

A CROSSLINGUISTIC PERSPECTIVE ON N-WORDS

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Abstract

The semantic status of so-called n-words in Negative Concord languages has been under considerable debate. This paper takes a new perspective on this problem by bringing Negative Concord together with two different phenomena that n-words give rise to in non-Negative Concord languages, namely scope splitting in German and distributional restrictions in the Scandinavian languages. I argue that all this taken together reveals the common nature of n-words across languages. These phenomena suggest that n-words should not be analysed as negative quantifiers. Rather, n-words are morpho-syntactic markers of sentential negation. I present a cross-linguistic analysis of n-words and show how the three phenomena discussed follow from it. This analysis is based on the assumption that n-words are semantically non-negative and must be licensed by a (possibly abstract) negation. It is proposed that n-words cross-linguistically are of essentially the same nature and that differences between languages regarding their behaviour are due to parametric variation.

1. Introduction

This paper is concerned with the syntax and semantics of words that (in a pre-theoretical sense) have both a negative and some other meaning component, usually indefinite. Since Laka (1990) these words are called n-words. The use I make of the term 'n-word' in this paper might be more liberal than is customary. First, I will take n-words to comprise not only negative forms of indefinites (or 'negative quantifiers'), but also certain other items, such as the conjunction *ni... ni* 'neither... nor' in Spanish as argued for by Herburger (2001). Second, while the term 'n-word' was introduced as a theory-neutral name for these words in Negative Concord languages, in which their nature is notoriously unclear (see section 2), I will not restrict it to Negative Concord languages, but their pendants in non-Negative Concord languages (also called Double Negation languages) will also be called n-words. The reason for this is that the difference between n-words in Negative Concord languages and non-Negative Concord languages is much smaller than generally assumed, as will be shown in this paper. A sample of the n-word inventory of several languages is given in Table 1.

Table 1
n-word inventory of some languages

	English	German	Italian	Spanish	Polish
person	<i>nobody</i>	<i>niemand</i>	<i>nessuno</i>	<i>nadie</i>	<i>nikt</i>
thing	<i>nothing</i>	<i>nichts</i>	<i>niente</i>	<i>nada</i>	<i>nic</i>
determiner	<i>no</i>	<i>kein</i>	<i>nessuno</i>	<i>ningún</i>	<i>zaden</i>
time	<i>never</i>	<i>nie (mals)</i>	<i>mai</i>	<i>nunca</i>	<i>nigdy</i>
place	<i>nowhere</i>	<i>nirgendwo</i>	—	—	<i>nigdzie</i>
conjunction	<i>neither... nor</i>	<i>entweder... oder</i>	<i>né... né</i>	<i>ni... ni</i>	<i>ani... ani</i>

A characteristic of n-words is that they can be used as negative fragmentary answers:

- (1) a. Who came to the party? - Nobody.
b. Who came to the party? - *Anybody.

Since this contrasts with Negative Polarity Items (NPIs), as shown in (1b), the ability to constitute negative fragmentary answers makes a useful criterion to distinguish n-words from NPIs (see Giannakidou 2002). In the literature, n-words have sometimes been subsumed under NPIs (e.g. in Laka 1990; Giannakidou 1997) and this has led to confusion. It is important to keep n-words and NPIs apart, since as will be argued, they are subject to different licensing conditions.

The standard analysis of (indefinite) n-words is as nominal or adverbial negative quantifiers, i.e. their lexical entry expresses negated existential quantification, as exemplified for *nobody* in (2):

- (2) $[[\textit{nobody}]]$ = $\lambda P. \neg \exists x [\textit{person}(x) \ \& \ P(x)]$

However, there are reasons to doubt that the negative quantifier analysis constitutes the whole story. In this paper, I discuss three phenomena that n-words give rise to in different languages. All of them are problematic for the negative quantifier approach. While they have so far been discussed independently of each other, the aim of this paper is to bring them together and thus derive conclusions on the common nature of n-words across languages.

2. Negative Concord

2.1. Data

The first phenomenon arising in connection with n-words has been extensively discussed in the literature and is known as Negative Concord (NC) (see Laka 1990, Zanuttini 1991, Haegeman 1995, Zeijlstra 2004, among many others). In languages that exhibit NC, multiple negative expressions yield an interpretation with only one negation as shown by the following examples.¹

¹ \$ is used to indicate that the sentence does not have the reading paraphrased.

- (3) Gianni non ha visto nessuno. Italian
 Gianni neg has seen n-person
 ‘Gianni hasn’t seen anybody.’
 \$‘Gianni hasn’t seen nobody.’ = ‘Gianni has seen somebody.’
- (4) Nikt nie przeczytał tego artykułu. Polish
 n-person neg read-3SG.PAST this-GEN article-GEN
 ‘Nobody has read this paper.’
 \$‘Nobody has not read this paper.’ = ‘Everybody has read this paper.’

