Negative Concord is Syntactic Agreement

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Ms. April 2008

Abstract. In this paper I first argue that Jespersen's original idea that there is a strong correlation between NC and the syntactic status of negative markers is correct in a unidirectional sense: every language that has a negative marker X° is a Negative Concord (NC) language (provided that n-words are present).

Furthermore I present an explanation of NC that takes it to be an instance of syntactic agreement and I demonstrate how this analysis correctly accounts for the readings of sentences containing multiple negative elements, both in NC and in DN languages. Moreover, I show how different types of NC have to be accounted for and I argue that the syntactic agreement approach correctly predicts the unidirectional generalisation concerning NC and the syntactic status of negative markers.

Finally I compare this approach to other approaches of NC. Apart from the fact that those approaches do not predict this unidirectional generalisation, I also argue that these approaches (the Negative Quanitifier approach, the Negative Polarity Items approach, Herburger's analysis of n-words being lexically ambiguous and Watanabe's analysis of NC as a side effect of focus agreement) all face problems that the syntactic agreement approach does not suffer from.

On the basis of the data and considerations presented in the paper I conclude that NC is indeed an instance of syntactic agreement between a single negative operator that may be phonologically abstract and one or more negative elements that are morpho-syntactically, but not semantically marked for negation.

1.   Introduction

In this paper I discuss a well-known problem in the study of the syntax-semantics interface. From a logical point of view, one would expect that every negative element introduces a negation in the semantics. This is for instance the case in Dutch. In (1)a the semantics contains two negations, which cancel each other out and the sentence yields a positive reading, which is said to be a Double Negation (DN) reading. Languages like Dutch are therefore referred to as DN languages.

However, in languages like Italian things are different. (1)b also contains two negative elements, but the sentence contains only one semantic negation. This phenomenon is referred to as Negative Concord (NC).

(1)   a.   Jan belt *niet niemand*   Dutch

                      Jan calls NEG n-body

                      DN: 'Jan doesn't call nobody' = 'Jan calls somebody'

        b.   Gianni *non* ha telefonato a *nessuno*   Italian

                      Gianni NEG has called to n-body

                      NC: 'Gianni didn't call anybody"

The sentence in (1)b contains two negative elements: the negative marker *non* and the negative indefinite expression *nessuno*. Each of these expressions can independently introduce negative force, as shown in (2).

(2)   a.   Gianni *non* ha telefonato   Italian

                      Gianni NEG has called

                      'Gianni didn't call'

        b.   *Nesssuno* ha telefonato

                      N-body has called

                      'Nobody called'

Negative indefinite expressions such as *nessuno* that can express negative force in certain contexts, but that are also able to participate in NC relations are called *n-words* (adopting Laka's (1990) and Giannakidou's (2000) terminology). Since both the negative marker and the n-word can introduce negative force, the reading of constructions such as (1)b creates a problem for compositionality. The central question is how NC can be explained without losing compositionality.

        NC has been examined for a number of languages (for an overview of the literature, see Giannakidou (2006), and section 4 in this paper). The class of NC languages is not homogenous. In some languages NC is obligatorily present, in other languages it is only optionally available. As is shown in (3)a, the Italian sentence in (1)b would be ruled out without the presence of the negative marker, whereas in West Flemish co-occurrence of a negative marker in clauses containing an n-word is only optional (cf. Haegeman (1995)).

(3)   a.   Gianni *(*non*) ha telefonato a *nessuno*   Italian

                      Gianni NEG has called to n-body

                      'Gianni didn't call anybody'

        b.   … da Valère *niemand* (*nie*) ken   West Flemish

                      … that Valère n-body NEG knows

                      '… that Valère doesn't know anybody'

I follow Giannakidou (2000, 2006), who bases herself on Den Besten (1989) by calling languages in which NC is required if an indefinite negative expression is in postverbal position *Negative Concord proper* languages.

NC proper languages are also divided in Strict NC and Non-strict NC languages (after Giannakidou (2000)). Czech and Italian show different behaviour in the case of preverbal n-words. In Czech, which is a Strict NC language, n-words always need to be accompanied by a negative marker, as shown in (4), whereas in Italian, which is a Non-strict NC language, preverbal n-words are forbidden to precede the negative marker.

(4)   a.   Dnes *nikdo* *(*ne*)volá   Czech

                   Today n-body NEG.calls

                   'Today nobody is calling'

    b.   *Nessuno* (*non) ha telefonato   Italian[1]

                   N-body NEG has called

                   'Nobody called'

Although NC comes about in different kinds, still the same question needs to be answered: how is it possible that multiple morpho-syntactic occurrences of negation yield only one semantic negation. Therefore I argue that the different kinds of NC need to be explained by a single theory of NC, that also predicts the parametric variation between NC languages (Strict vs. Non-strict NC languages) as well as the variation between NC languages and DN languages.[2] The central objective of this paper is to propose a uniform account of NC that accounts for all these instances of NC.

The primary question that has emerged in the literature about NC is whether n-words have semantic negative force of their own. In this paper I argue that n-words should be analysed as being semantically non-negative. I demonstrate that most relevant properties of NC follow immediately once it is assumed that NC is an instance of (multiple) Agree between (multiple) n-words and a single negative operator. Following minimalist ideas on agreement, cf. Chomsky (1995a, 2000, 2001). N-words are then equipped with a formal uninterpretable feature [uNEG], the negative operator carries [iNEG]. I demonstrate that the difference between Strict and Non-strict NC follows from the semantic

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[1] Sometimes it has been claimed in the literature that examples such as (4) give rise to Double Negation (DN) readings if a negative marker is included. This is not true. The DN reading only becomes available if the preverbal n-word is heavily stressed and followed by an intonational break (#), as is shown in (i). Otherwise speakers judge such constructions ungrammatical.

