Negative Sensitive Indefinites in Maltese

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Abstract

This paper looks at sentential negation in Maltese and the syntactic behaviour of a group of negative sensitive indefinite items in Maltese, for which existing literature offers only a partial (and indeed partially incorrect) characterisation. We focus on syntactic aspects of the interplay between sentential negation and negative sensitive items (NSIs), both negative concord items (NCIs) and negative polarity items (NPIs). Our primary aim is to provide a solid description of the somewhat complex facts and some formalisation of the syntactic aspects in LFG, building on previous work on syntactic aspects of negation in this framework.

1   Sentential Negation in Maltese

In broad terms, Maltese uses a bi-partite strategy, realized as *ma ...-x/m' ...-x*, in the negation of finite verbal predicates, as described in several sources, including Borg & Azzopardi-Alexander (1997) and Lucas (2009). It thus shares a number of aspects of the morphosyntax of negation with closely related varieties of vernacular Arabic. The examples in (1) illustrate this with a finite, perfective verb. Imperfective forms also use this circumfixal strategy. As Spagnol (2009, 29) notes, imperfective forms also permit a second strategy, which is the one otherwise used to express non-finite forms. These two different strategies are associated with distinct aspectual interpretations. This second strategy circumfixes *ma- ...-x/m' ...-x* to a form identical to a nominative pronominal. The example in (2b) illustrates this and table 1 provides the inventory of forms constituting the 'pronominal' NEG strategy in Maltese. Either a default or an agreeing form may be used in the pronominal NEG strategy.

(1) a. Qraj-t   il-ktieb.
         read.PFV-1SG DEF-book

         I read the book.

     b. **Ma** qraj-t-**x**   il-ktieb.
         NEG read.PFV-1SG-NEG DEF-book

         I didn't read the book.

(2) a. **Ma** n-iekol-**x**   ħafna.
         NEG 1-eat.IMPV.SG-NEG a.lot

         I don't eat a lot.   HABITUAL

b. **Mhux** $\sim$ **minix** n-iekol ħafna.
NEG.3SGM.NEG $\sim$ NEG.1SG.NEG 1-eat.IMPV.SG a.lot

I am not eating a lot.   PROGRESSIVE | RESTRICTED HABIT

Morphosyntactic features	Pronominal NEG **inflection**
1SG	*mnix $\sim$ minix $\sim$ mjienx*
2SG	*mintx $\sim$ mintix*
3SGM	*mhux $\sim$ mhuwiex $\sim$ (dialectal) mihux*
1PL	*maħniex*
2PL	*mintomx*
3PL	*mhumiex*

Table 1: The paradigm of the pronominal NEG strategy in Maltese [1]

The pronominal NEG strategy illustrated in (2b) is also used with non-finite verbal morphological forms such as participles, as in (3), and with non-verbal predicates. Throughout the rest of this paper we will focus our analysis on the bipartite strategy illustrated in (1) and (2a). Our observations concerning the interaction with negative sensitive items carry over to the pronominal NEG strategy.

(3) **Mhux** $\sim$ **mhumiex** sejr-in.
NEG.3SGM.NEG $\sim$ NEG.3PL.NEG go.ACT.PTCP-PL

They are not going.   ACTIVE PARTICIPLE

We conclude our brief overview of the realization of sentential negation with the negation of imperative forms.[2] The PROHIBITIVE form involves *la* (which is optional) in combination with -*x* affixed to the SG and 2PL imperfective forms, while the (positive) imperative is realized by a distinct imperative form.

(4) a. Ikteb!
write.IMP.2SG

Write!

b. **(La)** t-i-ktib-**x**!   *(La)** iktib**x**!
NEG 2-FRM.VWL-write.IMPV.SG-NEG

Don't write!

Similar to other Arabic dialects, the bi-partite negation of Maltese represents stage II of the Jespersen cycle (Jespersen, 1917) of NEG-formation (Lucas, 2007).

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[1] As we will see below, when -*x* is not part of the form, the orthographical form changes slightly, e.g. *m'aħna*, as opposed to *maħniex*. In contexts where -*x* is not part of the form, the only form that becomes available in the 1SG cell is: *m'jien*.

[2] Note that other sentential NEG strategies are also employed in Maltese, including *lanqas* (> *ʔal-ʔanqas* 'the least' in Arabic (Barbera, 1940)) and *mank* (> *mancare* 'lack; miss' in Italian), which additionally function as scalar focus markers and minimisers.

The affix *-x* part has grammaticalised out of an earlier form corresponding to *šayʔ* 'thing' in Classical Arabic, with *ma* as the sole exponent of negation in stage I of the cycle. Synchronically, the question arises as to whether one part (and if so, which part) or both parts (via distributed exponence) realizes sentential NEG. We will show that it is *ma* which realizes sentential NEG in Maltese.

2 Indefinite Proforms

This section introduces a range of negative sensitive items and discusses their interaction with sentential negation. Previous literature has discussed these elements as negative concord (NC) items, that is, as inherently negative and giving rise to single negation (concordial) interpretations in combination with markers of sentential NEG (Lucas, 2009, 2013, 2014). Extending the observations in Camilleri & Sadler (2016) we will show that the picture is considerably more complicated.