It is useful to distinguish between strict and non-strict NC-languages (see Gianakidou 2002). In strict NC languages, an n-word is obligatorily accompanied by the sentential negative marker, independently of the position of the n-word. The Slavic languages are strict NC languages, as can be seen for Polish in the following example (from Błaszczak 2001: (217)).²

- (5) a. Żadne dziecko *(nie) wyjechała na wakacje. Polish
 no child neg go-3SG.PAST on holiday
 ‘No child went on holiday.’
 b. *(Nie) wyjechało żadne dziecko na wakacje.
 neg go-3SG.PAST no child on holiday
 ‘No child went on holiday.’

On the other hand, Romance languages are non-strict NC languages, since only postverbal n-words require the presence of the negative marker (6b). A preverbal n-word plus a negative marker is ungrammatical, or at best yields a reading with double negation (6a).³

- (6) a. Nadie (*no) vino. Spanish
 n-person neg came
 ‘Nobody came.’
 b. *(No) vino nadie.
 neg came n-person
 ‘Nobody came.’

2.2. Approaches to n-words in NC languages

Due to the confusing behaviour of n-words in NC languages—in some cases such as (6a) they seem to contribute a negation to the semantics, in others such as (6b) they apparently do not—there is no consensus on their semantic status. I cannot possibly do justice to the considerable literature on NC in this paper and will only give a brief overview on the main positions held.

One line of research considers n-words to be negative quantifiers (a. o. Zanuttini 1991, Haegeman 1995, de Swart and Sag 2002). In these accounts, the behaviour of preverbal n-words in non-strict NC languages follows immediately, but additional

² *(x) is used to signify that the sentence is judged grammatical with x and ungrammatical without. (*x) on the other hand means that the sentence is judged grammatical without x and ungrammatical (under the reading paraphrased) with x.

³ There are, however, some exceptions to this claim: in some (varieties of) languages in the Romance family, e.g. Catalan, preverbal n-words can optionally be accompanied by a negative marker.

assumptions are needed to account for postverbal n-words. In order to explain that n-words can lose their negative force, a mechanism called polyadic quantification is used, which absorbs the negative component of an n-word if it is in a certain configuration with another negative element.

Another set of accounts takes the fact that n-words in strict NC languages and postverbal n-words in non-strict NC languages do not seem to have negative force to reveal the nature of n-words. Accordingly, they assume that n-words are semantically non-negative and must be licensed by a negation. These accounts differ in how this is exactly spelled out. For Laka (1990) n-words in Spanish are NPIs, while Ladusaw (1992), whose analysis will be discussed in more detail in section 4.5, proposes that n-words are indefinites that must be bound by a negation operator. Common to both of them is that in order to account for preverbal n-words in non-strict NC languages they assume that the negation operator can be abstract.

Finally, Herburger (2001) takes the two-sided behaviour of n-words in non-strict NC languages at face value and argues that they are lexically ambiguous between negative quantifiers and NPIs.

The approach taken in this paper is that NC should be seen in the light of other phenomena n-words exhibit in non-NC languages. Rather than assuming that n-words in NC languages are special, the ability to participate in NC should follow from their common cross-linguistic nature. As we will see, NC is only one of the reasons to believe that the negative quantifier analysis is not a good candidate.

3. Scope Splitting

Although n-words in non-NC languages at first glance clearly seem to be negative quantifiers, we find a related problem in them. In this case the problem is not that the negative quantifier analysis results in too many negations, but rather that the negation is in the wrong position.

3.1. German data

In German, in certain environments n-words can split their scope in the sense that an operator takes scope in between the negation and the indefinite meaning component (see Bech 1955/57, Jacobs 1980). Consider the following example:

- (7) Du musst keine Krawatte anziehen.
 you must n-Det tie wear
- | | |
|---|--------------|
| a. 'It is required that you don't wear a tie.' | must > ¬ > ∃ |
| b. 'There is no tie that you are required to wear.' | ∃ > ¬ > must |
| c. 'It is not required that you wear a tie.' | ¬ > must > ∃ |

Under the assumption that n-words in German are negative quantifiers only the readings (7a,b) are derived. (7a), in which the negative quantifier is interpreted with surface scope, is hard to get and only available with help from the context, because it runs against the strong tendency of modals in German to be in the scope of negation

rather than vice versa. The only way for the modal to get in the scope of negation is LF-movement of the negative quantifier across it. This results in the reading paraphrased as (7b). But this reading is quite weak since it says that there is no specific tie you are required to wear. This does not exclude that you might have to wear some tie or other because the occasion requires it. However, the sentence (7) is usually understood to convey that it is fine if you do not wear a tie. So in the salient reading, paraphrased in (7c), the negation has wide scope over the modal whereas the indefinite is interpreted within the scope of the modal (de dicto reading of the indefinite). Thus for the interpretation the n-word is split into a negative and an indefinite part, so that the modal can take scope in between the two. Under the negative quantifier analysis this is not possible, since the negation and the indefinite are part of the meaning of the lexical unit *kein*.