    (i)   *NESSUNO* (#) *non* ha telefonato a *nessuno*   Italian
              N-body (#) NEG has called to n-body
              'Nobody did not call anybody'

[2] Note that this does not exclude DN occurrences in NC languages. In DN languages every morphosyntactically negative element corresponds to a semantic negation, whereas this is not the case in NC languages.

value of the negative marker: in Non-strict NC languages the negative marker is semantically negative (carrying [iNEG]), in Strict NC languages it is not (carrying [uNEG]). The difference between DN languages and NC languages is then that negation in NC languages must be realised as a formal feature (in order to establish feature checking relations between [iNEG] and [uNEG] features). In DN languages, by contrast, there is a 1:1 correspondence between negative form and negative meaning. There is no need to postulate the existence of formal negative features in these languages as their semantic properties follow directly from their lexical semantics. Moreover in DN languages no syntactic operation Agree/Move is triggered by negation. Since positive evidence for those features is lacking in DN languages learnability constraints rule out their existence.

The distinction between DN and NC languages then reduces to the presence vs absence of (formal) negative features. Consequently, since projection operates on features a functional projection NegP is predicted to occur in NC languages (cf. Giorgi & Pianesi (1997)). Negative markers Neg° are thus expected to be found in NC languages only. In this paper I show that this prediction is born out.

This paper is organized as follows. In section 2 I discuss the relation between the syntactic status of negative markers and the occurrence of NC in a particular language. In section 3 I propose my own analysis of NC in terms of syntactic agreement. In section 4 I discuss several previous attempts to explain NC and demonstrate the problems these analyses face and how these problems are solved under the syntactic agreement approach. Section 5 concludes.

2. NC and the syntactic status of negative markers

As follows from the above, the syntax of negative markers is closely related to the occurrence of NC. In this section I therefore discuss the syntactic status of negative markers in detail.

Negative markers come about in different kinds. Following much of the terminology from Zanuttini (1997, 2001), one can distinguish the following three kinds of negative markers: (i) *adverbial negative markers*; (ii) *negative particles*; and (iii) *affixal negative markers*.

The first class of negative markers consists of adverbial negative markers. These negative markers occur both in preverbal and postverbal position as is shown for German in (5).

(5)   a.   Hans kommt *nicht*   German
             Hans comes NEG   (adverbial)
             'Hans doesn't come'
       b.   … dass Hans *nicht* kommt
             … that Hans NEG comes
             '… that Hans doesn't come'

So-called negative particles constitute the second class of examples. These are negative markers that always occupy a position to the left of the finite verb. Czech *ne* and Italian *non* are two examples of such negative markers. I will tentatively refer to these kinds of negative markers as *weak* and *strong preverbal particles* respectively.

(6)   a.   Milan *ne*volá   Czech

                  Milan NEG.calls   (weak particle)

                  'Milan doesn't call'

        b.   Gianni *non* ha telefonato   Italian

                  Gianni NEG has called   (strong particle)

                  'Gianni didn't call'

In both examples the negative marker shows up immediately to the left of V_{fin}. In Czech, however, the negative marker seems to be attached to V_{fin}, exhibiting clitic-like behaviour, whereas in Italian the negative marker seems to be a separate morphological word. The examples above show that the class of negative particles is not homogenous.[3]

Affixal negative markers, finally, are those markers that participate in the verbal inflectional morphology. An example is Turkish, in which sentential negation is expressed by means of a negative morpheme *me* that is located between the verbal stem and the temporal and personal inflection.[4]

(7)   John elmalari ser*me*di[5]   Turkish

          John apples like.NEG.PAST.3SG

          'John doesn't like apples'

A final remark needs to be made about the occurrence of multiple negative markers. Many languages allow more than one negative marker to appear in negative clauses. Catalan, for example, has apart from its negative particle *no*, the possibility of including a second additional negative marker *pas* in negative expressions. In Standard French the co-occurrence of a preverbal and an adverbial negative marker is even obligatory. In West Flemish negative clauses the negative adverb *nie* is obligatory and the *en* is optional (8).

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[3] Cf. Zanuttini (1997) for a more fine-grained overview of different kinds of negative particles based on a survey of Romance microvariation (mostly Northern Italian dialects).

[4] It may sometimes be hard to distinguish negative particles from negative affixes. Turkish me is anlysed as an affix as it is embraced by the verbal stem and other affixes. Czech ne is taken to be a particle, as Czech verbsare only inflected on the right side.

[5] Example from Ouhalla (1991), also cited in Zanuttini (2001)

(8)   a.   *No* serà (*pas*) facil   Catalan

          NEG be.FUT.3SG NEG easy

          'It won't be easy'

     b.   Jean *ne* mange *pas*   French

          Jean NEG eats NEG

          'Jean doesn't eat'

     c.   Valère (*en*) klaapt *nie*   West Flemish

          Valère NEG talks NEG

          'Valère doesn't talk'

2.1   The syntactic status of negative markers

The question whether negative markers are phrasal (XP) or not (X°) has been the subject of intensive study over the past 15 years. Consensus has emerged that negative particles and affixal negative markers are syntactic heads, and adverbial negative markers have XP status. Below I demonstrate that various diagnostics indeed show that this distinction is correct. Consequently, the original distinction in terms of negative particles and affixal and adverbial negative markers, reduces to the X°/XP distinction.

2.1.1   Adverbial negative markers

A standard way to determine whether a particular syntactic element has head or phrasal status is to see what kind of movements it interferes with. Intervening heads block head movement. These diagnostics trace back to Travis (1984) and are explained by Rizzi (1989) in terms of Relativised Minimality. Swedish and Dutch are both V2 languages, where V_{fin} in main clauses moves from its V° position to C°. In (9) and (10) it is shown for Swedish and Dutch that their respective negative markers *inte* and *niet* do not block this verbal movement. This forms strong evidence that these adverbial negative markers are XPs.

(9)   a.   … om Jan inte köpte boken   Swedish

          … that Jan NEG bought books

          '… that Jan didn't buy books'

     b.   Jan köpte inte < köpte> boken

          Jan bought NEG books

          'Jan didn't buy books'

(10) a. … dat Jan niet liep   Dutch

          … that Jan NEG walked

          '… that John didn't walk'

      b. Jan liep niet <liep>

          Jan walked NEG

          'John didn't walk'

A similar pattern can be found for the French adverbial negative marker *pas*. French is a language in which the finite verb moves from V° to T°. If *pas* intervenes between these positions the sentence is still grammatical, as shown in (11). Note that *pas* intervenes between T° and V° as it precedes the VP adverb *souvent* ('often'), often analysed as a VP adjunct.[6]

(11) Jean mange *pas* souvent < mange>   French

      Jean eats NEG

      'John didn't eat'

The assumption that French *pas* is an XP is furthermore supported by the fact that some infinitives may occupy a position both to the left and to the right of *pas:*

(12) a. *N'*être *pas* heuerux   French

          NEG be NEG happy

          'Not to be happy'

      b. *Ne pas* être heuerux

          NEG NEG be happy

          'Not to be happy'

The relatativized minimality effects with respect to verbal movement also do not arise in the case of English *not*. In (13) *is* and *been* can both be thought to have been base-generated within VP-internally. Therefore English *not* must have XP status as well.