2.1 N-series Proforms as *n*-words

Table 2 shows the relevant inventory of proform items in Maltese.[3] While the *xi ħaġa*-series are generally taken to be positive polarity items (PPIs), the *xejn*-series are taken to be n-words, that is, as NC items in combination with sentential NEG (see (5)); in fact Lucas takes Maltese to be 'the only Arabic variety that may accurately and straightforwardly be described as a negative-concord language' (Lucas, 2009, 2013, 2014). Following previous literature, we will sometimes refer to these forms as negative indefinites (without commitment to their semantic treatment as indefinites, existentials or universals) or as n-words, at this stage, but we also introduce the terms N-series and P-series to avoid confusion.

	xejn or N-series	*xi ħaġa* or P-series
determiner	*ebda* 'no(ne)'	*xi* 'some'
thing	*xejn* 'nothing'	*xi ħaġa* 'something'
person	*ħadd* 'no one'	*xi ħadd* 'someone'
time	*qatt* '(n)ever'	*xi darba* 'once/sometimes'
place	*imkien* 'nowhere'	*x'imkien* 'somewhere'

Table 2: Inventory of indefinite items (Haspelmath & Caruana, 1996, 215)

(5) and (6) show that only P-series proforms occur in affirmative declaratives, and only N-series proforms in negative clauses (N-series in boldface).

(5) a. Mor-t   x'imkien.
       go.PFV-1SG somewhere

       I went somewhere.

   b. *Mor-t   **imkien**.
       go.PFV-1SG nowhere

       Intended: I went nowhere.

(6) a. **Ma** mor-t   **imkien**.
       NEG go.PFV-1SG nowhere

   b. ***Ma** mor-t-(x)   x'imkien.
       NEG go.PFV-1SG-X somewhere.

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[3]For completeness we note that *xejn* also occurs as a determiner meaning 'any' and as an adverb/adjunct meaning 'at all', as identified in Camilleri & Sadler (2016).

I went nowhere.   Intended: I went nowhere.

The phenomenon of negative concord (NC) involves multiple negative elements associated with a single semantic negation (Labov, 1972). It (typically) involves the co-occurrence of sentential NEG with one or more additional *n*-words, or inherently negative items (Mugarza, 1990). NCIs or n-words are distinguished from negative polarity items (NPIs) which co-occur with sentential NEG (and often in a wider set of environments) but are not themselves inherently negative, and the superordinate term negative sensitive item (NSI) covers both NPIs and NCIs. An *n*-word or NCI is understood to be an expression α that can be used in structures containing sentential negation or another α-expression to yield a reading equivalent to one logical negation, and which can provide a negative fragment answer (Giannakidou, 2006, 328). The Spanish NEG indefinite *nada* is an *n*-word: it co-occurs with sentential NEG in (7) giving rise to a single logical negation and provides a negative fragment answer in (8).

(7) **No** funciona **nada**.
   NEG functions nothing

   Nothing works.   Spanish: (de Swart & Sag, 2002, 405)

(8)   Q Qué viste?   A **Nada**
      What did you see?   Nothing!   Spanish: (de Swart, 2004, 203)

There are different types of NC languages. Spanish is both a non-strict and a spreading NC language. It is non-strict because sentential NEG ceases to be necessary when NEG indefinites such as *nada* precede the verbal predicate (9). Sentential NEG is also absent when two NCIs or n-words co-occur: (10) is an instance of spreading, where sentential NEG *no* is not available as *nada* co-occurs with *nadie*.

(9) **Nada** *funciona*.
   nothing functions

   Nothing works.   Spanish: (de Swart & Sag, 2002, 405-406)

(10) **Nadie** habla   de **nada**.
    no.one speak.PRES.3SG of nothing

    No one speaks about anything.   Spanish

By constrast, Maltese is a strict NC language, and one where spreading is not available. Irrespective of the linear order of *ħadd* 'no one' vis-à-vis the predicate or the presence of a co-occurring N-series element, sentential NEG expressed by *ma* is obligatory in these sentences. Note that all of these examples give rise to a single negation reading.

(11) a. Ilbieraħ **ħadd** *(**ma**) ġie.
     yesterday no.one NEG   come.PFV.3SGM

     No one came yesterday.

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b. Ilbieraħ *(**ma**) ġie **ħadd**.
yesterday NEG come.PFV.3SGM no.one

No one came yesterday.

(12) a. **ħadd** *(**m'hu**) **xejn**.
no.one NEG.3SGM nothing

No one is anything.

b. **Ebda** tifel *(**ma**) mar **imkien**.
none boy NEG go.PFV.3SGM nowhere

No boy went anywhere.

The N-series proforms provide negative fragment answers, as expected for *n*-words/NCIs.

(13) Q X'ra-t?   A **Xejn**
      what.see.PFV-3SGF   nothing
      What did she see?   Nothing!   (Lucas 2009, 223-224)

(14) Q Fejn mor-t?   A **Imkien**
      where go.PFV-2SG   nowhere
      where did you go?   Nowhere.

2.2 Incompatibility with -*x*

Although Maltese uses the bi-partite (*ma....-x*) strategy for negation, -*x* is in complementary distribution with any N-series n-word item in the same clause, as shown in (15b). The *xejn* in (16) is not an n-word but an adverbial minimiser (a weak NPI), but the complementarity in fact extends to the more general class of NSIs, including the class of weak NPIs (a matter to which we return below). Given this incompatibility, and the fact that *ma* is required to express sentential negation in (15a), it is clearly *ma* that expresses sentential NEG, and not -*x*.[4]

(15) a. It-tifla *(**ma**) *ra-t* **xejn**.
      DEF-girl NEG see.PFV-3SGF nothing

      The girl saw nothing.

b. *It-tifla **ma** ra-t-**x** **xejn**.
      DEF-girl NEG see.PFV-3SGF-X nothing

      Intended: The girl saw nothing.

(16) Dan **m'***hu* / ***mhux** ħelu **xejn**!
      DEM.SGM NEG.3SGM / NEG.3SGM.X sweet.SGM at.all

      This is not sweet at all!