Let me convince you that the split reading is real and cannot be reduced to one of the two readings derived by the negative quantifier analysis. In sentences with expletive *es* ('there') an indefinite subject of a modal verb only has the narrow scope reading:

- (8) Es muss ein Arzt anwesend sein.
 there must a physician present be
 a. 'It is required that there be a physician present.' must > \exists
 b. \$ 'There is a physician who is required to be present.' \exists > must

This also holds if the subject consists of an n-word. But although such a sentence does not have a reading in which the negative quantifier takes wide scope, its salient reading is nevertheless (9c), in which the negation outscopes the modal.

- (9) Es muss kein Arzt anwesend sein.
 there must n-Det physician present be
 a. 'It is required that there be no physician present.' must > \neg > \exists
 b. \$ 'There is no physician who is required to be present.' \neg > \exists > must
 c. 'It is not required that there be a physician present.' \neg > must > \exists

It is also possible to construct examples for which the split reading is the only possible one. These involve the modal verb *brauchen* ('need'), which is an NPI and must therefore be interpreted in the scope of a negative item, thus excluding the narrow scope reading of the negative quantifier. But simultaneously, because of expletive *es* ('there'), *kein Arzt* ('no doctor') is required to have narrow scope with respect to the modal:

- (10) Es braucht kein Arzt anwesend sein.
 there need n-Det doctor present be
 a. \$ 'It is required that there be no physician present.' must > \neg > \exists
 b. \$ 'There is no physician who is required to be present.' \neg > \exists > must
 c. 'It is not required that there be a physician present.' \neg > must > \exists

Besides the context of modal verbs, n-words give also rise to a reading with split scope when they are the object of transitive intensional verbs, such as *suchen* ('seek').

- (11) Peter sucht kein Einhorn.
 Peter seeks n-Det unicorn
 a. \$ 'Peter is trying not to find a unicorn.' seek > ¬ > ∃
 b. 'There is no unicorn that Peter is trying to find.' ¬ > ∃ > seek
 c. 'Peter is not trying to find a unicorn.' ¬ > seek > ∃

For n-words as objects of transitive intensional verbs the narrow scope reading of a negative quantifier (11a) is not available. The wide scope reading (11b), again, is rather weak since it is already true if unicorns do not exist in the evaluation worlds, independently of Peter's activities.

Not only verbs can take scope in between the negation and the indefinite part of n-words, but also nominal quantifiers. But while scope splitting with respect to verbs expressing intensional operators is generally possible, this is restricted to sentences bearing topic-focus-accent. Under this rise-fall-contour a universal DP in topic position has scope in between the negation and the indefinite contributed by an n-word in the Mittelfeld. This time the split reading is the only available one.

- (12) JEDER/ Student hat KEIN\ Auto.
 every student has n-Det car
 'It is not true that every student has a car.' ¬ > ∀ > ∃

3.2. Previous accounts of scope splitting

The data presented in the last subsection pose a problem for the assumption that n-words in German are negative quantifiers. There are, however, analyses that derive the split reading of n-words while retaining this assumption. In these accounts special mechanisms are proposed to handle scope splitting. Geurts (1996) assumes that the split reading is due to quantification over abstract individuals, while de Swart (2000) employs quantification over higher types. But both of these analyses face a serious problem: The mechanisms proposed apply unrestrictedly and thus overgenerate. For instance, if the split reading of (13) is assumed to be due to a special interpretation of *kein Buch* 'no book' nothing prevents this interpretation from applying to it in (14) as well, thus deriving a split reading that is not available.

- (13) /ALLEN Studenten habe ich KEIN\ Buch empfohlen.
 all students. DAT have I no book.ACC recommended
 'It isn't true that for every student there is a book such that I recommended it to him.' ¬ > ∀ > ∃
- (14) Ich habe kein Buch allen Studenten empfohlen.
 I have no book. ACC all students. DAT recommended
 'There is no book that I recommended to every student.' ¬ > ∃ > ∀
 \$ 'It isn't true that for every student there is a book such that I recommended it to him.' ¬ > ∀ > ∃

The mechanisms derive split readings for n-words in contexts where they do not have such readings. It remains unaccounted for that scope splitting is restricted to particular environments such as topic-focus-accent.