(13) a. John is *not* happy   English

      b. John can *not* been happy

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[6] Cinque (1999) claims that *souvent* occupies the specifier position of a particular adverbial phrase. Under his analysis *souvent* outscopes VP and therefore in Cinque's approach *pas* must occupy a VP-external position as well.

A second test to determine the phrasal status of negative markers is their ability to appear in an adjunction position. Heads are only allowed to adjoin to other heads and XPs may only adjoin to other XPs. Merchant (2001) argues that only negative XP markers are allowed to adjoin to the phrasal wh-term *why*. In (14) it is shown that this holds for the negative markers.

(14) a.   Varför *inte*?   Swedish

          b.   Waarom *niet*?   Dutch

          c.   Pourquoi *pas*?   French

          d.   Why *not*?   English

On the basis of the arguments presented above the traditional assumption that Swedish *inte*, Dutch *niet*, French *pas* and English *not* are XPs seems legitimate.

The assumption that English *not* is an XP is, however, disputed by Potsdam (1997). He argues that English *not* is able to license VP-ellipsis, a property normally preserved for overt heads immediately preceding VP. Potsdam compares the analysis that English *not* is a Neg° to the idea that it is an VP-adjunct and demonstrates correctly that other left-peripheral VP adverbs, such as *simply*, *merely* and *just*, may not license VP ellipsis. Note that assuming that *not* is not a head does not imply that it must be a VP adjunct. It could very well be the specifier of a NegP with Neg° covertly realised. This assumption is in accordance with the fact that *not* does not block verbal movement and with the fact that it behaves differently than the VP adverbs in terms of licensing ellipsis. This analysis still violates the constraint that ellipsis must be licensed by an (immediately dominating) overt head, but this is not a serious problem, as it must be explained why the head status is responsible for the ellipsis in the first place. If the observation is only descriptive then the argument no longer holds.]

To summarise, based on the strong evidence provided I adopt the standard conclusion that negative markers such as Dutch *niet*, Swedish *inte*, French *pas* and English *not* have XP status. This also holds for German *nicht*, Norwegian *ikke*, Catalan *pas*, Quebecois *pas*, Bavarian *ned* and Yiddish *nit*, for which similar observations have been made.
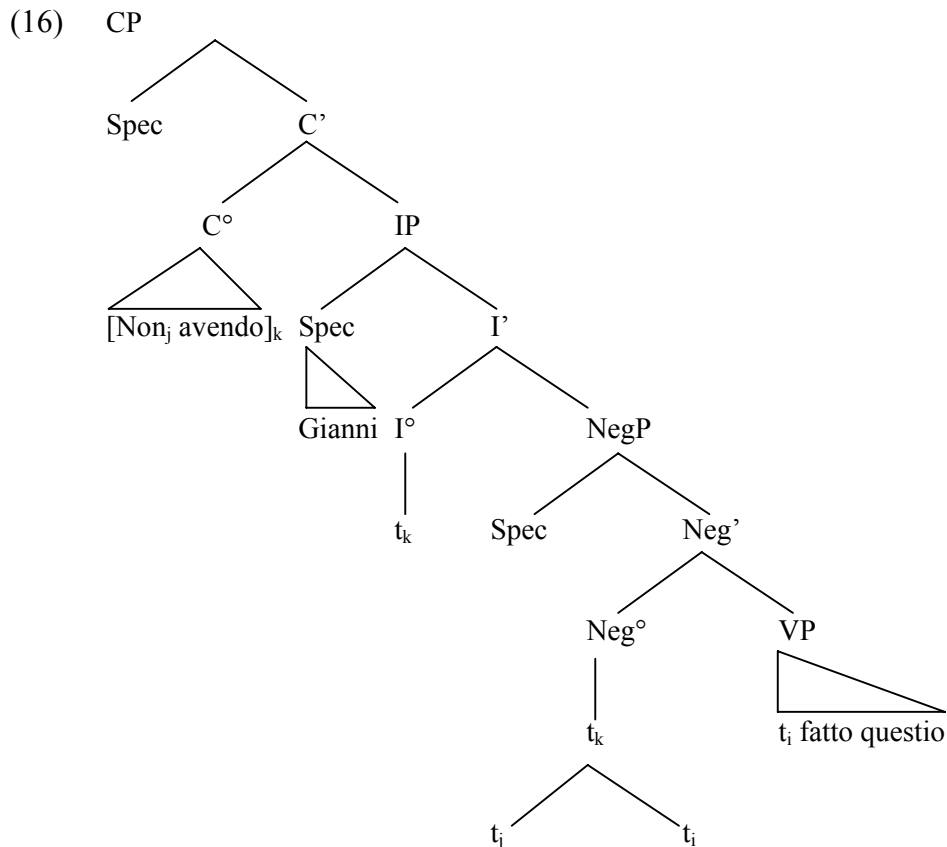
2.1.2   Negative particles

In order to determine the phrasal status of a negative particle, the same diagnostics as above apply: blocking of verbal movement and adjunction to *why*. Both tests will indicate that negative particles are syntactic heads.

Italian *non*, Spanish *no*, French *ne* and English *n't* do not allow verbal movement across them (unless they attach to them). Rizzi (1982) argues that in constructions such as (15), consisting of a participle or an infinitive, the subject occupies a Spec,IP position and the auxiliary moves to C°. In case of negation, the negation then joins the verb to move to C°. Rizzi refers to these structures as Aux-to-Comp constructions.

(15) a. [[$_{C°}$ avendo] Gianni fatto questio][7]   Italian

having Gianni done this

'Gianni having done this, …'

b. [[$_{C°}$ *non* avendo] Gianni fatto questio]

NEG having Gianni done this

'Gianni having not done this, …'

If *non* were an XP, *avendo* could simply have moved across it. However, as a head it would block this movement of *avendo*. The only possibility for *avendo* to enable movement to C° is by attaching to *non* and together move to C°, as illustrated in (16) (traces only for illustratory purposes).

