Neg-phrases in Eton (Bantu): An HPSG-analysis

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Abstract

This paper presents a study of so-called neg-phrases in Eton, a negative concord language spoken in Cameroon. These phrases strongly resemble negated noun phrases that consist of a negative determiner and a noun, however, I will show that Eton neg-phrases are built differently. Reconciling the non-negative approach to negative indefinites by Penka & Zeijlstra (2005) and the negative approach by Richter & Sailer (2004a,b, 2006), I will argue that Eton neg-phrases consist of an inherently negative modifier and a non-negative indefinite derived from a noun. Embedding the analysis in Lexical Resource Semantics, I will reveal the inherent negativity of Eton neg-phrases and account for their composition by using a lexical rule based on the semantic approach to noun phrases by Beavers (2003).

1 Introduction and background

Negative indefinites have received much attention in the literature in the studies on negation and crucially in examinations of negative concord (NC) languages. NC has been observed and studied in many different languages, for instance Italian (cf. Zeijlstra (2004), Godard & Marandin (2006), Giannakidou (2006), among many others) or Polish (cf. Richter & Sailer (2004a,b), for example) besides many other NC languages. The majority of the papers on NC languages is concerned with the question whether negative indefinites are inherently negative or not. Despite the negative indefinites' prominence being due to their tight relationship with NC, they have also attracted the interest of many researchers in recent years outside of NC languages (Penka & Zeijlstra (2005,2010), Zeijlstra (2011), Penka (2012), inter alia). These papers often concentrate on Germanic languages and their negative indefinites and again scrutinize the negative indefinites' (non-) negativity. However, in contrast to the prominently studied European languages as well as some Asian languages (see for instance Sells & Kim (2006) and Yoon (2008) for Korean or Kuno (2008) and Sano et al. (2009) for Japanese), African languages are vastly underrepresented in the studies of negative indefinites and negative items in general,[1] which is why my aim is to broaden the spectrum of languages that are analysed with regard to their negative words and include a language in the examination whose negation system has not been studied systematically yet. I will analyse Eton, a language spoken in Cameroon. Eton is a Bantu language which has, however, been largely disregarded in the literature so far and thus not much is known

[†]I would like to thank Haniel Enokah, Donald Ntsa and Ibrahim Ombede for their judgements and translations of Eton. Furthermore, I want to thank Mark van de Velde for helping me with any questions about the structure and properties of this language in general. I also highly value the comments made and advices given to me when presenting the earliest version of this paper at the workshop of the HPSG 2021 conference. Without Katharina Hartmann, this paper would not have been written and without Benedikt Weber, Sebastian Walter and Pascal Hohmann, this text would not look like it does. Finally, I am deeply indebted to Manfred Sailer who has not only helped me with the content, but also with the technical realisation of my ideas. All remaining errors are mine.

[1]The most obvious reason for that may be that, as claimed in van der Auwera & van Alsenoy (2016,2018), NC as well as negative indefinites are extremely rare in African languages.

about it. Eton lacks a written form, therefore, my writing of it is conventionalized. The only analysis of Eton has been done by van de Velde (2008) and I will basically follow his system and his distinctions of words and affixes.[2] Nevertheless, unlike him, I will ignore the tones despite Eton being a tonal language. This is because tones are not important for the phenomenon under discussion. Besides, Eton is an SVO and a NC language.

Although Eton does not have negative indefinite words,[3] there are constructions where a negative word precedes a noun, thereby creating a negative constituent. These combinations will henceforth be referred to as neg-phrases and be analysed in this paper. The neg-phrases are built out of the negative word *te*[4] and the nouns of the language. Due to Eton being a NC language, these phrases have to co-occur with the negative marker *aa* in pre- as well as postverbal position. This is shown in the examples in (1):[5]

(1) a. Te mod *(aa)-ti di.
NEG person 1.NM-PR eat
'Nobody/No person eats.'

b. Embolo *(aa)-ti di te jom.
Embolo 1.NM-PR eat NEG thing
'Embolo eats nothing/no thing.'

c. Ibrahim *(aa)-ti yen te parra.
Ibrahim 1.NM-PR see NEG preacher
'Ibrahim sees no preacher.'

In all cases, leaving out the negative marker would result in ungrammaticality. Thus, it seems like Eton is a strict NC language, following the distinction in Giannakidou (1998), however, I will just refer to it as NC language in general because there needs to be done further research to be able to finally conclude on this. In particular, my informants disagree on whether a sentence containing a pre- as well as a postverbal neg-phrase, besides the negative marker, is to be interpreted as a single negation (SN) or a double negation (DN).

In addition to occupying the pre- and postverbal position in simple SVO sentences, the neg-phrases can be used in fragment answers (see (2)):

[2]There may be some slight variations between the variety he describes and the one in this paper because of working with different speakers and the possibility of dialectal variation. However, these differences are irrelevant for the topic of this work.