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[4]Having established that the suffix -*x* does not itself express NEG, from now on we will gloss -*x* merely as X. This is consistent with the view of -*š* in other Arabic varieties postulated in sources including Jones & Al-Rashdan (2017) and Mughazy (2003, 1158)

2.3 Locality

A crosslinguistically characteristic property of *n*-words/NCIs is that they are locally licensed, although this tendency is by no means absolute. In some languages long-distance licensing is possible through transparent domains (such as those created by restructuring, or subjunctive or infinitival clauses), and Aranovich (1994) shows long distance licensing into argument functions of complement clauses in Spanish.

(17) No quiero   que visites   a   ninguno de sus
     NEG want.1SG.PRES.INDIC COMP visit.2SG.SUBJ ACC no.one   of their
     amigos.
     friend.PLM

   I do not want you to visit any of their friends. (Aranovich, 1994, 204)

The behaviour of n-words and their licensing has not been considered in the literature on Maltese, beyond reference to the obligatory presence of sentential negation. For Palestinian, Hoyt (2014, 54-56) (also Hoyt (2006, 50)), demonstrates that while the *n*-word *wela* 'even' is 'generally subject to strict locality constraints ...[and] must be contained within the smallest inflected clause containing its licensor', long-distance licensing of *wela*-phrases is found in the complement of verbs such as *bidd-* 'want'; *ḥalla* 'let; make; do'; *ḥāwil* 'try'; *fakkar* 'think; believe'; *ṣār* 'become' and other modal auxiliaries such as *mumkin* 'can; might; be possible' and *lāzim* 'must; have to; necessary' (Hoyt, 2006, 50); (Hoyt, 2014, 54-56)). Hoyt (2006, 50) suggests that this non-local licensing of the *n*-word indicates that the predicates permitting long-distance licensing are restructuring predicates, and hence give rise to a single 'clausal' domain, and the limitation to imperfective forms for the embedded verbal predicates is consistent with the view that this type of embedding is non-finite (Benmamoun, 1999; Hallman, 2015). Turning to Maltese, the examples in (18) are perfectly felicitous (with clear finite subordinate clauses containing perfective verb forms and modal auxiliaries) involving deeply embedded N-series proforms. It does not seem plausible, therefore, that the relevant factor relates to clause-type distinctions such as those between restructuring and non-restructuring predicates.[5]

(18) a. **Ma** sab-et   [li donn-u   [kien-u
        NEG find.PFV-3SGF COMP appear-3SGM.GEN be.PFV.3-PL
        ltaqgħ-u   **qatt imkien.**]]
        meet.RECIP.PFV.3-PL never nowhere

   She didn't find that they seemed to have ever met anywhere.

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[5]Note that strong NPIs are said to only be licensed long-distance in the context of NEG raising predicates, while other predicates also license weak NPIs (such as *any* in English) in subordinate clauses. The class of predicates permitting long-distance n-word licensing in Maltese does not correspond to the class of NEG-raising predicates.

b. **Ma** j-i-dhr-u [li kien-u ppruva-w
NEG 3-FRM.VWL-appear.IMPV-PL COMP be.PFV.3-PL try.IMPV.3-PL

[j-weġġgħ-u ’l **ħadd** bi kliem-hom.]]
3-hurt.IMPV-PL ACC no.one with word.PL-3PL.GEN

They don't seem that they had tried to hurt anyone with their words.

2.4 Nonlocality and the Incompatibility with *-x*

Examples with 'long-distance' n-words, such as (18) and (19) below display the same incompatibility with the suffix *-x* in the negative clause itself; adding that suffix would make the sentences ungrammatical.

(19) **Ma** smaj-t [li qal-u [li
NEG hear.PFV-1SG COMP say.PFV.3-PL COMP

qal-t-i-l-hom [li għand-hom
say.PFV-3SGF-EPENT.VWL-DAT-3PL COMP have-3PL.GEN

j-i-xtr-u **xejn.**]]]
3-FRM.VWL-buy.IMPV-PL nothing

I didn't hear that they said she told them they have to buy anything.

Long distance NC is optional, however, and instead of (19) it is possible to combine matrix *ma.....-x* with the corresponding P-series proform (here *xi ħaġa*), with equivalent meaning, and in the presence of matrix *-x*, an N-series proform would be ungrammatical. Similar pairs can be given with other of the putative NC indefinite items such as *ebda N* 'no N' and *xi N* 'some/any N'.

(20) **Ma** smaj-t-**x** [li qal-u [li
NEG hear.PFV-1SG-X COMP say.PFV.3-PL COMP

qal-t-i-l-hom [li għand-hom
say.PFV-3SGF-EPENT.VWL-DAT-3PL COMP have-3PL.GEN

j-i-xtr-u **xi ħaġa.**]]]
3-FRM.VWL-buy.IMPV-PL some thing

I didn't hear that they said she told them they have to buy anything.

To summarise, *ma* is obligatorily paired with affixal *-x* on the verbal predicate unless it co-occurs with a NC (N-series) item in the relevant (local or nonlocal) domain, in which case *-x* is impossible. Intuitively, it seems as if the presence of *-x* closes down the NEG licensing domain in some manner. P-series proforms are excluded from negative clauses (on semantic grounds, as positive polarity items). A NC item can be licensed long distance (by an 'unpaired' or active *ma*), which is crosslinguistically rather unusual, and in fact consistent with the possibility that concordial N-series proforms in Maltese are in fact weak NPIs. In the following section we will show that in fact the N-series of indefinites in Maltese (with the exception of the determiner *ebda* 'none') occur in a wider set of environments as weak NPIs (or *affective polarity items* (APIs) in the terminology of Giannakidou (2000)).