(16)

CP
- Spec
- C'
  - C°
    - [Non$_j$ avendo]$_k$
  - IP
    - Spec
      - Gianni
    - I'
      - I°
        - t$_k$
      - NegP
        - Spec
        - Neg'
          - Neg°
            - t$_k$
              - t$_j$ t$_i$
          - VP
            - t$_i$ fatto questio

Similar observations can be made for Spanish *no*, Czech *ne*, French *ne* and English *n't*.[8] In all these languages, interrogatives trigger movement of V$_{fin}$ to C° and in the course of the derivation, the negative marker attaches to V$_{fin}$ and moves with it to C°. This indicates that negative particles in these languages are syntactic heads.

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[7] Example taken from Rizzi (1982)

[8] English *n't* is analysed in exact the same way in this respect, but section 2.2.1 I argue that other arguments force upon a different analysis of *n't* (namely as a lexical unit with the (auxiliary) verb).

(17) a.   Qué *no* trajo David?   Spanish

           What NEG brought David

           'What didn't David bring?'

      b.   *Ne*chce jít s námi do kina?   Czech

           NEG.want go with us to cinema?

           'Doesn't he want to join us to the cimema?'

      c.   *N'*as tu *pas* vu Mireille?   French

           NEG have you NEG seen Mireille

           'Have you not seen Mireille?'

      d.   Has*n't* Mary left?   English

Application of the *why not* test confirms the analysis of negative particles as being X° for Italian *non*, French *ne* and English *n't*. But *why neg* constructions are allowed in Czech and Spanish. This is however due to the homophony of the Spanish and Czech negative markers with the word for *no* (as in *yes/no*). As a repair strategy languages that lack a phrasal negative marker use the expression *Why no?* (as shown in (19)a for Italian). Languages with an additional phrasal marker take that marker to construct a *why not* expression (see (19)b-c). The grammaticality of (18)d-e is thus not a counterargument to the analysis of *no* and *ne* as a negative head.

(18) a.   *Perche *non*?   Italian

      b.   *Pourquoi *ne*?   French

      c.   *Why *n't*?   English

      d.   Porce *no*?   Spanish

      e.   Proč *ne*?   Czech

(19) a.   Perche *no*?   Italian

      b.   Pourquoi *pas*?   French

      e.   Why *not*?   English

Basing myself on the data presented above I conclude that negative particles in Italian, Spanish, Czech and French are syntactic heads (X°).[9] As similar observations have been made regading negative particles in other languages, such as Portuguese *não*, Catalan *no*, Romanian *nu*, Polish *nie*, Russian *ne*, Serbocroatian *ne*, Greek *dhen*, Hungarian *nem*, and Hebrew *lo*, the analysis naturally extends to those negative markers ass well (see Zeijlstra (2004) for an overview). Hence, I conclude that the difference between adverbial negative markers and negative particles is due to their differences in phrasal status.

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[9] For additional evidence concerning the syntactic status of French *ne* and *pas*, see Rowlett (1998).
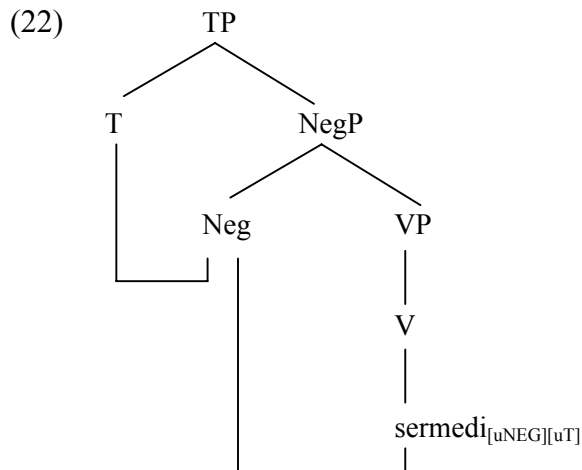
2.1.3 Affixal negative markers

The final class of negative markers concerns those markers that are part of the verbal inflectional morphology. The question is whether the syntactic status of these morphemes can be reduced to syntactic head status, similar to that of negative particles. In classical GB analyses (cf. Baker (1985)) this was a natural assumption, since verbal morphology was thought to be the result of roll-up movement. Take example (7) from Turkish (repeated as (20)):

(20)   John elmalari ser*me*di   Turkish
         John apples like.NEG.PAST.3SG
         'John doesn't like apples'

In a roll-up analysis, the verbal stem is base-generated in V° and moves up to Neg° to pick up its morpheme and the complex verb moves up to T° to attach to its tense morphology:

(21)
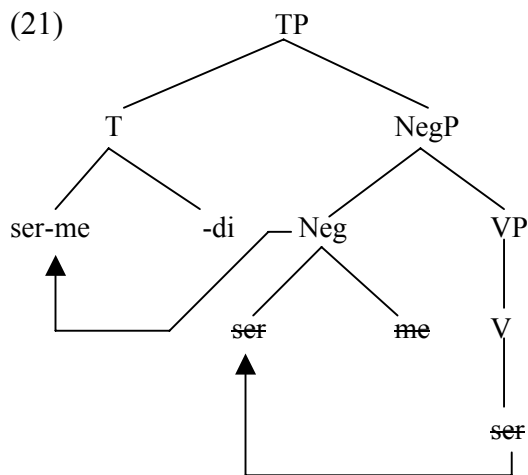
Clearly, under such an analysis the syntactic status of *me* is X°, similar to that of the negative particles. Under minimalist assumptions (Chomsky (1995a, 2001, 2002)) things have changed and it is assumed that lexical elements enter the derivation fully inflected. These elements are then equipped with particular features that need to establish a relation between the verb and the abstract functional heads that extend it. This relation is established through Agree. The structure for (20) would then be as (21).