[3]Sometimes in this paper, I will make a distinction between negative indefinites and negative indefinite words. The latter are a subclass of the former. Whilst negative indefinites consist of words and phrases, negative indefinite words are just words like *nobody*, *nothing* or *no*. Phrases like *no car*, for example, are not negative indefinite words, but only negative indefinites.

[4]van de Velde (2008, p. 285) describes it as a negative adverb.

[5]For a description of the abbreviations used in this text, see the glossary at the end of the paper.

(2) a. A: Za-ti yen Linda? B: Te mod.
Who.1-PR see Linda NEG person
'Who sees Linda?' 'Nobody/No person.'

b. A: Dze Ibrahim a-ti yen? B: Te jom.
What Ibrahim 1-PR see NEG thing
'What does Ibrahim see?' 'Nothing/No thing.'

As visible, the neg-phrase can build a fragment answer when the subject is asked for, as in (2a), as well as when the non-subject is asked for, as in (2b). In general, one can see that the neg-phrases can occur in contexts that are typical for negative indefinites of other frequently studied languages contributing the same meaning. Furthermore, their co-occurrence with the negative marker in non-fragmentary contexts is another property that is displayed by those negative indefinites in other NC languages as well.

However, Eton neg-phrases are not only interesting because of widening the scope of languages that are analysed with regard to their negative words, but they are also attractive due to two further points: First of all, they are helpful in the discussion about the (non-)negativity of negative indefinites in NC languages. As I will claim, Eton neg-phrases are inherently negative and therefore, they seem to provide further evidence for the inherent negativity of negative indefinites across NC languages worldwide that has often been claimed in HPSG over the years (cf. de Swart & Sag (2002) or Richter & Sailer (2004a,b, 2006)). The second reason why Eton neg-phrases are interesting is because of their composition. As I will show, *te* is not a negative determiner, but a negative modifier only contributing negation and no quantification. Thus, Eton neg-phrases are different from negated noun phrases (NPs) of other languages consisting of a negative determiner and a simple noun, as for example English *no man*. A detailed analysis will be done in Section 3.

The main goals of this paper are to provide convincing evidence for the inherent negativity of Eton neg-phrases and explain their composition. Besides, in the course of the analysis, further similarities between Eton neg-phrases, on the one hand, and negative indefinites from better-known languages, on the other hand, will be revealed. My analysis will reconcile several previous approaches. I will use the inherently negative approach commonly used in HPSG to model negative indefinites (cf. de Swart & Sag (2002) or Richter & Sailer (2004a,b, 2006)) as well as the non-negative approach that is used in other frameworks (cf. Zeijlstra (2004) and Penka & Zeijlstra (2005)) to describe Eton neg-phrases. Moreover, I will integrate the basic concept of Beavers (2003) which is needed for explaining the neg-phrases' construction. I will show that a reconciliation allows us to integrate the advantages of all sides into the analysis. The negative approach correctly predicts that Eton neg-phrases are inherently negative, whilst the decompositional/non-negative approach as well as my adaptation of the semantic approach to NPs by Beavers (2003) correctly predict the composition of the neg-phrases as being a combination

of a negative operator and a non-negative indefinite. The overtness of *te* allows for a straightforward analysis of Eton neg-phrases in a surface-oriented framework like HPSG. In my examinations, I will use the methods of Lexical Resource Semantics (LRS) (Richter & Sailer (2004b)).

So, after this introduction, I will summarize the most important previous approaches in Section 2. Afterwards, I will scrutinize the neg-phrases in Section 3. In Section 3.1, I will examine the semantics of Eton neg-phrases, while in Section 3.2, I will model their composition. Finally, I will conclude this paper in Section 4.

2 Previous approaches

The study of negative indefinites has been extensive in NC as well as non-NC languages. This literature review will only give an overview of some of these works, differentiating between the non-negative approach, in which negative indefinites are treated as non-negative and the negative approach, whose proponents argue that these words are inherently negative.

2.1 The non-negative approach

The term 'neg-word'[6] originates from the work of Laka (1990) to describe negative indefinites in NC languages. Obviously, this term has now been extended to also refer to negative indefinites of non-NC languages. Since her work, many researchers have focussed on negative indefinites in NC languages. Ladusaw (1992) maintains that in NC languages, negative phrases[7] should be regarded as negative polarity item (NPI) indefinites, which never directly express negation. Nonetheless, he acknowledges that there are differences in licensing NPIs, such as *ever*, and licensing negative phrases. The expression of negation itself is done abstractly by a so-called [neg] feature. This feature is given to a category by a specifier or an adjoined sister. A DN reading of NC constructions is abolished by Ladusaw's constraint that the feature can only work on one node.