2.5 NEG **indefinites as weak** NPIs

Negative Polarity Items (NPIs) are expressions which need to be licensed by suitable contexts which include but are not limited to that created by sentential negation. Such elements are not inherently negative, and may be of a wide range of different syntactic categories. Although named for their sensitivity to negative contexts, some NPIs (the weak NPIs, also called *affected polarity items*) are licensed in a much wider set of contexts, including interrogatives, comparatives, modal and conditional contexts. Others (often referred to as strong NPIs) are more severely constrained in their distribution, being (locally) licensed by sentential negation and in *without* clauses, i.e. anti-veridical contexts. A variety of different semantic characterisations have been offered for the contexts licensing NPIs, including those in terms of downward entailment (Ladusaw, 1979), Strawson downward entailment (von Fintel, 1999), and non-veridicality (Giannakidou, 1998, 2011).

Taking the N-series to be NC items, as suggested by Lucas, leads us to expect that they occur only in the context of sentential negation (the set of contexts which license strong NPIs), and in negative fragment utterances, as reviewed in the sections above. In fact this does not entirely capture their distribution. In general, the N-series proforms may occur in the set of non-veridical contexts (and hence are not limited to strictly negative, or anti-veridical, contexts). The examples in (21) illustrate nominal, determiner and adverbial *xejn* respectively in polar interrogatives.

(21) a. Sib-t/raj-t **xejn** tajjeb j-għodd
find.PFV-2SG/see.PFV-2SG nothing good 3M-count.IMPV.SG
għal-i-k?
for-EPENT.VWL-2SG.GEN
Did you find/see anything good that's useful for you?   NOMINAL NPI

b. Kil-t **xejn** ċikkulata?
eat.PFV-2SG nothing chocolate
Did you eat any chocolate?   DETERMINER NPI

c. Irqad-t **xejn**?
sleep.PFV-2SG nothing
Did you sleep at all?   ADVERBIAL NPI

Other indefinites in the N-series also function as weak NPIs, including *qatt* (as in (22)) and *imkien* (23).

(22) **Qatt** t-kellim-t ma' xi ħadd dwar l-affari?
never RECIP-talk.PFV-2SG with some one about DEF-matter
Have you ever talked to anyone about the matter?

(23) T-i-nfed għal **imkien** dit-triq?
3F-FRM.VWL-link.IMPV.SG for nowhere DEM.SGF.DEF-street.SGF
Does this road lead/take you anywhere?

In fact, non-nominal *xejn* (from the N-series) can never express a negative fragment answer, and so should not be characterised as a NC item at all, but is (simply) an NPI. In (24) the minimiser *lanqas* is required to express a negative response.

(24) Q Ilbieraħ ħad-t-u gost? A *(Lanqas) xejn.
yesterday take.PFV-2-PL fun not even nothing

Did you have fun yesterday? Not at all! ADVERBIAL NPI

(25) Q T-rid ħafna logħob? A *Xejn logħob.
3SGF-want.IMPV a.lot games nothing games

Does it need a lot of playing with/fiddling? DETERMINER NPI

The determiner *ebda is* seemingly *limited* to negative (anti-veridical) environments and so should be classified as a strong NPI (or *n*-word/NC item). This N-series determiner cannot be used in a polar interrogative and either (the P-series item) *xi* 'some' or (N-series determiner) *xejn* must be used instead ((26)-(27)).

(26) Qraj-t **xi/*ebda** kotba ġodda?
read.PFV-2SG some/none book.PL new.PL

Did you read any new books?

(27) Qraj-t **xejn** kotba?
read.PFV-2SG nothing book.PL

Did you read any/many books?

It is often observed that the licensing conditions for polarity sensitive items are much more nuanced than a simple division might suggest and Maltese certainly bears this out: the N-series proform *ħadd* 'no one' occurs in anti-veridical environments (like a NC item), and in some non-veridical contexts (with 'barely' and in the antecedent of a conditional) but it can occur in polar interrogatives only if it co-occurs with the N-series element *qatt* '(n)ever' (but not any other), as in (31).[6]

(28) Bilkemm ra 'l ħadd
with.DEF.how.much see.PFV.3SGM ACC no.one

He barely saw anyone.

(29) Jekk ħadd i-kellm-ek, għid-l-i
if no.one 3M-talk.IMPV.SG-2SGM.ACC tell.IMP.2SG-DAT-1SG

If anyone talks to you, tell me.

(30) *Kellm-ek ħadd?
talk.PFV.3SGM-2SG.ACC no.one

Intended: Did anyone talk to you?

(31) **Qatt** kellm-ek (**ħadd**)?
never talk.PFV.3SGM-2SG.ACC no.one

Did anyone ever talk to you?

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[6]*qatt* is the only N-series element that can itself take the *-x* suffix – we leave a full investigation of this item for future work.

2.6 Summary

We have shown that the distribution of Maltese N-series items is not consistent with the assumption that they are simply NC items. When they do occur in the context of sentential negation, they are in complementary distribution with the -*x* suffix on the verb or the negative pronominal inflection, and nominal elements in the series can provide negative fragment answers. However, in general the N-series items are not limited to anti-veridical environments but occur also in non-veridical environments, a behaviour consistent with weak-NPI status (that is, they are subject to semantic licensing conditions which are more permissive, extending beyond the environment created by sentential negation). The N-series determiner *ebda* on the other hand *does* appear to be limited to strictly negative (anti-veridical) environments, and *ħadd* also shows a degree of restriction in the range of non-veridical environments it tolerates.