(22)

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              TP
            /    \
          T       NegP
         /       /    \
        |      Neg     VP
        |      |        |
        |_____|        V
               |        |
               |_____sermedi[uNEG][uT]
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Here, the negative affix is not base-generated in Neg°, but associated with it through Agree the entire verb is associated with the Neg° and T° positions. Conceptually speaking, the syntactic status of *me* is thus equivalent under both approaches, the only difference being that in the latter case, the affix has not originated in the head position, but Agrees with it. Following this line of reasoning, one would expect Turkish *me* to exhibit syntactic head behaviour. Obviously, tests based on blocking of head movement no longer apply, since *me* is part of the verb and thus cannot block verbal movement anymore. However, the *why not* test still applies. Turkish *me* indeed cannot be adjoined to *why*. Instead, the language uses a construction with a form of *to be*.

(23) a.   *Neden me?   Turkish
             Why NEG
      b.   Neden ol-ma-sin?
             Why be-NEG-3.SG.IMP
             'Why not?'

The *why not* test also applies to other languages with negative affixes, such as Berber *ur/sha*[10], Japanese *nai* and Bengali *ni/na*[11]:

(24)   *Makh *ur/sha?*   Tamazight Berber
       Why NEG

(25)   *Naze *nai* no   Japanese
       Why NEG Q

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[10] Tamazight Berber has two (embracing) negative markers, which have both been analysed as negative heads (cf. Ouali 2005)

[11] Bengali has two negative markers, *ni* and *na*. The choice between them depends on the temporal and aspectual properties of the clause (see Ramchand 2003).

(26)   *Kaeno *na*?   Bengali

       Why NEG

Since negative affixes and preverbal particles are both syntactic heads, and adverbial negative markers are XP's, the only relevant distinction between all kinds of negative markers is their phrasal status. This has two major advantages. First, in some languages it is hard to distinguish prefixes from left head-adjoined weak particles, e.g. in the Slavic languages. Second, as it will turn out in the next subsection, the relation between the type of negative marker and the occurrence of NC now has been reduced to the relation between phrasal status and NC.

2.1.4   Summary

The results of the previous subsections are summarized in table (27), showing the negative marker(s) and their phrasal status in all languages that have been discussed so far.

(27)   *Negative markers and their phrasal status*

Language	X°	XP
Bengali	ni/na	
Czech	ne	
Greek	dhen	
Hebrew	lo	
Hungarian	nem	
Italian	non	
Japanese	na	
Polish	nie	
Portuguese	não	
Romanian	nu	
Russian	ne	
Serbocroation	ne	
Spanish	no	
Tamazight Berber	ur/sha	
Turkish	-me-	
Catalan	no	pas
English	n't	not
French	ne	pas
West Flemish	en	nie
Bavarian		ned
Dutch		niet
Norwegian		ikke
Quebecois		pas
Swedish		inte
Yiddish		nit

2.2   The relation between the syntactic status of negative markers and NC

Jespersen (1917) has already argued that there is a relation between the syntactic status of negative markers and the occurrence of NC in a language. Jespersen took this relation to be bidirectional: every language with what I refer to as a negative particle exhibits NC; every language with an adverbial negative marker exhibits DN.

Rephrasing Jespersen's Generalisation (as the relation has been dubbed, cf. Rowlett (1998)) in formal terms would amount to saying that languages that exhibit a negative marker X° exhibit NC whereas languages with a negative marker XP exhibit DN. Déprez (1997) argues that this generalisation is incorrect, since Quebecois is a language that has only an adverbial negative marker *pas*, but still exhibits NC. On this ground Déprez rejects Jespersen's Generalisation. The question remains open however, whether Jespersen's generalisation is incorrect or only too strong. In order to determine this, I evaluate this generalisation for the languages that I discussed in the previous subsection. It turns out that Jespersen's generalisation is unidirectional: every language with a negative marker X° exhibits NC, but not vice versa.

2.2.1   Languages with a negative marker X°

Languages that have a negative marker X° at their disposal exhibit NC. This is illustrated for Czech (28), Greek (29), Hebrew (30), Hungarian (31), Italian (32), Japanese (33), Polish (34), Portuguese (35), Serbo-Croatian (36), Spanish (37) and Turkish (38) below.

(28)   Milan *nikomu ne*volá   Czech
       Milan n-body NEG-call
       'Milan doesn't call anybody'

(29)   *Dhen* ipe o Pavlos *TIPOTA*   Greek
       NEG said the Paul n-thing
       'Pavlos didn't say anything'

(30)   John *lo* metzaltzel le-*af exhad*   Hebrew
       John NEG calls to-*n- body*
       'John doesn't call anybody'

(31)   Balázs *nem* látott *semmit*[12]   Hungarian
       Balázs NEG saw n-thing
       'Balázs didn't see anything'

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[12] Example taken from Suranyi (2002.).

(32)　Gianni *non* ha telefonato a *nessuno*　　　　　　Italian

　　　Gianni NEG has called to n-body

　　　'Gianni didn't call anybody'

(33)　John-wa *nani-mo* tabe-*nak*-atta[13]　　　　　　Japanese

　　　John-TOP n-thing eat-NEG-PAST

　　　'John didn't eat anything.'

(34)　Jan *nie* pomaga ojco *nikomu*　　　　　　Polish

　　　Jan NEG helps father

　　　'Jan doesn't help his father'

(35)　O Rui *não* viu *ningém*　　　　　　Portuguese

　　　The Rui NEG looked at n-body

　　　'Rui didn't look at anybody'

(36)　Milan *ne* vidi *nista*　　　　　　Serbo-Croatian

　　　Milan NEG see n-thing

　　　'Milan doesn't see anything'

(37)　Juan *no* miraba a *nadie*　　　　　　Spanish

　　　Juan NEG looked at n-body

　　　'Juan didn't look at anybody'

(38)　Cem *kimse*-yi　gör-*me*-di　　　　　　Turkish

　　　Cem n-body-ACC see-NEG-PAST.3.sSG

　　　'Cem didn't see anybody'

So far Jespersen's generalisation has not been falsified. There are, however, a number of languages with a negative marker X° which lack NC effects though, such as Mandarin Chinese, Korean and Bengali. This is, however, due to the fact that these languages do not have n-words at all. Instead of using an n-word in constructions in which an indefinite falls under the scope of negation, these languages systematically use Negative Polarity Items (NPIs), similar to English *any*-terms. Given the lack of n-words in these languages these examples cannot be regarded as violations of Jespersen's

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[13] Example taken from Watanabe (2004).

generalisation: although they do not exhibit NC they do not exhibit DN either as constructions consisting of a negative marker and an n-word simply do not exist. Note that the fact that DN readings do occur in case two negative markers are included in the clause is not a valid counter argument, since this effect also shows up in real NC languages, such as Italian (39).