Ovalle & Guerzoni (2004) also argue that negation is assigned abstractly instead of being contributed by inherently negative items. They propose that negative indefinites are non-negative existential quantifiers that bear a negative conventional implicature. They further suggest that the distribution of non-sentence initial negative indefinites is due to the restriction that they must occur in the scope of negation or of another averidical expression, such as *before*, *without* or *doubt*. They maintain that preverbal negative indefinites are moved in their surface position and are licensed by an abstract negation which also accounts for their use in elliptical answers. This abstract negation, they say, is positioned higher in a syntactic tree than the preverbal negative marker, which explains DN readings in NC languages.

[6]Originally, those words were labelled 'n-word', but due to the pejorative connotation of this word, 'neg-word' or 'negative indefinite', as in this paper, are used nowadays.

[7]He uses this term to refer to negative indefinites. It is to be distinguished from the term 'neg-phrases', which I use to describe the constructions in Eton this paper is about.

Another interesting approach to NC and the contribution of negative indefinites has been developed by Zeijlstra (2004). He argues that negative indefinites are actually non-negative indefinites that are only syntactically marked for negation. In addition, he adds the restriction that NC is clause-bound. His proposal is that NC is syntactic agreement. The negative elements can either carry an [iNEG] feature or a [uNEG] feature, which stand for an *interpretable* or an *uninterpretable* negative feature. He explains that in non-strict NC languages, negative indefinites have a [uNEG] feature, which must agree with the [iNEG] feature that is either carried by the negative marker or an abstract negation operator. In strict varieties, only the negative operator has an interpretable negative feature, whereas in DN languages, all negative elements have the [iNEG] feature. Zeijlstra also provides an explanation of negative indefinites in elliptical contexts, such as fragmentary answers. He claims that in these contexts, the negative indefinites are licensed by the abstract negative operator with the feature [iNEG] that agrees with the negative indefinites' feature [uNEG]. In these cases, the negative indefinites evoke the presence of the abstract negative operator which NPIs cannot.

Despite analysing DN languages, the approach by Penka & Zeijlstra (2005), who follow the syntactic agreement approach by Zeijlstra (2004), will become important in this paper later, which is why I will shortly mention their core idea now. They suggest that even in DN languages, negative indefinites are not inherently negative. They base their assumptions on the observation that there are split-scope readings of these words where the negation and the indefinite take scope independently. This happens with modal verbs as well as with object intensional verbs, as can be seen in (3).

(3) Es muss kein Arzt anwesend sein. (Penka & Zeijlstra (2005, p. 3))
there must no physician present be

a. 'It is not required that there be a physician present.'
$\neg > \text{must} > \exists$

b. *'There is no physician who is required to be present.'
$\neg > \exists > \text{must}$

c. 'It is required that there be no physician present.'
$\text{must} > \neg > \exists$

A negative quantifier approach cannot account for these readings. Therefore, they claim that in DN languages, negative indefinites are combinations of an abstract negative operator and a non-negative indefinite that agree with each other. The authors state that the negative indefinites are already licensed by the negative operator in the lexicon in DN languages.

All of the approaches summarized in this subsection share the idea of a covert negative operator that licenses negative indefinites and is responsible for their negative contribution. Although this can explain the non-negative readings of negative

indefinites in NC languages and account for split-scope readings, the assumption of a non-overt negative element is disadvantageous when working in a surface-oriented framework like HPSG.

2.2 The negative approach

Contrary to the approaches summarized so far, there are also numerous papers arguing for an inherently negative understanding of negative indefinites in NC as well as non-NC languages. Most prominently – in the HPSG framework –, de Swart & Sag (2002) argue that negative indefinites are negative quantifiers in general. Working in a polyadic quantifier framework, they explain that in a NC language, multiple negative quantifiers build one resumptive polyadic negative quantifier resulting only in a SN reading, whilst in DN languages, the quantifiers are iterated, which results in a DN reading. Formulated in another way, they define that a SN reading of multiple negative indefinites (NC) is a sequence of a certain number of concord items which are interpreted as a resumption of an anti-additive quantifier. On the other hand, DN readings are defined as an iteration of two anti-additive quantifiers. In principle, both options are available in every language, according to de Swart & Sag (2002). The choice between the two options depends on the general preference of different languages with regard to diachronic development. This means that NC languages prefer resumption, whereas DN languages prefer iteration of the negative indefinites. The choice depends on the development and the history of the languages.

This way of analysing negative indefinites in NC languages has found some support in studies of negation over the years. For example, Godard & Marandin (2006) as well as Henri (2018) follow the basic concepts developed in de Swart & Sag (2002) to describe negative indefinites in Italian or Mauritian, respectively. However, there is also another way of describing negative indefinites in NC languages in HPSG as inherently negative without deploying the polyadic quantifier approach.