4. Analysis

4.1. Conclusion from the data

We have seen two phenomena that arise in connection with n-words in different languages. So what lesson can we draw from them regarding the nature of n-words? NC shows that n-words are not always semantically negative. The data with split scope of n-words in German demonstrate that the negative meaning component of n-words can take scope independently of the indefinite meaning component. Both of these properties are unexpected under the assumption that n-words are negative quantifiers and cannot easily be handled by such an analysis. Therefore, I conclude that n-words should not be analyzed as negative quantifiers. Rather, I propose that the discussed properties are part of the true nature of n-words. In the remainder of this section, an analysis that implements this idea is presented in detail.

4.2. N-words: semantically non-negative elements licensed by negation

The main conclusion that can be drawn from the data discussed in the previous sections is that n-words themselves are not bearers of semantic negation. Rather, they are semantically non-negative, which means that the meaning of an n-word is the same as for its positive pendant.

$$(15) \text{[[nobody]]} = \text{[[somebody]]} = \lambda P. \exists x [\text{person}(x) \ \& \ P(x)]$$

From this semantics the phenomenon of NC follows immediately: n-words in NC constellations do not contribute a negation to the meaning of the sentence, simply because their semantics does not contain a negation.


Another ingredient of the analysis is needed to explain that n-words only occur in negative sentences. This is achieved by the requirement that n-words must be licensed by negation. One way to spell out this licensing requirement would be to assume that n-words are NPIs (taken by Laka 1990, Giannakidou 1997). But this is problematic since n-words and NPIs are not licensed in exactly the same contexts: n-words cannot (without contributing negative force) occur in all contexts in which NPIs are allowed.⁴ And what is worse, NPIs are not acceptable in all contexts in which n-words are licensed, for example in negative fragmentary answers, as has been demonstrated in (1). Furthermore, a line of thinking about NPIs has been established (Kadmon and Landman 1993, Krifka 1995, Lahiri 1998) that derives the need for a negative context from the fact that the use of an NPI makes a statement stronger. Since no such strengthening is associated with n-words, their licensing requirements must have a different source.

I follow Zeijlstra (2004), who argues that the licensing of n-words in NC languages is a form of syntactic agreement. N-words carry an uninterpretable feature [uNEG] that must be checked against an interpretable feature [iNEG] carried by a negative operator. For instance, in the Italian example (16) the n-word *nessuno* has the feature [uNEG], which must be licensed. As the sentential negation marker *non* ('not') is semantically negative it has the feature [iNEG], which checks the [uNEG]-feature on *nessuno* (cf.

⁴ Giannakidou (1997) accounts for this fact by proposing that n-words have stronger licensing requirements: while NPIs are licensed in non-veridical contexts, n-words require anti-veridical contexts.

17). On the other hand, if the negative marker is not present, as in (18), there is no semantically negative element carrying [iNEG] and thus the [uNEG]-feature on *nessuno* is not licensed.

(16) Gianni non telefona a nessuno. Italian
 Gianni neg call to n-person
 ‘Gianni doesn’t call anybody.’

(17) Gianni non_[iNEG] telefona a nessuno_[uNEG]


(18) *Gianni telefona a nessuno_[uNEG]


To explain the fact that more than one n-word can be licensed by the same negation, as in (19), Zeijlstra (2004) proposes that n-word licensing is subject to Multiple Agree (Haraiwa 2001), i.e. several [uNEG]-features can be checked by one and the same [iNEG]-feature, as shown in (20).


(19) Maria non ha detto niente a nessuno. Italian
 Maria neg has said n-thing to n-person
 ‘Maria hasn’t said anything to anybody.’

(20) Maria non_[iNEG] ha detto niente_[uNEG] a nessuno_[uNEG]


4.3. Abstract negation

But what about preverbal n-words in non-strict NC languages, which do not co-occur with the negative marker (recall (6a))? Ladusaw (1992) proposes that in these cases the sentential negation is realized abstractly. In his terminology, n-words are self-licensing in the sense that an n-word can license itself by introducing an abstract negative operator.⁵ But sentential negation may only be abstract if its presence is marked by an element preceding the verb. Assuming that a feature [iNEG] on a semantic negation can only check a [uNEG]-feature carried by an n-word if the negation c-commands the n-word (cf. Zeijlstra, 2004), preverbal n-words must be c-commanded by an abstract negation. This means that the underlying structure of (21) is (22), where NEG is an element that is semantically interpreted as sentential negation and not realized phonologically.

