*dana*, *dina*, *dawna*) is unsurprising in view of the crosslinguistic tendency for phonetic reduction of high token-frequency items, and in any case forms part of a wider tendency in Maltese to (optionally) omit a final /a/ in such items, seen also in *hemm* ‘there’ (< *hemma* < \*θamma) and *jien(a)* ‘I’.

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<sup>23</sup> O’Leary (1923: 160) suggests that /n/ in Maltese demonstratives is cognate with demonstratives also ending in a final nasal consonant in Aramaic, Ethiopic, and Modern South Arabian, but this also cannot be correct, given its absence in Arabic varieties beyond Maltese. See also Hasselbach (2007).

<sup>24</sup> This is a pre-Maltese development. Loss of the medial \*h gives rise to the diphthong which is preserved in Maltese *hawn(a)* and regularly monophthongized in Tunisian *hūni* and Levantine *hōn*.

#### 6.4.4 *Ġaħan* and *għefien*

Not enough is known at present about the development of these items to be certain about their etymologies, but the following notes may serve as a starting point for future investigations.

In eastern Libyan Arabic, and in all Arabic dialects which preserve stressed short vowels in non-final open syllables, the name of the folklore character under discussion here is *ġuħa* (with initial stress).<sup>25</sup> The majority of Western Arabic dialects, including most contemporary Tunisian varieties, which have lost stressed short vowels in non-final open syllables, have *žħa* as the regular reflex of *ġuħa*. It is unclear when exactly this loss happened, but it had not yet spread to the Arabic variety that was first brought to Malta, because contemporary Maltese retains these vowels; compare Maltese *sema* ‘sky’ with Tunis Arabic *sma*. The expected Maltese form of this name would therefore be *\*\*Ġoħa*, with initial stress. Note that the form of this name in Sicilian and Italian folklore is *Giufà* or *Giucà* with final stress, presumably reflecting the adoption of this name from the Western Arabic form *žħa*. In addition to the unexpected /a/ in the first syllable, the difficulty with the Maltese form of the name – *Ġaħan* [ˈdʒəħən] – is that it has initial stress and a short vowel in the second syllable, which matches the expected form *\*\*Ġoħa*, but suggests that /n/ was unexpectedly added to an *unstressed* final open syllable. Since there is no evidence for /n/ addition in this context elsewhere in the Maltese lexicon, we must seek an alternative, necessarily speculative, explanation. Our suggestion is that the form *Ġaħan* is the compromise outcome of competition between the inherited, initially-stressed form *\*\*Ġoħa* and the Sicilian/Italian form *Giufà*, which, offering the correct phonological environment of a final stressed open syllable, was supplied with an additional final /n/ when borrowed into Maltese.

*Għefien* presents a somewhat similar problem. We saw in §4 that Aquilina’s (1987: *s.v. għefien*) suggestion that the final /n/ in this item is a retention of Classical Arabic nunation is entirely implausible. What about the rest of his proposed etymology, namely that its etymon is *\*yafā(?)*? This looks much more plausible, since the semantic correspondence is perfect: both *għefien* and Classical Arabic *yafā ~ yafāʔ* mean ‘chaff’ (Lane 1863: *s.v. yfw/yfy*). There are two problems, however. First, the expected reflex of *\*yafā(?)* in Maltese is *\*\*għefa*, with initial stress. That is, it should not have provided the appropriate phonological context for /n/ addition. The second problem is linked to the fact that orthographic <gh> in contemporary standard Maltese represents the outcome of two separate Arabic phonemes: /ʕ/ and /ɣ/. Their merger and subsequent loss (except in orthography) is a relatively recent development of standard Maltese, which has not yet spread to all Maltese dialects (Lucas & Čéplö 2020: 271). At the time that Vassalli wrote his dictionary of Maltese (published 1796), the distinction remained robust and, for the meaning “fieno e paglia che rimane avanti le bestie” [‘hay and straw that remains in front of livestock’] he gives only

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<sup>25</sup> The local pronunciation of this name in a range of different Arabic dialects can be heard at the following link: <https://www.reddit.com/r/arabs/wiki/dialects>

“᠒fÿn” (i.e. /ʕfi:n/) not “᠋᠋fÿn” (i.e. /ʕfi:n/), as would be expected if this item really does derive from \*ʕafā(?). This is surprising, since the root √ʕfn is apparently everywhere else in Arabic associated only with the semantic field of mould and decay. In Maltese there has clearly been a shift, however. Aquilina (1987: s.v. *ghafen*) gives the following meanings for the verb *ghafen*: “1. To become desiccated, dry (leaves of wheat, etc.) [...] 2. [...] To grow more than is normal for a good crop (wheat, corn). 3. [...] To grow too densely together leaving no air or space in between causing damage to leaves.” It appears that there has been a semantic broadening process here, from the specific problem of mould (in crops), to a range of problems that can affect crops, including dryness. Against this background, one would expect Arabic *ʕafān* ‘mouldiness’ to become something like *ghēfien* ‘poor/dry harvest’, and a further shift from there to ‘chaff’ is not implausible. Clearly there is too much uncertainty here to make confident pronouncements, but the evidence suggests that we cannot simply assume either that *ghēfien* derives from \*ʕafā(?), or that it has undergone the same process of /n/ addition as the other items discussed in the present article.