(39) a.   … kintu abar dekha *na* korte-o cai *na*   Bengali
              … but again seeing NEG do-also want-PRES-1SG NEG
              '… but I didn't NOT want to see him either'
       b.   Gianni *non* vuole *non* telefonare   Italian
              Gianni NEG wants NEG call
              'Gianni does not want not to call'

A similar pattern emerges with the typologically rather rare languages that have multiple negative markers of which one of them is a syntactic head. Catalan, French, Tamazight Berber and West Flemish all exhibit Negative Concord, as is shown in (40)-(43)below.

(40)   *No* ha vist (*pas*) *ningú*   Catalan
       NEG has.3SG seen. NEG n-body
       'He didn't see anybody'

(41)   Jean *ne* dit *rien* a *personne*   French
       Jean NEG tells n-thing to n-body
       'Jean doesn't tell anything to anybody'

(42)   *Sha-ur* 3lix walu   Tamazight Berber
       NEG-NEG see.PERF.1SG n-thing
       'I didn't see anything'

(43)   … da Valère *van niemand nie* ketent *en* was[14]   West Flemish
       … that Valère of n-body NEG pleased NEG was
       '…that Valère wasn't pleased by anybody'

The only language of this type, which does not seem to exhibit NC is Standard English. Although many varieties of English do exhibit NC (cf. Anderwalt (2002)), Standard English exhibits DN readings:

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[14] Example taken from Haegeman (1995)

(44) John did*n't* eat *nothing*

      'John ate something'

However, contrary to the other languages, English *n't* is extremely limited in its distribution. It can only attach to a small number of inflected forms of verbs such as *to have, to be* and *to do*, and modals. In all other contexts where a negation is required (e.g. in NP's), phrasal *not* is used. Moreover, as Zwicky and Pullum (1983) have pointed out, negative auxiliaries are not always combinations of verbal stems and *n't*, as can be seen in words like *ain't* and *shan't*. Finally, it is a well-known fact that scopal order of *n't* and the allegedly attached auxiliary are completely unpredictable. *Can't* for instance yields inverse scope, whereas *mustn't* does not. Negative auxiliaries seem to be idiosyncratic in nature.

These facts all argue strongly against an analysis of *n't* being a syntactic head indicate that Pullum and Wilson (1977) were on the right track when they analysed negative auxiliaries in English as single Lexical Items. Consequently, English only seems to have a negative marker that is a syntactic head at its disposal. Therefore English cannot be taken to be a language that speaks against Jespersen's Generalisation. Hence, the following unidirectional generalisation can be drawn:

(45) Every language that has a negative marker X° is an NC language (provided that n-words are present).

2.2.2 Languages with a negative marker XP

The results so far indicated that Jespersen's generalisation seems to be correct in one direction. However, as said before, it is incorrect in the other direction. The absence of a negative marker X° does not guarantee absence of NC. Amongst the languages that have an adverbial negative marker one finds both DN and NC languages. As illustrated below Dutch (46), German (47), Norwegian (48) and Swedish (49) are clear DN languages, whereas Bavarian, Quebecois Yiddish and are NC languages ((50)-(52)).

(46) a. Jan loop *niet*   Dutch

          Jan walks NEG

          'Jan doesn't walk'

      b. Jan belt *niet niemand*

          Jan calls NEG n-body

          DN: 'Jan doesn't call nobody'

(47) a.   Hans kommt *nicht*   German

         Hans comes NEG

         'Hans doesn't come'

    b.   Hans sieht *nicht nichts*

         Hans sees NEG n-thing

         DN: 'Hans doesn't see nothing'

(48) a.   Ole går *ikke*   Norwegian

         Ole walks NEG

         'Ole doesn't come'

    b.   Ole sier *ikke ingenting*

         Ole says NEG n-thing

         DN: 'Ole doesn't say nothing'

(49) a.   Hon har *inte* skrivit   Swedish

         She has NEG written

         'She hasn't written'

    b.   Sven har *inte* skrivit *ingenting*

         Sven has NEG written n-thing

         'Sven didn't write nothing'

(50) a.   S'Maral woid an Hans *ned* hairadn   Bavarian

         The.Maral wants to Hans NEG marry

         'Maral doesn't want to marry Hans'

    b.   Gestan han'e *neamd ned* gseng

         Yesterday have.I n-body NEG seen

         'Yesterday I didn't see anybody'

(51) a.   Il parle *pas* de toi   Quebecois

         He speaks NEG of you

         'He doesn't speak about you'

    b.   Je juge *pas personne*

         I judge NEG n-body

         'I don't judge anybody'

(52) a.   Yankl vil *nit* khasene hobn mit a norveger[15]   Yiddish

            Yankl wants NEG marry with a Norwegian

            'Yankl doesn't want to marry a Norwegian'

      b.   Ikh hob *nit* gezen *keyn* moyz

            I have NEG seen n- mice

            'I haven't seen any mice'

Hence, Deprez was correct in arguing that Jespersen's original generalisation was too strong, but as the data show, her rejection of it was equally strong. Jespersen's Generalisation only works in one direction, and needs to be rephrased as (45).

2.3   Concluding remarks

In this section I have demonstrated that there is a strong, uni-directional relation between the syntactic status of negative markers and the occurrence of NC. This means that a new criterion has been developed to evaluate different theories in NC. A theory of NC must now, ideally, meet the following three criteria: (i) it must account for the compositionality problem; (ii) it must explain the different kinds of NC that are cross-linguistically attested; and (iii) it must predict (45).

        In the next section I show that a theory that takes NC to be an instance of syntactic agreement meets all three these criteria.

3.   Negative Concord as syntactic agreement

In this section I present my explanation of NC that takes it to be an instance of syntactic agreement. In the first subsection I spell out the assumptions I have adopted and I present the general outline of this theory. After that, in subsection, 3.2.1, I demonstrate how the difference between Strict and Non-strict NC languages follows from the semantic value of the negative marker and in 3.3.2, I show that obligatory movement of n-words out of *v*P underlies the distinction between languages that are NC proper languages and languages that are not. In 3.3, I finally demonstrate that the unidirectional generalization between Negº and NC that has been discussed above, immediately follows, once NC is taken to be syntactic agreement.