Richter & Sailer (2004a,b, 2006) also argue for the inherent negativity of negative indefinites in NC as well as non-NC languages, but they work in LRS. Richter & Sailer (2004a) examine Polish and propose that its negative indefinites are inherently negative despite the obligatory presence of sentential negation due to the following contexts in which negative indefinites in Polish can stand alone and contribute negation (Richter & Sailer (2004a, p. 310)):

(4) a. Kogo widziałes? Nikogo.
Who have you seen? Nobody.GEN/ACC

b. Chçe poślubić albo Piotra, albo nikogo.
I want to marry either Piotr or nobody

c. Kocham ją jak [żadną inną].
I love her.ACC as [no other].ACC
'I love her more than (I love) any other (girl).'

One can see that in the short answer in (4a), the coordination in (4b) and the comparative in (4c), Polish negative indefinites contribute negation even though they occur alone. To ensure that in languages like Polish, two negative elements only yield a SN reading, Richter & Sailer (2004a, p. 315) formulate the Negation Complexity Constraint which says that there can be at most one negation that is a component of the semantic representation of the clause and has the main semantic constant of the sign's lexical head as its component. However, they need another rule that makes sure that the verb in a negative sentence is always accompanied by the negative marker. This is because of Polish being a strict NC language, so, negative indefinites cannot occur alone in negated sentences. They call this rule the NEG Criterion (Richter & Sailer (2004a, p. 316)).

The negative appraoches summarized here can account for the non-negative readings of negative indefinites in NC languages as well. Additionally, they do not have to assume invisible objects, which is why they are definitely superior to the non-negative approach concerning their suitability for a surface-oriented framework. In the upcoming investigation of Eton neg-phrases, I will follow the concepts of LRS put forth and developed in Richter & Sailer (2004b). I will also show that LRS has a significant advantage over the approach by de Swart & Sag (2002) in explaining split-scope readings. Following the works by Richter & Sailer (2004a,b, 2006), I argue that the negative marker *aa* and the neg-phrases in Eton agree. This is the reason why there is only a SN reading despite the presence of two negative elements.

3 An HPSG-analysis of Eton neg-phrases

Throughout the next two subsections, I will examine Eton neg-phrases in detail, combining the negative and the non-negative approach just summarized. I will argue that adapting the LRS analysis of NC languages suits Eton well due to the overtness of the elements involved and the advantages over other concepts. Moreover, I will propose that Eton neg-phrases are combinations of a negative operator and non-negative indefinites, as proposed by Penka & Zeijlstra (2005) for negative indefinites of DN languages. However, the non-negative indefinites the negative word combines with are, themselves, semantically complex following the treatment of determinerless NPs by Beavers (2003). In Section 3.1, I will start arguing for the inherent negativity of the neg-phrases and show that they can be modelled exactly like negative indefinites in other languages are modelled in LRS. In Section 3.2, I will focus on the parts that combine to build neg-phrases which will provide further evidence for their inherent negativity.

3.1 The semantics of Eton neg-phrases

Two similarities between negative indefinite words and Eton neg-phrases have already been mentioned in the introduction. The first one is their distribution and

meaning. Just like negative indefinite words, Eton neg-phrases can occur pre- and postverbally and build fragment answers, as seen in the examples (1) and (2). In these cases, they contribute the exact same meaning. Another similarity is the participation of these elements in NC. Just like negative indefinites in well-known NC languages like Polish, the neg-phrases are licensed by the negative marker and agree with it to yield a SN reading. Finally, Eton neg-phrases can occur in contexts like the ones in (4) taken from Richter & Sailer (2004a, p. 310) without an additional negative marker showing their inherent negativity. Fragment answers have already been given in (2) and (5) illustrates the use of neg-phrases in a coordination.[8] Since I am not entirely sure about the underlying representation of (5), I only provide simplified glosses.

(5) Ibrahim a-ti je-na e-ba Haniel te mod mpaba.
Ibrahim 1-PR wants marry Haniel NEG person else
'Ibrahim wants to marry Haniel and no one/nobody else.'

Similar to the pattern in Polish or other NC languages like Italian, the neg-phrase *te mod*('nobody') can occur without the presence of the negative marker in a coordination still contributing negation. The second part of the coordination begins after *Haniel*. A conjunction is missing because Eton does not have an equivalent to the English *and*. In such cases, the two parts of the coordination simply follow each other without being connected by an overt conjunction particle. (cf. van de Velde (2008, p. 371)) The examples of Eton neg-phrases occurring without the negative marker *aa* provide convincing evidence for treating the neg-phrases as inherently negative. Therefore, I follow the concept by Richter & Sailer (2004a,b, 2006) and argue that Eton neg-phrases are inherently negative indefinites. (6a) shows a typical lexical entry for negative indefinites in LRS, according to Richter & Sailer (2006, p. 312) and (6b) shows the AVM for neg-phrases in Eton:

(6) a. Lexical entry of negative indefinites in LRS:

$$\begin{bmatrix} \text{PHON} & \langle \textit{personne/nikt/niemand} \rangle \\ \text{SYNSEM} & \textit{NP} \\ \text{LF} & \begin{bmatrix} \text{EXC} & \boxed{1}\, \exists x(\alpha \wedge \beta) \\ \text{PARTS} & \langle x, \boxed{1}, \text{human}'(x), \neg\gamma \rangle \end{bmatrix} \end{bmatrix}$$

and $\text{human}'(x) \lhd \alpha$
and $\boxed{1} \lhd \gamma$

b. Description of an Eton neg-phrase:

[8] The third context of Richter & Sailer (2004a) which are comparatives cannot be shown here because the Eton speakers I have worked with do not use neg-phrases in this context.

$$\begin{bmatrix}
\text{PHON} & \langle \textit{te jom} \rangle \\
\text{HEAD} & \begin{bmatrix} \textit{noun} \\ \text{NEG} \ + \end{bmatrix} \\
\text{VAL} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \\
\text{DR} & x \\
\text{PARTS} & \langle x, \text{thing}, \boxed{1} : \text{thing}(x), \exists, \boxed{2} : \exists x(\phi : \psi), \neg\alpha \rangle \\
\text{INC} & \boxed{1} \\
\text{EXC} & \boxed{2}
\end{bmatrix}$$

and $\boxed{1} \lhd \phi$
and $\boxed{2} \lhd \alpha$

As shown in (6b), the AVM is similar to the entry of negative indefinites in LRS. The phrase contributes a discourse referent (DR), a predicate, the predicate applied to the DR, an existential quantifier, the existential quantification over the DR and some negation. The constraints in (6b) are the same as for the lexical entry by Richter & Sailer (2006). The first one says that the predication (so: $thing(x)$) is in the restrictor of the existential quantification, which itself is in the scope of the negation as per the second constraint. The reason why I chose the LRS type of modelling the neg-phrases is that it is more compositional than the approach by de Swart & Sag (2002) for example. The PARTS list in LRS is the accumulation of all elements that a word or phrase brings with it. Out of these elements, the semantic representation is built and results in the construction of phrases. In addition, one can see which elements are contributed by which sign. Although the approach by de Swart & Sag (2002) in the polyadic quantifier framework is also based on compositionality, the PARTS list in LRS is more detailed, which will become clear when looking at the following: Negative indefinites in the approach by de Swart & Sag (2002) are described as contributing a negative quantifier. In contrast, the PARTS list of a negative indefinite in LRS, as in the example (6a) above, contains a negative operator and an existential quantifier, thus, it is more detailed. This difference is extremely important when looking at split-scope readings. These are also possible in Eton, as can be seen in (7):

(7) Alex a-se kom te jom.
Alex 1-NEG.COP do NEG thing

a. 'It is not possible that Alex does something.'
$\neg >$ can $> \exists$

b. 'There is nothing, Alex can do.'
$\neg > \exists >$ can

c. ‘It is possible that Alex does nothing.’
can $>$ $\neg$ $>$ $\exists$

According to Penka & Zeijlstra (2005), three readings are theoretically possible. These are given in (7a-c). The most salient reading is the one in (7a), where the modal intervenes between the negation and the existential quantifier. This is a major problem for de Swart & Sag (2002), as already mentioned, because the negation and the existential quantification are always tied together. In contrast, LRS does not face this problem. The second constraint in (6a-b) only says that the EXC is in the scope of the negation. When this NP combines with another element, such as a verb phrase (VP) containing a modal, it is not forbidden that other elements can also be in the scope of the negation. Furthermore, when this happens, no order is predetermined. Consequently, readings where the modal intervenes between the negation and the quantification can be accounted for in LRS.

3.2 The internal structure of Eton neg-phrases

After having given a description of a complete neg-phrase and having provided evidence for the inherent negativity of these phrases, I will proceed by looking at the parts that build the neg-phrase and model the combination formally. Obviously, the neg-phrases consist of two words, the negative element *te* and a noun. At first glance, one might think that they are combinations of a negative determiner and a noun and therefore be identical to negated NPs like *no man*. However, I will argue that this idea should be rejected.

The main reason for not treating *te* as a negative determiner is that it cannot only negate nouns, but it can also negate verbs. The following example taken from van de Velde (2008, p. 286) illustrates this:[9]

(8) mènè tè pám.
‘I’m not leaving.’

As one can see, the negative word *te* precedes the verb and negates the clause. As van de Velde (2008, p. 285) points out, it is not clear when the negative word is used in combination with verbs, nonetheless, (8) clearly indicates that it cannot be a negative determiner. Furthermore, the example provides further evidence for the inherent negativity of neg-phrases because of the negative contribution of *te* that is part of every neg-phrase. Besides, the sentence in (8) shows that the obligatory co-occurrence of neg-phrases with the negative marker *aa* is a peculiar property of these constructions because *te* alone does not have to be licensed. So, there is another characteristic of Eton neg-phrases that is reminiscent of negative indefinites across the world’s languages.

[9]The tones are indicated in the example in (8) even though I generally ignore them. This is because the example is directly taken from van de Velde (2008).