(21) Nessuno telefona a Gianni. Italian
 n-person call to Gianni
 ‘Nobody calls Gianni.’

(22) [NEG_[iNEG] [nessuno_[uNEG] telefona a Gianni]]


⁵ This ability for self-licensing can also be made responsible for the fact that n-words on their own can be used as negative fragmentary answers (see (1)).

This also explains why in non-strict NC languages preverbal n-words co-occurring with a negative marker yield a reading with double negation (if they receive prominent stress; otherwise such sentences are judged as ungrammatical). Since preverbal n-words are licensed by a c-commanding abstract negation, in this case the negative marker is the second semantically negative element in the structure of the sentence.

In contrast to non-strict N-languages like Italian, n-words in strict NC languages like Polish are also accompanied by a negative marker when they are preverbal (see (5a)). So why is it that in these languages this constellation does not result in a double-negation reading (or ungrammaticality)? Zeijlstra (2004) argues that in strict NC languages the negative marker on the verb itself is not semantically negative and carries a feature [uNEG]. Thus the semantic negation is always abstract in strict NC languages.

(23) Nikt nie przeczytał tego artykuł u. Polish
 n-person neg read-3SG.PAST this-GEN article-GEN
 'Nobody has read this paper.'

(24) NEG_[iNEG] nikt_[uNEG] nie_[uNEG] przeczytał tego artykuł u


So the difference between strict and non-strict NC languages is reduced to the status of the negative marker in a language: in strict NC languages it is semantically negative, whereas in non-strict NC languages it is not.

One may find it odd that something as important to the meaning of a sentence as negation can be realized abstractly. But then, why not? As long as there is always clear indication of the presence of negation, it does not really matter whether the negative operator itself is expressed overtly or covertly. Due to their licensing conditions, n-words are automatically connected to a negation and so there is no need for the negation itself to be present overtly. There are thus two strategies in natural language to express sentential negation: the first is using a negative marker corresponding to semantic negation, the second is using n-words that mark the presence of a possibly abstract negation.

4.4. N-words in non-NC languages

So far the theory of Zeijlstra (2004) on NC. But whereas he assumes a dichotomy between n-words in NC languages, which are semantically non-negative and subject to syntactic licensing conditions, and n-words in non-NC languages, which he considers as negative quantifiers, I argue that all n-words are essentially the same in nature.

An analysis according to which n-words are semantically non-negative and must be licensed by a possibly abstract negation explains straightforwardly the phenomenon of scope splitting that n-words in German show as discussed in section 3 (such an analysis was proposed in Penka and von Stechow 2001). As the negation and the indefinite do not form a semantic unit, it follows immediately that some other operator can take scope in between the two. For non-NC languages in

most cases it does not make a difference whether an n-word is analyzed as negative quantifier or an indefinite plus a sentential negation. But in cases where some other semantic operator takes scope in between the negation and the indefinite, the difference becomes crucial.

Consider again the example (7), which is repeated as (25) below, this time as embedded clause to abstract away from V2 movement. Recall that the salient reading is the split reading as paraphrased in (25). Responsible for this reading is the fact that the abstract negation licensing the n-word can be in a position high enough to also c-command the modal verb, as illustrated in the structure (26a). From the surface structure (26a) the LF (26b), which expresses the intended truth conditions, is immediately derived (by reconstruction of the subject to a position within the embedded vP).

- (25) ... dass du keine Krawatte anziehen musst German
 ... that you n-Det tie wear must
 ‘... that it is not required that you wear a tie’

- (26) a. ... dass du NEG [[keine Krawatte anziehen] musst]
 b. LF: NEG [[du keine Krawatte anziehen] musst]

Note that there is no need to move the negation to the position from which it takes scope, since it is already there in the surface structure.⁶ That the LF (26b) corresponds to the salient reading is due to the fact that modal verbs in German show a strong tendency to be in the scope of negation rather than vice versa (see de Haan 1997), and this does not depend on whether the negation is overt or abstract. But if the context requires it, NEG —just as the negation marker *nicht* (‘not’)— can also be in the scope of the modal, i.e. adjoined to the embedded vP, yielding a reading in which the modal outscopes both the negation and the indefinite (‘It is required that you don’t wear a tie.’):

- (27) a. .. dass du [NEG [keine Krawatte anziehen] musst]
 b. LF: [NEG [du keine Krawatte anziehen] musst]

To obtain the wide scope reading in which both the negation and the indefinite have wide scope with respect to the modal (‘There is no tie that you are required to wear.’), I assume that QR can also target vP. Thus the LF expressing this reading is derived from the surface structure in (27a) by adjoining the quantifier *keine Krawatte* (‘no tie’) to the embedded vP in the scope of NEG:

- (28) LF: [NEG keine Krawatte λ_1 [du 1 anziehen] musst]

The fact that an n-word must be interpreted in the scope of its licensing negation can be reduced to a general constraint on LF-movement, according to which a negation operator constitutes a barrier for upward movement (see Beck 1996 for German).