3.1   The proposal

In this section I present my theory of NC that takes NC to be an instance of syntactic agreement. Generally agreement means that a semantic feature of one element is manifested on other elements as well. In languages that exhibit subject verb agreement, semantic properties of the subject (like person or number) are reflected on the finite verb as well. In this section I demonstrate that this idea naturally

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[15] Example is from Ellen Prince (p.c.).

extends to negation: in NC languages then, the presence of a negative operator is manifested on other elements as well.

Following standard minimalist ideas I take agreement to be a relation between an element that carries a particular interpretable formal feature and one (or more) element(s), which carry the unininterpretable counterparts of the same formal feature (Chomsky (1995a, 2000, 2001); Pesetsky and Torrego (2006); Hornstein, Nunes and Grohmann (2005))[16]. Subject verb agreement, for instance, is the manifestation of the relation between the interpretable feature [i2SG] on the subject and the uninterpretable feature [u2SG] on the finite verb, as is illustrated in (53) for German.

(53)   a.   Du kommst   German
            You come.2SG
            'You come'
       b.   [Du$_{[i2SG]}$ kommst$_{[u2SG]}$]

In principle, nothing forbids agreement (in terms of the syntactic operation 'Agree') to apply to other formal features. Even stronger, if agreement were restricted to e.g. φ features, this should be motivated independently. Hence, the account of agreement phenomena in terms of interpretable and uninterpretable features naturally extends to negation as well.

In that case, one could take negative agreement to be a relation between elements that carry an interpretable formal negative feature ([iNEG]) and elements that carry an uninterpretable one ([uNEG]). In the rest of this paper I defend the view that all instances of NC are instances of negative agreement, as formulated in (54).

(54)   NC is an Agree relation between a single feature [iNEG] and one or more features [uNEG].

In order to explore (54) and its consequences a few assumptions have to be spelled out. First, NC languages exhibit elements, which are only 'formally' negative, i.e. these elements carry [uNEG]. This entails that these elements have all the morphosyntactic properties that are characteristic of negation, but lack the semantics of negation. These elements are semantically non-negative. I argue, following Ladusaw (1992) and Zeijlstra (2004), that at least in the NC languages discussed in section 2, n-words are such elements: in those languages n-words are considered to be semantically non-negative indefinites (introducing a free variable) that are syntactically marked for negation, i.e. they carry a [uNEG] feature. The semantic representation for n-words is the one in (55).

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[16] As Chomksy (2001: 3) puts it: 'We therefore have a relation Agree holding between α and β, where α has interpretable inflectional features and β has uninterpretable ones, which delete under Agree.'

(55) $[[n\text{-}Q]] = \lambda P.[Q(x) \& P(x)]$ where $Q \in \{$**Person'**, **Thing'**, **Place'**...$\}$[17]

Second, I adopt Multiple Agree, as has proposed by Ura (1996), Hiraiwa (2001, 2005) and Bejar & Rezac (2008), who have argued on the basis of (amongst others) Japanese case feature checking that single interpretable formal features may establish Agree relations with multiple uninterpretable formal features, provided that all Agree relations respect proper locality conditions. A slightly deviant version of the Agree that I adopt in this paper is that, contrary to standard probe-goal relations as they have been developed for case and φ-feature checking, feature checking operates in a top-down fashion, with the [iNEG] feature being required to c-command the [uNEG] features. This version of Agree is by no means new and has been proposed by Adger (2003), Von Stechow (2005), Neeleman (2002) and Bošković (2007), amongst many others, and can ultimately be traced back to Rizzi's (1989) proposal for criteria (where semantically active operators always had to occupy specifier positions whilst agreeing with their respective heads).

Third, I allow the possibility that under certain circumstances the element carrying [iNEG] (or any interpretable formal feature for that matter) may be covert. I illustrate this again by means of subject verb agreement. In many languages, it is the case that if the uninterpretable person feature on the finite verb is overtly present, the pronominal subject carrying the interpretable person feature may be abstract, a phenomenon widely attested and well known as *pro-drop* or *null subject*. In Italian, as exemplified in (56), the *–o* affix on *canto* already suggests that this finite verb can only establish an Agree relation with an element carrying [i1SG]. Therefore the subject does not have to be spelled out:

(56)   a.   Canto   Italian

            Sing.1SG

            'I sing'

        b.   [*pro*[i1SG] canto[u1SG]][18]

Something similar applies to negation. If some overt element carrying [uNEG] already requires the presence of an element carrying [iNEG], this element itself does not necessarily have to be overtly realised. Of course, it remains a matter of language-specific properties whether this mechanism is actually applied (just as some rich agreement languages, like German, do not exhibit *pro-drop*), but as a possibility it is not to be excluded. (In fact, since pro-drop is possible, it would even require independent motivation not to allow it for negation). It is thus safe to conclude that if in a particular well-formed sentence, no overt element can be said to be responsible for the checking of a [uNEG]

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[17] Alternatively, one may think of n-words in this respect as existential quantifiers, but this discussion is tangential to the rest of the arguments presented in this paper. For a detailed evaluation, the reader is referred to Penka (2007).
[18] Cf. Pesetsky & Torrego (2001, 2004) for a detailed discussion of uninterpretable features. Cf. Alexiadou & Anagnostopoulou (1998) for a different view of the feature value of verbal agreement affixes

feature, a covert element can be said to be responsible for that. Note that the logic of this formulisation forbids adopting abstract material without any grammatical necessity. It cannot be the case that sentences without any element carrying a feature [uNEG] may have a covert element carrying [iNEG].

To conclude, the proposal amounts to saying that NC is nothing but a syntactic relation between a single negative operator, carrying [iNEG], which may be covert, and one or more elements carrying [uNEG]. In order demonstrate how this mechanism functions in detail, in the next subsection I apply it to the different types of NC that have been presented and discussed in section 1.

3.2   Types of NC

The idea that NC is an instance of agreement, in combination with the additional assumptions, which all prove to be independently motivated, underlies every NC language. Now, let us apply this to the different types of NC that have been attested. Basically two instances of variation have been discussed: (i) Strict vs Non-strict NC and (ii) whether an NC language is a proper NC language or not.