Due to the ability of *te* to also negate verbs, I claim that the quantification that is part of the neg-phrases is contributed by the nouns. This seems even more plausible when considering that Eton neither has a definite nor an indefinite article. This means that in simple sentences like the ones in (9), the existential quantification is contributed by the NP anyway:

(9) a. Ibrahim a-ti yen yegle.
Ibrahim 1-PR see teacher
'Ibrahim sees a/the teacher.'

b. Yegle a-ti di.
teacher 1-PR eat
'A/the teacher eats.'

Following Sailer & Am-David (2016), I assume that the definite as well as the indefinite article contribute existential quantification. Since there is neither in Eton, the nouns contribute the quantification, however, there is an underlying process. The existential quantification is not inherent to the nouns because nouns generally do not contribute quantification by themselves. To be able to explain this, I follow the basic assumption made by Beavers (2003). He argues that determiner-less NPs have an underspecified determiner semantics (D-semantics) which must be specified to fulfil the requirements of semantic well-formedness. The way this is achieved is presumably language specific, according to Beavers (2003). In Eton, we know from the examples in (9) that the articleless NPs receive an existential quantification interpretation. Consequently, the specification of the D-semantics is implemented by the addition of the existential quantifier that fulfils the requirement of the missing semantics. Consequently, Eton neg-phrases consist of a negative operator and a non-negative indefinite that is derived from a noun. The description of the non-negative indefinite is given in the following example:

(10) Description of an indefinite nominal projection that can be combined with *te*:

$$\begin{bmatrix} \text{PHON} & \langle \textit{jom} \rangle \\ \text{HEAD} & \begin{bmatrix} \textit{noun} \\ \text{NEG} & - \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \\ \text{DR} & \boxed{1} : x \\ \text{PARTS} & \langle \boxed{1}, \text{thing}, \boxed{2} : \text{thing}(x), \exists, \boxed{3} : \exists x(\phi : \psi) \rangle \\ \text{INC} & \boxed{2} \\ \text{EXC} & \boxed{3} \end{bmatrix}$$

and $\boxed{2} \lhd \phi$

As an example for a non-negative indefinite, I chose *jom* ('thing'). Its HEAD information tells us that it is non-negative. Moreover, the indefinite does not have any valency requirements. The DR value of the indefinite is some variable x. On the indefinite's PARTS list, there are the following elements: The DR (referred to by the tag 1), the predicate, the predicate applied to the DR (referred to by the tag 2), the existential quantifier and the existential quantification over the DR (referred to by the tag 3). The INC of the non-negative indefinite is the predicate applied to the DR and the EXC is the existential quantification over the DR. Finally, there is a constraint saying that the INC of the indefinite is in the restrictor of the existential quantification over its DR. This description follows the general principles of LRS and is thus similar to the lexical entries used in the corresponding literature, for example in Richter & Sailer (2004a, p. 312) when modelling indefinites.

Now, it is time to look at the process leading to the existence of the non-negative indefinites that combine with *te*. Because simple nouns in Eton do not need any overt determiner, they just have an underspecified D-semantics, following the conception of Beavers (2003). However, in contrast to his purely semantic approach, I argue that the noun still selects for a determiner. The following lexical rule in (11) integrates Beavers' (2003) notion into LRS:

(11) Input:
$$\begin{bmatrix} \text{PHON} & \langle \boxed{1} \rangle \\ \text{HEAD} & \textit{noun} \\ \text{VAL} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ \text{SPR} & \left\langle \left[\text{DR } x\right] \right\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \\ \text{DR} & x \\ \text{PARTS} & \boxed{2} \\ \text{INC} & \boxed{3} \\ \text{EXC} & Qx(\phi : \psi) \end{bmatrix}$$
and $\boxed{3} \lhd \phi$

Output:
$$\begin{bmatrix} \text{PHON} & \langle \boxed{1} \rangle \\ \text{HEAD} & \textit{noun} \\ \text{VAL} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \\ \text{DR} & x \\ \text{PARTS} & \boxed{2} \oplus \left\langle \exists, \boxed{4} : \exists x(\phi : \psi) \right\rangle \\ \text{INC} & \boxed{3} \\ \text{EXC} & \boxed{4} \end{bmatrix}$$
and $\boxed{3} \lhd \phi$

As can be seen, the simple noun in the input selects for a specifier as indicated by its non-empty SPR list. On its PARTS list, there is no existential quantification

yet and its EXC value is an underspecified quantification just like Beavers (2003) proposes. After undergoing the process however, the phrase is fully saturated. Its SPR list has been emptied and it has received existential quantification that has been added to its PARTS list and specified the underspecified quantifier in the EXC value. This lexical rule is applied when there is no other element that can specify the underspecified quantifier semantics of the noun and empty its SPR list. This means when there is no overt quantifier or marker, which exist in Eton (cf. van de Velde (2008)), combining with a noun, the lexical rule in (11) is applied. We do not have to formulate a principle for this because as can be seen in (11), the phonology of the noun does not change when undergoing this process. This is only the case when the noun combines with the non-overt article.