## 6.5 Table 5 items

The three items in Table 5 – *dawl* ‘light’ (< Arabic \*ḏaw < ḏaw?), *dikutell* ‘stone stood on its narrow dimension’ (< French *de côté* ‘sideways’), and *ġvintur* ‘youth’ (< Italian *gioventù* ‘youth, young people’) – represent all the Maltese items that we are aware of in which there is an etymologically unexpected additional final consonant other than /n/. All three present the basic phonological context for /n/ addition – a final stressed open syllable – but in each case we can point to idiosyncratic details of each item which likely motivated the addition of the consonants we see, rather than /n/.

Beginning with *dawl*, Aquilina (1987: s.v. *dawl*) proposes that the origin of the final /l/ is the definite article of the following noun in a synthetic genitive construction. It is hardly plausible, however, that speakers would reanalyse the /l/ in a string such as *daw l-qamar* ‘light of the moon’ as belonging to the first word, as then they would be forced to analyse the possessor noun as indefinite – an analysis for which there would be no obvious motivation. Instead it seems that here the chief motivation for the addition of some final consonant is the fact that without it this word would have been bi- instead of tri-radical, following the regular loss of final glottal stop from the ultimate etymon \*ḏaw?. This pressure towards triradicalization is realized in the cognate item in most Arabic dialects by gemination of the glide: *daww/ḏaww*. In Maltese we can instead triradicalize this item with /n/ addition. Why we have a final /l/ rather than /n/ in *dawl* can be understood as an ease-of-articulation effect: the pharyngealization spreading across the whole word as a result of the originally emphatic \*ḏ, combined with the lip-rounding of the /w/, mean that speakers aiming to produce [n] could plausibly have been perceived as having intended /l/.

Aquilina (1987: s.v. *dikutell*) proposes that *dikutell* ‘a stone stood on its narrow dimension, cargo carried sideways, the last horizontal wooden strip of a cart’ (with variant forms *dukutell* and *digudell*) derives from French *de côté* ‘sideways, on one side’. This is at least phonetically plausible, and since we are aware of no better candidate etymon in Sicilian or Italian, we accept this etymology as probably correct. Clearly relevant here is that the additional final /l/ is geminate. The motivation for adding a consonant is of course the final stressed open syllable. The addition of the geminate /l/ rather than any other consonant appears to be conditioned by the vowel quality (presumably perceived by Maltese speakers as /ɛ/) and to constitute a sort of folk etymology, assimilating this loan to the many Maltese words – such as *kastell* ‘castle’ or *martell* ‘hammer’ – that have the suffix *-ell*, these being borrowings of Sicilian or Italian words ending in *-ello* or *-ellu*, respectively.

Finally, a similar process of folk etymology seems to be behind the addition of /r/ in *gùvintur* ‘young people’, whose Italian etymon *gioventù* again has a final stressed open syllable. At issue here is the fact that a great many Maltese words of Romance origin contain the suffix *-ur* (often *-tur*; e.g. *pittur* ‘painter’, *ambaxxatur* ‘ambassador’), whose agentive meaning will have made it especially plausible to speakers as the correct termination of a word referring to people.

## 7 Conclusion

In this article we have seen that a non-systematic phonological change – addition of word-final /n/ in the case at hand – can be driven by pressure felt by speakers to make phonologically anomalous words conform more closely to a prototype. We have also seen that a range of factors can enable an item to resist this pressure; most fundamentally high token frequency, or the strongly correlated property of phonological dependence on other lexical items. Since it is generally native lexical items that have these properties rather than loanwords, we have seen that Maltese final /n/ addition is largely, but not exclusively, a process affecting loans.

An adequate understanding of this phenomenon has only been possible by means of a detailed examination of the etymologies of the items (apparently) affected. In the course of this examination we have seen that some of the items considered contain a final /n/ for reasons quite different to prototype conformity. The most notable of these is *xejn* ‘nothing’, whose final /n/ we argued represents a fossilized retention of the kind of grammatical nunation familiar from Classical Arabic but generally completely absent from the Arabic dialects. Thus we have further evidence from these investigations of just how rich the Maltese language can be as a source of data that helps us understand not only the history of Arabic dialects, but the nature of language change, and linguistic cognition, in general.

## Abbreviations

*	reconstructed form	GEN	genitive
**	unattested form	IMP	imperative
1, 2, 3	first, second, third person	IMPF	imperfect
ACC	accusative	It(al).	Italian
ACT	active	M	masculine
Ar.	Arabic	NEG	negative
CONJ	conjunction	NUN	nunation
DAT	dative	OBL	oblique
DEF	definite article	PASS	passive
DEM	demonstrative	PRED	predicator
dim.	diminutive	PRF	perfect
DU	dual	PL	plural
Eng.	English	PN	proper name
ELA	elative	POSS	possessive
F	feminine	PTCP	participle
Fr.	French	Sic.	Sicilian
FUT	future	SG	singular

## Electronic resources

Korpus Malti v3.0: <https://mlrs.research.um.edu.mt/>

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