With this background in place we are now in a position to outline an analysis of the relevant syntactic aspects of NEG concord and the interaction with bi-partite negation in Maltese, that is, the complementary distribution between N-series items and -*x* in the context of both local and non-local sentential NEG licensing. Prior to our analysis, we first consider how certain issues have been tackled in other Arabic dialects within other frameworks, and then we consider parallel data from Polish and its treatment in LFG.

3 An analysis

3.1 Bipartite Negation in Arabic dialects

Bipartite negation is found in many Arabic dialects, primarily in the region running westward from the Levant to Morocco. Syntactic accounts are often articulated in terms of interpretable/uninterpretable features and feature checking. For instance, in this vein Jones & Al-Rashdan (2017, 24-25) propose a Minimalist analysis of the morphosyntax of negation in (North-West) Jordanian Arabic, but do not discuss any interaction with NSIs. Jordanian Arabic displays optional stage I/II behaviour in terms of the Jespersen NEG cycle, with constrained stage III behaviour in which the suffix -š on its own can express NEG. (32) illustrates.

(32) a. mā   ʔakal-t-(iš)
        NEG eat.PFV-1SG-NEG

   I didn't eat. (Jones and Alrashdan 2017, 3)

   b. b-i-rūḥ-iš
      INDIC-3SGM-go.IMPV-NEG

   He doesn't go.   Jordanian: (Jones and Alrashdan 2017, 9)

Jones & Al-Rashdan (2017) assume a [U-NEG] (uninterpretable NEG) feature associated with -*š* which needs to be checked by the corresponding interpretable NEG feature on *mā/lā*. This accounts for the optional co-occurence of the bipartite morphological expression of NEG. When -š occurs on its own, they assume that the

same checking takes place, and that once this requirement is satisfied, the *mā/lā* bearing the interpretable NEG feature is subsequently deleted.

Libyan Arabic also has bipartite negation, and in fact *n*-words have an essentially similar distribution to their Maltese counterparts, displaying the same complementarity with respect to the -*š* suffix.

(33) a. la-wlād   **ma**-mšū-**š**   li-l-madrsa
       DEF-boy.PL NEG-go.PFV.3-NEG to-DEF-school

      The boys didn't go to the school.

    b. **ma**-šuf-t-*š   ħad/šay
       NEG-see.PFV-1SG-NEG nobody/nothing

      I saw nobody/nothing.   Libyan: (Borsely & Krer 2012, 1-2)

Borsley & Krer (2012) propose an HPSG analysis in which both *mā* and -*š* are treated as affixes. They assume a HEAD feature POL with subtypes *weak-neg* and *strong-neg*. This means that their ontology basically individuates *positive* from *weak-neg* from *strong-neg* verbs. Verbs with bipartite negation marking are [POL *strong-neg*] while those with *ma-* alone are [POL *weak-neg*].

(34)
$$
\begin{bmatrix}
\text{MORPH} \begin{bmatrix} \text{FORM } \textit{ma-šuft} \\ \text{I-FORM } \textit{šuft} \text{ ('see')} \end{bmatrix} \\
\text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \textit{verb} \\ \text{POL } \textit{weak-neg} \end{bmatrix} \end{bmatrix}
\end{bmatrix}
$$

It is assumed that constituents containing NSIs will be marked with the feature [AFF] (though it is not specified where in the feature structure this feature is located, and how it is shared/percolated within structures, or which elements it is lexically associated with). Given this assumption, a constraint is formulated whereby a *neg-clause* has a DTR with a [POL *weak-neg*] feature iff it has an [AFF +] daughter.

3.2 Negative Concord in LFG

Syntactic aspects of NC in LFG are discussed in Sells (2000) and Przepiórkowski & Patejuk (2015) and to a lesser extent in Laczkó (2014) and Laczkó (2015). Sells (2000) does not adopt the standard LFG model within which f-structure is fully defined by f-descriptions associated with lexical items and c-structure rules, but rather a realizational correspondence architecture in which correspondences are stated between f-structure attributes and morphosyntactic features determining morphological realization. It also relies on a number of extrinsically stated principles and generalizations (such as the notion that there will be only one realization of a given f-structure attribute value pair). Nonetheless, it is relevant to note that Sells (2000, 17) treats Italian *non* as introducing a feature [NEG +] into the clausal f-structure while NC quantifiers in the language (see (35)), are treated as checking for the presence of this clausal NEG feature. In this model c-structure categories are complex

categories (sets of attribute-value pairs) and the capitalized lowercase features in (36) and (37) denote categorial a:v pairs. For Sells (2000) both constituent negation and sentential negation are expressed as [NEG +], but associated with different f-structures.

(35) Non ha telefonato nessuno.
     NEG has phoned   no.one

     No one has phoned.   Italian: (Sells 2000,17)

(36) non: (↑NEG) = +   (37) nessuno: ((GF ↑) NEG) =$_c$ +
             [Negform: +]   [Negform: +]

Przepiórkowski & Patejuk (2015) discuss NC in Polish, a language exhibiting strict NC with no spreading like Maltese, within the standard architectural assumptions of LFG, and also adopting a feature (rather than ADJunct) analysis of negation. They deal primarily with the licensing of these NC items by sentential NEG. In (38) *nie* is the NEG marker and *nikt* and *nikogo* function as concord items. As a marker of sentential negation, *nie* triggers the genitive of negation. As a marker of constituent negation, in (39). it does not, and does not license NC items either.