Having explained how the quantification is contributed to neg-phrases, I will proceed by giving a lexical entry of *te* that contributes the negation to the neg-phrases. Because of not being a determiner, I propose that *te* is negative modifier.

(12) a. Lexical entry for *te*:

$$\begin{bmatrix} \text{PHON} & \langle te \rangle \\ \text{HEAD} & \begin{bmatrix} word \\ \text{NEG} & + \\ \text{MOD} & \boxed{1}\,[\text{DR}\ \boxed{2}] \end{bmatrix} \\ \text{VAL} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ \text{SPR} & \langle\rangle \\ \text{COMPS} & \langle\rangle \end{bmatrix} \\ \text{DR} & \boxed{2} \\ \text{PARTS} & \langle \boxed{2}, \boxed{3} : \neg\alpha \rangle \\ \text{INC} & \boxed{3} \\ \text{EXC} & \boxed{3} \end{bmatrix}$$

b. Restriction on *te*: *Te* can only modify elements that contribute existential quantification.

Because *te* cannot only modify nouns, but verbs too, its part of speech is not specified. It is simply described as a word. *Te*'s inherent negativity is indicated by the positive NEG value and having the negation on its PARTS list. It does not have any valency requirements and is a modifier modifying some element that is referred to by a tag, as visible in the HEAD information. The modifier shares the DR value with the element it will modify. According to our current knowledge, this can either be some variable, for example x, referring to a noun or the event variable e referring to a verb. The INC and EXC of the negative modifier are identical and referred to by the tag $\boxed{3}$, so, the negation. As one can see, there is no quantification on the PARTS list of the negative word *te* since I claim that it is contributed by the nouns.

To restrict the distribution of *te*, I added the rule in (12b) that the negative modifier can only modify elements contributing existential quantification. Since verbs

as well as the indefinites of neg-phrases fulfil this criterion, *te*'s occurrences are explained. Furthermore, this rule enforces the lexical rule in (11) because if the nouns did not undergo this process, they would not contribute existential quantification and could therefore not combine with the negative modifier.

The proposed composition of Eton neg-phrases is exactly what Penka & Zeijlstra (2005) assume for negative indefinites. Thus, we see another similarity between negative indefinites of frequently studied languages and Eton neg-phrases. In contrast to the negative operator they assume, *te* is overt and does not license the neg-phrase, since the nouns can also occur alone, but it is crucial for their negative meaning and contribution. So even though Penka & Zeijlstra (2005) work on negative indefinites in DN languages suggesting the combination of a negative operator and a non-negative indefinite, we see that in LRS, negative indefinites are modelled like that crosslinguistically.[10] It is only that in LRS so far, researchers have not focussed on the composition of the negative indefinites, but only indicated on the PARTS list that there is the negative operator and the indefinite part of the word. The difference of course is that in LRS in contrast to Penka & Zeijlstra (2005), the negation is assumed as being inherent to the word. In Eton, one also has to assume the negation to be inherent to the neg-phrases because of the word *te*. Thus, although Penka & Zeijlstra (2005) work on negative indefinites in DN languages and Eton being a NC language, the similarities between the composition they propose and Eton neg-phrases are meaningful. What is special about Eton neg-phrases is that one can reconstruct this composition of the negative operator combining with the indefinite. Besides, this again highlights the strength of LRS. I mentioned earlier that the LRS approach is superior to the polyadic qauntifier approach by de Swart & Sag (2002) because it can account for split-scope readings where the negation and the existential quantification are separated. Due to Eton neg-phrases consisting of a negative operator and a non-negative indefinite instead of being built out of a negative quantifier and a noun, this separation becomes even more favourable which is only possible in LRS.

Having provided all neceessary steps for the internal structure of a neg-phrase in Eton, I will now look at the explicit combination in the context of a sentence. The final combination of the negative word and the indefinite is a head-modifier phrase. In (13a), I repeat the example sentence in (1b) containing a neg-phrase and in (13b), I provide a simplified tree diagram of the utterance including the head-modifier phrase resulting in the neg-phrase:[11]