The assumption that n-words in NC and non-NC languages have the same nature immediately raises the question how the different behaviour n-words shown in the two types of languages is accounted for. I propose that the difference is due to parametric

⁶ Assuming LF-movement of the negation would be undesirable for two reasons. First, it would be hard to motivate, since adverbs always seem to have surface scope. Second, the movement of a propositional operator like negation does not have a semantic effect at all, unless such movement would be stipulated to not leave a semantically interpreted trace, which would result in a rather strange kind of movement.

variation of Multiple Agree with respect to [NEG]-features. NC languages have Multiple Agree and thus several [uNEG]-features can be checked by one [iNEG]-feature (see (20)). In contrast, non-NC languages do not have Multiple Agree and accordingly the ratio of semantic negations to n-words is 1:1. This means that in non-NC languages each n-word is licensed by its own c-commanding abstract negation:⁷

- (29) a. ... dass niemand kein Auto hat. German
 ... that n-person n-Det car has
 ‘... that nobody has no car’ = ‘... that everybody has a car’
 \$ ‘... that nobody has a car’
- (30) ... dass NEG_[iNEG] [niemand_[uNEG] NEG_[iNEG] [kein_[iNEG] Auto hat]]



Furthermore, in German the negative operator licensing n-words must be abstract and cannot be realized overtly. Otherwise we would expect the sentential negative marker, which is assumed to be semantically negative and hence to have the feature [iNEG], to license n-words, parallel to Italian *non* (‘not’). That this is not the case is evident from the fact that the following sentence only has a reading with double negation, if it is acceptable at all:

- (31) ?... Peter nicht kein Auto hat. German
 ... Peter neg n-Det car has
 ‘... that Peter does not have no car’ = ‘... that Peter has a car’
 \$ ‘... that Peter does not have a car’

It is clear that n-words in non-NC languages can only be licensed by an abstract negation, since otherwise they would show a form of negative concord holding between the negative marker and an n-word (provided that the negative marker in non-NC languages is semantically negative). But the licensing conditions in these languages are even stricter. While n-words in NC languages are licensed in the entire domain c-commanded by a negative operator, n-words in non-NC languages must be immediately surface-adjacent to NEG, i.e. no phonologically realized element may intervene between an n-word and its licensing negation.⁸ This explains why scope splitting in German is restricted to certain environments, which were discussed in section 3. Recall that scope splitting is generally possible with respect to verbal operators such as modal and object intensional verbs. Given that the basic word order in German corresponds to SOV, this is expected because an abstract negation licenses an n-word in the leftmost position within the VP under surface adjacency, even

⁷ This implies that there is no fixed position (NegP) for the negation operator. For German this is in line with Jacobs (1982), who argues that negation is a sentential adverb that can be adjoined to any node at least as high as VP.

⁸ This formulation of the requirement is actually too strict, since there is one type of elements that may intervene between an n-word and its licensing NEG, namely prepositions. N-words may be embedded in PPs, even under a split reading:

- (i) Peter sucht nach keinem Einhorn. German
 Peter seeks after n-Det unicorn
 ‘Peter is trying not to find a unicorn.’

if NEG is in a structurally higher position also c-commanding the verb. So whenever the surface structure corresponds to (32) a reading is available in which the verb takes scope in between negation and the n-word.

- (32) [NEG [_{VP} [n-word...] V]]

While the fact that scope splitting with respect to intensional verbs is always possible is put down to the availability of a surface structure in which the corresponding scope relations hold, the case of scope splitting with respect to nominal operators is different. DPs can only take scope in between an n-word and its licensing NEG if they get into their scope position during the derivation of LF, since at the surface the two have to be adjacent. This explains why split readings with respect to universal quantifiers are restricted to the context of topic-focus-accent. According to Büring (1997), the only available reading for sentences bearing this intonation pattern is one in which the topicalised constituent is reconstructed to its base position. Given this, we can now explain how the split reading for a sentence such as (33) comes about. In the surface structure (34a) the object *kein Auto* ('no car') is immediately adjacent to NEG dominating the vP, because the subject has moved to the topic position. But due to the topic-focus-accent, the only LF expressing an available reading is the one in which the subject is reconstructed to its base position within vP (34b). Hence at LF, the universal subject intervenes between NEG and the n-word, yielding the split reading.