(38) **Nikt**   **nie** lubi **nikogo**.
     nobody.NOM NEG likes nobody.GEN

     Nobody likes anybody.   (PP 2015, 330)

(39) Nie Janek   lubi Marię   /*Marii   /*nikogo   (lecz
     NEG Janek.NOM likes Maria.ACC Maria.GEN nobody.NW.ACC/GEN but
     Tomek).
     Tomek.NOM

     It's not Janek who likes Maria (but Tomek).   (PP 2015, 326)

Given this difference in syntactic behaviour, and arguing that constituent and sentential negation can co-occur *in the same f-structure*, Przepiórkowski & Patejuk (2015)'s featural treatment of negation uses the features ENEG (*eventuality negation*) and CNEG (*constituent negation*), and treats *nie* as corresponding to both ENEG and CNEG categories (with different syntactic distributions and behaviours). Their account of NC words assumes lexical entries such (42). The functional uncertainty path in (42) accounts for the observation that Polish NC items can be licensed non-locally, as shown in (44), where an infinitival embedding is involved. Przepiórkowski & Patejuk (2015) do not discuss how the positive counterparts of NC-items are prevented from occurring in the NC-triggering environments.

(40) nie ENEG: (↑ ENEG) = +   (41) nie CNEG: (↑ CNEG) = +

(42) nikt N: (↑ CASE) = NOM
               ((XCOMP* GF$^+$ ↑) ENEG) =$_c$ +

(43) GF $\equiv$ {SUBJ | OBJ | OBL | ADJ $\in$}

(44) Karpowicz **nie** chciał pisać **żadnych** wierszy.
Karpowicz NEG wanted write.INF none poems.GEN

Karpowicz didn't want to write any poems. (PP 2015, 331)

3.3 Maltese sentential negation

We have shown that there is both a dependency and an essential asymmetry in the distribution of *ma* and *-x*: *ma* realizes sentential negation but requires the presence of either *-x* or an NCI item, which may be a dependent in the local f-structure or more distantly embedded in the structure. Furthermore, *ma* licenses an NC item provided that it does not itself (locally) license *-x*. NCIs are limited in their distribution in that they require (in Borsley and Krer's terminology) a *weak neg* verb.

Following Przepiórkowski & Patejuk (2015) we assume that *ma* marks eventuality negation (ENEG). It also introduces a syntactic requirement for a further element, which we call a non-veridical marker (NVM). The *-x* suffix satisifies this requirement, as do the NC items in the N-series, within a certain domain. (45) requires some element in the clausal domain to have the feature [NVM +] while (47) prevents *-x* co-occurring with NVM on any dependents *in its own clause*.[7]

(45) ma*:* ENEG ($\uparrow$ ENEG) = $+\_$ (i.e. the value of this feature is instantiated)
$(\uparrow$ GF* NVM) =$_c$ +

(46) xejn*:* N ($\uparrow$ NVM) = +

(47) -x*:* ($\uparrow$ NVM) = +
$\neg(\uparrow$GF$^+$ NVM) = +

(48) GF $\equiv$ {SUBJ | OBJ | OBJ$_\theta$ | OBL | POSS | ADJ $\in$}
$\neg$ ($\rightarrow$ TNS)

We will start by considering the local clausal domain. The examples in (49) give rise to the f-structures in (50), given these lexical descriptions, and the path definition shown in (48) (to be revised).

(49) a. **Ma** qraj-t-**x** il-ktieb.
NEG read.PFV-1SG-X DEF-book

I didn't read the book.

b. **Ma** qraj-t **xejn**.
NEG read.PFV-1SG nothing

I read nothing.

---

[7]The value of the ENEG feature is marked as instantiated, meaning that it is required to be uniquely contributed, so expressed only once in the f-structure.

(50)
$$\begin{bmatrix} \text{ENEG} & + \\ \text{PRED} & \text{`READ} < \text{SUBJ OBJ} > \text{'} \\ \text{NVM} & + \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`BOOK'} \end{bmatrix} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{`PRO'} \end{bmatrix} \end{bmatrix} \quad \begin{bmatrix} \text{ENEG} & + \\ \text{PRED} & \text{`READ} < \text{SUBJ OBJ} > \text{'} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`NOTHING'} \\ \text{NVM} & + \end{bmatrix} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{`PRO'} \end{bmatrix} \end{bmatrix}$$

The entries in (45)-(46) permit two (or more) NC items as in (51b) and capture the complementary distribution of -*x* and an NC dependent, because (47) disallows [NVM +] on any (local) dependent, **ruling out** the first f-structure in (52).[8]

(51) a. *It-tifla **ma** ra-t-**x**   **xejn**.
          DEF-girl NEG see.PFV-3SGF-X nothing

          intended: The girl saw nothing.

      b. **Ebda** tifel **ma** ra   **xejn**.
          none boy NEG see.PFV.3SGM nothing

          lit: no boy didn't see nothing
          No boy saw anything.