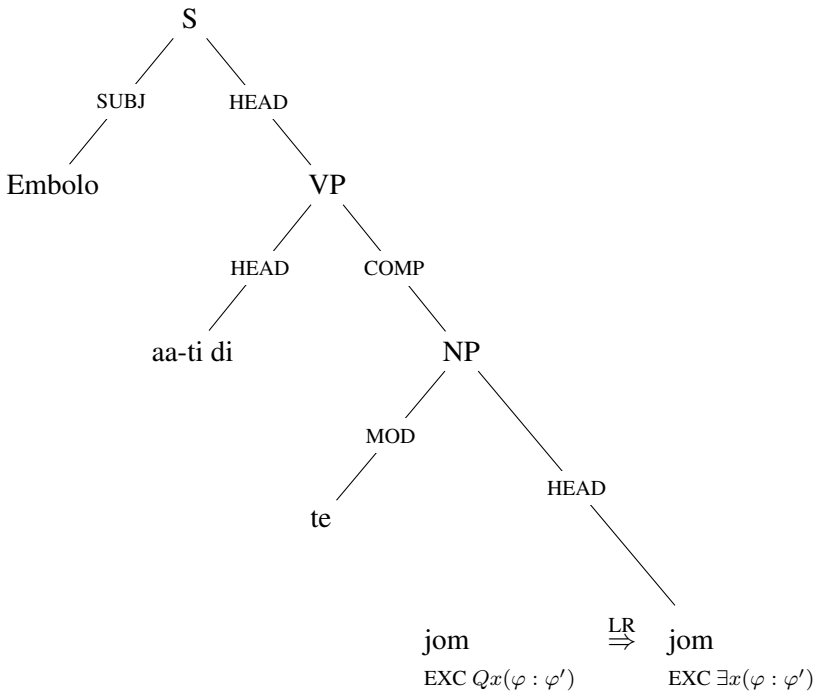
(13) a. Embolo aa-ti di te jom.
Embolo 1.NM-PR eat NEG thing

[10] Actually, the combination of a negative operator and a non-negative indefinite is also proposed for non-NC languages by Zeijlstra (2004). However, in contrast to Penka & Zeijlstra (2005), the negative operator is purely syntactic, whilst in Penka & Zeijlstra (2005), it is argued that this negative operator already licenses the negative indefinites in the lexicon, which is why it cannot be purely syntactic. This is the reason why I prefer to refer to Penka & Zeijlstra (2005).

[11] Ignoring the details of the internal structure of Eton VPs, I simply treat the combination *aa-ti di* as a unit. This is why (13b) is only a simplified tree.

'Embolo eats nothing.'

b. Tree diagram of (13a):



As visible in (13b), the simple noun at first becomes a non-negative indefinite by the application of the lexical rule defined in (11). Afterwards, *te* combines with *jom* in a head-modifier phrase before the neg-phrase combines with the VP forming a head-complement phrase. Finally, this newly formed VP combines with *Embolo* into a head-subject phrase to build a sentence.

4 Conclusion

In this paper, I have shown that despite the non-existence of negative indefinite words in Eton, there are constructions that also belong to the class of negative indefinites, the neg-phrases. Neg-phrases are semantically identical to negative indefinites from other languages, occur in the same environments as those and participate in NC as well. Construction-wise, they also show the same behaviour as negative indefinites from other languages in being a combination of a negative operator and a non-negative indefinite. (cf. Zeijlstra (2004) and Penka & Zeijlstra (2005))

My analysis has shown that a reconciliation of the non-negative approach by Penka & Zeijlstra (2005) and the negative approach by Richter & Sailer (2004a,b, 2006) is perfect for capturing the characteristics of Eton neg-phrases. Whereas

the non-negative approach correctly predicts the composition of these phrases, the negative approach can account for the negativity of the neg-phrases. The negative contribution of neg-phrases occurring without the negative marker as well as the overtness of the negative modifier *te* clearly favors an HPSG-analysis due to the surface orientation of this framework. Moreover, the approach by Beavers (2003) was extremely helpful in explaining the behaviour and characteristics of NPs in Eton and allowed me to show that the quantification is contributed by the noun turning to an indefinite instead of by the negative modifier.

The analysis of Eton neg-phrases I provided can potentially help in the still ongoing discussion about the (non-) negativity of negative indefinites in NC as well as non-NC languages. Because of Eton neg-phrases clearly belonging to the class of negative indefinites that are examined in the studies of NC across various languages, the stance of treating negative indefinites as inherently negative, in general, is supported by the constructions analysed in this paper. LRS can account for the distribution and the behaviour of negative indefinite words as has been shown in previous works by Richter & Sailer (2004a,b, 2006) as well as for the characteristics of Eton neg-phrases.

At the end of this paper, I would like to make some suggestions for future research. Upcoming work should definitely focus on the exact properties and occurrences of the negative modifier *te*, especially outside of neg-phrases. A detailed lexical entry that can account for all of its uses is desirable. Furthermore, the preverbal negative marker *aa* and its properties have been left aside in this paper, but future work should analyse it due to its interplay with the neg-phrases on the one hand, but also because of its general properties. In addition, utterances where several neg-phrases co-occur in Eton are still mainly unexplored and in need of further investigations. Finally, as mentioned at the beginning of this paper, Eton is a tonal language and due to me ignoring the tones here, future research can hopefully provide sufficient phonetic descriptions of the neg-phrases and the surrounding elements when picking up this topic, following the groundwork laid in van de Velde (2008).

Glossary

1 agreement prefix of agreement pattern one.

ACC accusative.

COP copula.

GEN genitive.

NEG negative element.

NM negative marker.

PR present.

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