- (33) JEDER/Student hat KEIN\ Auto.
 every student has n-Det car
 'It is not true that every student has a car.'

- (34) a. [_{CP} [_{DP} jeder Student]_i hat_j [NEG [_{vP} t_i kein Auto t_j]]]
 b. LF: [NEG [_{vP} jeder Student kein Auto hat]]

Usually in German the scope relations at LF correspond to the order of elements at the surface. So it is only if something, such as the meaning of topic and focus, forces the scope relations at LF to be different, that a nominal quantifier can take scope in between the negation and the n-word. Thus the analysis of n-words presented here can not only straightforwardly derive split readings, but also provides an explanation for why they are restricted to certain environments. The problem of overgeneration that alternative accounts face does not arise in the first place.

4.5. Comparison to Ladusaw (1992)

Many of the ideas which the analysis presented here is based on are already present in Ladusaw (1992, 1994, 1995). But Ladusaw's proposal is programmatic in nature and is therefore hard to interpret. In this section, I want to argue against one way in which his proposal can be interpreted. The central idea is stated in the following quote from Ladusaw (1992: 254):

- (35) «Assuming that all the negative argument expressions are univocally indefinites which are strong NPIs, i.e. must be roofed in lf by a negative operator, we have an account of the pattern of negative concord.»

“Negative argument expressions” refers to the expressions that are called n-words here and the roof of an indefinite is defined as “the operator that triggers the anchoring or binding of an indefinite” (Ladusaw, 1992: 245).

The analysis sketched in the quote above makes crucial use of the fact that n-words are the negative forms of indefinites, and relates them to the semantics of indefinites. According to Heim (1982) indefinites are not existential quantifiers, but rather open propositions consisting of a free variable and a predicate over this variable, e.g. *a boy* is translated as ‘*x* is a boy’. The free variables introduced by indefinite expressions are bound by a semantic operator. Such an operator can either be a (nominal, adverbial or verbal) quantifier in the sentence, a covert modal operator associated with conditionals or an existential closure operator. The licensing relation between n-words and a negation can now be regarded as binding of an indefinite variable by a negation operator, i.e. the free variables introduced by n-words must be bound by a negation.

But such an analysis of n-words becomes problematic when their ability for scope splitting is taken into account. This also holds for NC languages, in which scope splitting is transparent in the sense that in constructions with the split reading the negative marker precedes the verb. Thus the order of the elements at the surface overtly reflects the scope relations at LF:

- (36) Ty ne dolzhen mne darit nikakich podarkov. Russian
 you neg must me-DAT give n-Det.GEN.PL present-GEN.PL
 ‘It is not necessary that you give me presents.’

Under the assumption that the variables introduced by n-words must be bound by the negation operator, the following semantic representation for the sentence (36) is derived, where $\text{Acc}(w, w')$ means that a possible world w' is accessible from the evaluation world w under a certain (deontic, circumstantial etc.) interpretation of the modal:⁹

- (37) $\neg \exists x [\forall w' : \text{Acc}(w, w') \rightarrow x \text{ are presents in } w' \ \& \ \text{you give me } x \text{ in } w']$

But (37) expresses exceedingly weak truth conditions. It is true whenever there is no group of things in the real world for which it follows from the modal background that these things are presents. This does not correspond to a natural reading of (36). The problem with (37) is that the operator binding the indefinite variable has wide scope over the modal while the restrictor has narrow scope. The representation expressing the split reading correctly is (38), where the variable introduced by the n-word is existentially bound within the scope of the modal while the negation has wide scope.

- (38) $\neg \forall w' : \text{Acc}(w, w') \rightarrow \exists x [x \text{ are presents in } w' \ \& \ \text{you give me } x \text{ in } w']$

These considerations show that a semantic licensing condition for n-words according to which the indefinite variables introduced by n-words must be bound by a negation cannot be correct.

⁹ I assume that negation triggers existential closure in its scope and that n-words are licensed more precisely if they are bound by an existential closure operator triggered by negation (see the above definition of ‘roof’).

Note that the analysis I presented in the last section does not make any commitment regarding the quantificational status of n-words: they can be translated as Heimian indefinites as well as existential quantifiers.¹⁰ This constitutes another advantage over the negative quantifier approach, since n-words can also occur in contexts for which it has been argued that indefinites should be interpreted as properties rather than quantifiers, such as existential constructions (see McNally 1998):

- (39) Es gibt hier keine Gespenster. German
 there are here n-Det.PL ghost-PL
 'Ghosts do not exist here.'

According to the analysis presented here, the negation associated with the n-word in (39) refers to the verb. Since the semantics of *keine Gespenster* ('no ghosts') is the same as for the corresponding positive indefinite, it can express a property, which constitutes the argument of the existential verb.