(52) *
$$\begin{bmatrix} \text{ENEG} & + \\ \text{NVM} & + \\ \text{PRED} & \text{`SEE} < \text{SUBJ OBJ} > \text{'} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`NOTHING'} \\ \text{NVM} & + \end{bmatrix} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{`GIRL'} \end{bmatrix} \end{bmatrix} \quad \begin{bmatrix} \text{ENEG} & + \\ \text{PRED} & \text{`SEE} < \text{SUBJ OBJ} > \text{'} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`NOTHING'} \\ \text{NVM} & + \end{bmatrix} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{`PRO'} \\ \text{NVM} & + \end{bmatrix} \end{bmatrix}$$

Recall however that a non-local NVM dependent may satisfy the constraint placed by *ma* (as shown by (18) and (19) above), but that -*x* is required to be strictly local. In order to capture this, we replace the entries for *ma* and -*x* above with (53) and (54) respectively, altering the functional uncertainty paths to take account of these wider domains.[9]
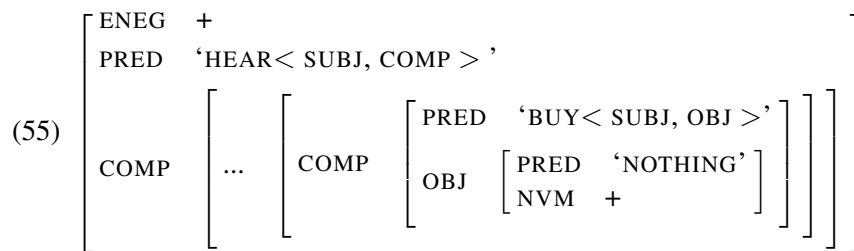
(53) ma: ENEG $(\uparrow \text{ENEG}) = +$
              $\{ (\uparrow \{\text{XCOMP}|\text{COMP}|\text{ADJ}\}^* \text{ GF}^+ \text{ NVM}) \mid (\uparrow \text{NVM}) \} =_c +$
                  $\neg(\rightarrow \text{ENEG})$

(54) -x: $(\uparrow \text{NVM}) = +$
              $\neg(\uparrow \{ \text{XCOMP}|\text{COMP}|\text{ADJ}\}^* \text{ GF}^+ \text{ NVM}) = +$
                  $\neg(\rightarrow \text{ENEG})$

An example such as (19) will have the f-structure shown schematically in (55).

---

[8]Note that our entry for *ma* does not require all dependents for which there is an NCI option to occur in that form — that is, positive polarity items are not excluded on syntactic grounds.

[9]Note that the constraints in (54) do not exclude -*x* occurring on *qatt* (see footnote 6).

$$(55)\quad \begin{bmatrix} \text{ENEG} & + \\ \text{PRED} & \text{`HEAR} < \text{SUBJ, COMP} > \text{'} \\ \text{COMP} & \begin{bmatrix} \ldots & \begin{bmatrix} \text{COMP} & \begin{bmatrix} \text{PRED} & \text{`BUY} < \text{SUBJ, OBJ} > \text{'} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`NOTHING'} \\ \text{NVM} & + \end{bmatrix} \end{bmatrix} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

(54) states that -*x* is incompatible with [NVM +] on any dependents within a wider domain which excludes embedded clauses themselves marked for sentential negation. That is, -*x* is not just incompatible with NVM on dependents of its own clause, it is incompatible with NVM on dependents in the wider domain within which *ma* is able to license a NVM dependent. This accounts for the contrast between (56) (where -*x* does not place any restriction on NVM in the COMP) and (57), in which it does (and hence rules out the occurrence of the N-series *ebda* 'paired with' *ma* in the matrix clause).[10]

(56) **Ma** semmie-**x**   [li   **ma** ra   [li   darb-u
NEG say.PFV.3SGM-X COMP NEG see.PFV.3SGM COMP injure.PFV.3-PL
lil   **ebda** raġel.]]
ACC some man

He didn't say that he didn't see that they injured any man.

(57) ***Ma** semma   [li   **ma** ra-**x**   [li   darb-u
NEG say.PFV.3SGM COMP NEG see.PFV.3SGM-X COMP injure.PFV.3-PL
lil   **ebda** raġel.]]
ACC some man

He didn't say that he didn't see that they injured any man.

3.4   Further remarks on the distribution of -*x*

The proposal that -*x* is some sort of non-veridical marker, rather than purely a marker of negation is consistent with the fact that it is not limited to negative clauses.[11] Above we have seen that most N-series proforms can occur in interrogatives (and other non-veridical contexts) and the same is true of -*x*. These contexts include conditionals, interrogatives (58); rhetorical interrogatives (59); embedded interrogatives (60) and counterfactuals (61).

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[10]As an alternative to the functional uncertainty paths with off-path constraints formulated here, we could consider a 'threading style' approach to the long-distance NVM dependencies, marking all clauses as transparent or not to the NVM requirement 'launched' by *ma*. It may well be that this would give a more transparent account of the syntactic dependency, at the expensive of some featural clutter. We leave exploration of this option to future work.

[11]The diachronic source of this -*x* is distinct from that of the -*x* of sentential NEG (Lucas, forthcoming). However it seems that these two distinct grammaticalisation paths have fused synchronically into a single marker of non-veridical environments.

(58) Ra-t-**x**   xi   ħaġa tal-biżgħa?
see.PFV-3SGF-X some thing of.DEF-fear

Did she see something scary?[12]

(59) Int-**x**   t-għid   li   jien giddieb, ukoll?!
you.SG-X 2-say.IMPV.SG COMP I   lier.SGM, as well

Are you also saying that I am a liar?!

(60) a. **Ma** n-af-**x**   (jekk) j-emmin-ni-**x**   (jew
     NEG 1-know.IMPV.SG-X (if)   3M-believe.IMPV.SG-1SG.ACC-X or
     le).
     no

     I don't know whether he'll believe me or not.

   b. Ir-rid   n-ara   (jekk)   t-rid-**x**
     1-want.IMPV.SG 1-see.IMPV.SG whether/if 3F-want.IMPV.SG-X
     t-i-ġi   magħ-na.
     3F-FRM.VWL-come.IMPV.SG with-1PL.GEN

     I want to see whether she wants to come with us.

(61) T-i-ċċajta   kon-t-**x**
2-FRM.VWL-joke.IMPV.SG be.PFV-1SG-X
n-i-xtri-ha   (kieku rbaħ-t)!
1-FRM.VWL-buy.IMPV.SG-3SGF.ACC if   win.PFV-1SG

You bet I would have bought it, had I won!

Although we do not develop an account here, we leave open the possibility that the *-x* of sentential negation and the *-x* of this wider set of non-veridical context share a single lexical entry, requiring non-occurrence with any other NVM within the relevant domain.

4   Further functions of *xejn*

Our original starting point was the observation in previous literature that the N-series forms are NC items. We have shown that, contrary to this claim, these forms in general have the (wider) distribution of weak NPIs. The N-series form *xejn* 'nothing' is the precursor of *-x*, and in Maltese has lost the meaning 'thing', except in a few specific lexical uses (including *qabelxejn* lit. 'before thing', meaning 'first of all' Lucas (2009, 228)). As evidence for the inherently negative status of this particular N-series form, Lucas points to the existence of a derivationally related IInd *binyan* verb-form *xejjen* 'CAUSE to bring to nothing', as in (62), and states

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[12]Observe that here we have *xi ħaġa*, suggesting that it is not simply a PPI, as claimed in previous literature.

that '*xejn* can appear in non-verbal-argument positions in affirmative sentences, including comparatives (63b), where it retains its negative meaning' (Lucas 2009, 225).

(62) Iżda **xejjen** lilu nnifs-u.
　　but CAUSE.bring.to.nothing.PFV.3SGM 3SGM.ACC self-3SGM.GEN
　　But he made himself nothing. 　　　　　　　　Philippians 2: 7

(63) a. Issa n-offr-u KMiles b'**xejn**!
　　　now 1-offer.IMPV-PL KMiles with-nothing
　　　Now we're offering KMiles for free.

　　b. ... dejjem huwa aħjar minn **xejn**.
　　　... always COP.3SGM better.COMPAR from nothing
　　　[It is] always better than nothing. 　　　　(Lucas, 2009: 225-226)

Lucas' (63a) is not really relevant, because *b'xejn* has lexicalised in Maltese and means 'free; for free' in any case. When we consider a wider range of data, however, the pattern which emerges seems to be that *xejn* functions as a negative quantifier (NQ) in PP adjuncts but not in subcategorised PP oblique arguments, where (in our view) it is an NPI. Thus the examples in (64) and (65), where *ma* is required to obtain the negative meaning and *xejn* is within an OBL, contrast with (66), where it is a NQ in adjunct function.

(64) a. **Ma** nqas-t-hom minn/f'**xejn**.
　　　NEG reduce.PFV-1SG-3PL.ACC from/in.nothing
　　　I didn't fail them in anything.

　　b. *Nqas-t-hom minn/f'**xejn**.

(65) a. **Ma** qegħd-t-hom fuq **xejn**.
　　　NEG place/put.PFV-1SG-3PL.ACC on nothing
　　　I didn't place them on anything.

　　b. *Qegħdthom fuq **xejn**.

(66) a. Mar għal **xejn**.
　　　go.PFV.3SGM for nothing
　　　He went for nothing.

　　b. Bne-w relazzjoni fuq **ix-xejn**.
　　　build.PFV3-PL relationship on DEF-nothing
　　　They built a relationship on no foundation.

Evidence that examples such as those in (66) involve a NQ also comes from the fact that a double negation reading occurs when we add the sentential negation *ma*.

(67) a. **Ma** mar-**x**   għal **xejn**.
      NEG go.PFV.3SGM-X for   nothing

      He didn't go for nothing ... i.e. He went for a purpose.

  b. **Ma** benie-**x**   relazzjoni fuq **ix-xejn**.
      NEG build.PFV.3SGM-X relationship on DEF-nothing

      He didn't build a relationship on nothing ... i.e. there was a basis on which the relationship was built.

This suggests that *xejn* as an OBJ (nominal) complement of a P is either an NPI or a NEG quantifier, depending on whether the P heads an OBL or an ADJ. We might postulate a distinct lexical entry along the lines of (68) to capture the latter. The f-structure for (67a) is shown in (69).

(68) xejn*:* N   ($\uparrow$ CNEG) = +
             (ADJ $\in$ OBJ$\uparrow$)
             PP $\in$ CAT((OBJ$\uparrow$))

$$
(69) \quad
\begin{bmatrix}
\text{ENEG} & + \\
\text{PRED} & \text{`GO} < \text{SUBJ} > \text{'} \\
\text{NVM} & + \\
\text{ADJ} & \left\{ \begin{bmatrix} \text{PRED} & \text{`FOR} < \text{OBJ} > \text{'} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`PRO'} \\ \text{CNEG} & + \end{bmatrix} \end{bmatrix} \right\} \\
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{`PRO'} \end{bmatrix}
\end{bmatrix}
$$

5 Conclusion

We have offered an account of the N-series proforms in Maltese, rectifying previous claims in the literature that these items are strict NCIs. We have shown that some of these items appear both in contexts where ENEG is present and in a wider set of non-veridical contexts, and thus correspond more closely to weak NPIs. Building on Przepiórkowski & Patejuk (2015)'s account of syntactic aspects of NC in Polish, we have proposed an approach to the interaction between N-series items and bipartite sentential negation in Maltese. We have also demonstrated that the N-series item *xejn* can function as a NEG quantifier, but only when it is associated with an ADJ function. We account for this use of *xejn* by proposing that it corresponds to CNEG in this function. Finally, we have also suggested that the classification of the P-series (*xi ħaġa*) indefinites as PPIs is probably incorrect, or at least represents a significant oversimplification, but we leave this matter for further research.

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