5. Distributional restrictions in Scandinavian

The assumption that n-words cross-linguistically are licensed by negation and that this licensing is of syntactic nature is confirmed by a third phenomenon exhibited by n-words. In the Scandinavian languages, n-words are restricted in their syntactic distribution (see Christensen 1986, Kayne 1998, Svenonius 2002). An n-word cannot occur in object position if the clause is embedded or if the verb form is composed of a participle, as the following Norwegian examples (from Christensen 1986) illustrate:

- (40) Jon leser ingen romaner. (41) *Jon har lest ingen romaner.
 Jon reads n-Det novels Jon has read n-det novels
 'Jon doesn't read (any) novels.' 'Jon hasn't read (any) novels.'
- (42) *Dette er en student som leser ingen romaner.
 this is a student who reads n-Det novels
 'This is a student who doesn't read (any) novels.'

Norwegian

The generalisation underlying this pattern of restricted distribution is that n-words in Norwegian are only grammatical if they are adjacent to the canonical position of the negative marker *ikke* ('no'). In cases in which an n-word is ungrammatical another element intervenes between it and the position of *ikke*, as can be seen in the grammatical pendants of these sentences, in which the negative marker plus an indefinite is used:

- (43) Jon leser ikke noen romaner. (44) Jon har ikke lest noen romaner.
 Jon reads neg some novels Jon has neg read some novels
 'Jon doesn't read (any) novels.' 'Jon hasn't read (any) novels.'

¹⁰ The lexical entry in (15) should be understood as simplification to abstract away from the problems of the semantics of indefinites.

- (45) Dette er en student som ikke leser noen romaner.
 this is a student who neg reads some novels
 'This is a student who doesn't read (any) novels.'

In the embedded clause in (42), the finite verb intervenes between the position the negative marker would occupy and the n-word. As in main clauses the finite verb is subject to V2 movement, it gets out of the way and does not intervene anymore in the licensing of the n-word (cf. 40). But if part of the verb, e.g. a participle, stays behind as in (41), there is still material intervening and an n-word is not licensed.

These restrictions on the distribution of n-words in Scandinavian are actually predicted by the analysis of n-words presented in the last section. As the Scandinavian languages do not exhibit NC, the licensing conditions for n-words are the same as in German, i.e. n-words must be surface adjacent to an abstract negation. But in contrast to German, which is SOV, the basic word order in these languages is SVO. So in basic word order, the verb intervenes in the licensing of n-words. An n-word in object position is not adjacent to NEG, which must c-command the verb to express sentential negation, and thus yields ungrammaticality. This is illustrated in (46) for the structure underlying (42):

- (46) *... som NEG [leser ingen romaner]

But if the verb moves out in main clauses as in (40), adjacency holds and an n-word is properly licensed:

- (47) [_{CP} Jon leser_i [NEG [*t_i* ingen romaner]]]

The syntactic restrictions n-words are subject to in the Scandinavian languages thus follow immediately from the licensing conditions that were put forward for German.

6. Conclusions

In this paper, I have discussed three phenomena n-words give rise to in different languages and used them to derive conclusions on the cross-linguistic nature of n-words. The fact that n-words show NC indicates that they are semantically non-negative. Rather, they are licensed by sentential negation. That n-words refer to sentential negation is also manifest in the phenomenon of scope splitting. The distributional restrictions n-words show in the Scandinavian languages confirm that n-words are subject to licensing conditions that are syntactic in nature.

Each of these phenomena is unexpected under the assumption that n-words are negative quantifiers. It is nevertheless possible to retain the negative quantifier analysis and employ a special mechanism to handle each of these phenomena, e.g. polyadic quantification for NC (Zanuttini 1991, Haegeman 1995, de Swart and Sag 2002); special kind of quantification for scope splitting (Geurts 1996, de Swart 2000); additional assumptions regarding syntactic structures to account for restricted distribution (Kayne 1998). But such a proceeding would simply seem to miss the generalisation.

In the approach argued for here, the three phenomena are all manifestations of the same underlying nature of n-words: n-words themselves are semantically non-ne-

gative and must be syntactically licensed by negation. Thus they correspond to morphosyntactic markers of sentential negation.

The cross-linguistic perspective taken on n-words has a further implication. In simple cases that do not exhibit NC or scope splitting, the analysis above is equivalent to the assumption that n-words are negative quantifiers. But if the phenomena discussed here are taken into account, such an analysis is superior in empirical coverage and can thus be taken to constitute the true nature of n-words. This means that there are no elements in natural language that correspond to negative quantifiers.

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