3.2.1   Strict vs. Non-strict NC

Thus far nothing has been said about the interpretative status of the formal negative feature of negative markers. In principle, two logical possibilities are open: either the negative marker also carries [uNEG] and all overt negative elements (carrying [uNEG]) establish an Agree relation with a single abstract negative operator $Op_\neg$ that carries a feature [iNEG]; or the negative marker is the phonological realisation of the negative marker and carries [iNEG] itself. In this subsection I argue that different feature values (u/i) underlie the Strict vs Non-strict NC distinction: in Strict NC languages the negative marker carries [uNEG]; in Non-strict NC languages, it carries [iNEG].

First I put forward a number of arguments in favour of the idea that the negative marker in Strict NC languages, as opposed to the negative marker in Non-strict NC languages, lacks semantic contents. Then I demonstrate for a prototypical Strict NC language (Czech) and a prototypical Non-strict language (Italian) how the exact NC readings and the distribution of the negative marker come about.

It can be shown that negation behaves differently in Strict and Non-strict NC languages with respect to the scope of quantifying DPs. This is shown in (57). Although Czech *moc* ('much') dominates the negative marker, it is outscoped by negation. This reading is however not obtained in a similar construction in Italian, where *molto* ('much') is not in the scope of negation. This is an indication that Italian *non*, contrary to Czech *ne*, is the phonological realisation of $Op_\neg$.

(57)   a.   Milan moc *ne*jedl   Czech

Milan much NEG.eat.PERF

¬ > much: 'Milan hasn't eaten much'

*much > ¬: 'There is much that Milan didn't eat'

b.   Molto *non* ha mangiato Gianni   Italian

Much NEG has eaten Gianni

*¬ > much: 'Gianni hasn't eaten much'

much > ¬: 'There is much that Gianni didn't eat'

Apart from that, in some Strict NC languages the negative marker may be left out if it is preceded by an n-word, something to be expected on functional grounds if the negative marker carries [uNEG] (if an n-word precedes it, the negative marker is no longer needed as a scope marker). This is for instance the case in Greek (a Strict NC language) with *oute kan* ('even'). If *oute kan* precedes the negative marker *dhen*, the latter may be left out. If it follows *dhen*, *dhen* may not be removed (as Giannakidou's (2007) examples show in (58)). This forms an argument that Greek *dhen* is in fact not semantically negative itself. As Greek is a Strict NC language, this strengthens the assumption that in Strict NC languages the negative marker carries [uNEG].

(58)   a.   O Jannis *(*dhen*) dhiavase *oute kan* tis Sindaktikes Dhomes[19]   Greek

The Jannis NEG reads even the Syntactic Structures

'Jannis doesn't read even Syntactic Structures'

b.   *Oute kan* ti Maria (*dhen*) proskalese o pritanis

Even the Maria NEG invite the dean

'Not even Maria did the dean invite'

Probably the strongest argument in favour of a treatment of negative markers in Non-strict Negative Concord languages is that no known Non-strict NC language exhibits so-called True Negative Imperatives (TNI's). What is meant by TNI's is exemplified in (59) for Polish. In Polish, the negative marker always precedes the finite verb. This does not only hold for indicative verbs, but also for imperative verbs. As (59) shows, sentences with indicative and imperative verbs are negated in the same way. Therefore, Polish is said to allow TNI's: the sentence with the imperative verb can be negated in the same way indicative sentences are negated.

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[19] Example taken from Giannakidou (2007).

(59) a. (Ty) *nie* pracujesz   Polish

you NEG work.2SG

'You aren't working'

b. Pracuj!

Work.2SG.IMP

'Work!'

c. *Nie* pracuj!   (TNI)

NEG work.2SG.IMP

'Don't work!'

Things are different however in a language like Spanish, as illustrated in (60). In Spanish the negative marker *no* always occurs in preverbal position ((60)a). However, if the verb has an imperative form as in (60)b, it may not be combined with this negative marker (see (60)c). Spanish does not allow TNI's. In order to express the illocutionary force of an imperative[20], the imperative verb must be replaced by a subjunctive ((60)b). Such constructions are called Surrogate Negative Imperatives (SNIs).[21]
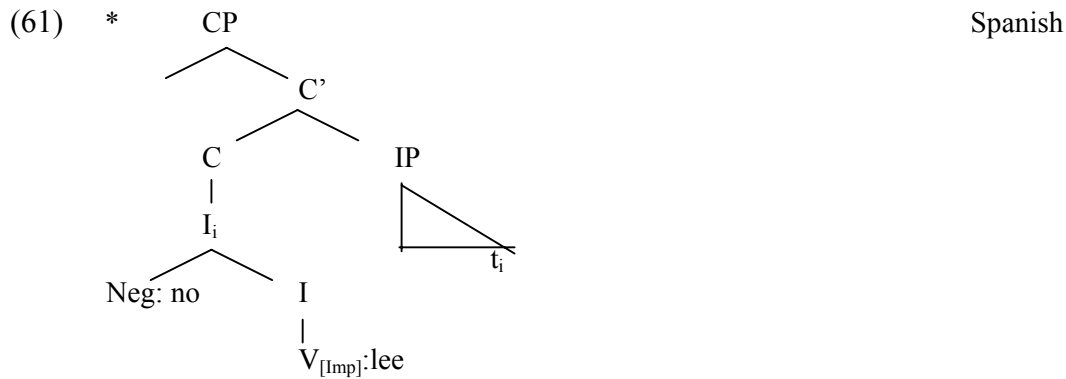

(60) a. Tu *no* lees   Spanish

NEG read.2SG

'You don't read'

b. ¡Lee!

Read.2SG.IMP

'Read!'

c. *¡*No* lee!   (*TNI)

NEG read.2SG.IMP

'Don't read'

d. ¡*No* leas!   (SNI)

NEG read.2SG.SUBJ

'Don't read'

Han (2001), finally, argues that the ban on TNI's does not follow from any syntactic requirements that have been violated, but from a semantic violation: the imperative operator (i.e. the operator that encodes the illocutionary force of an imperative, Op_{IMP} hereafter) may not be in the scope of negation. Op_{IMP} is realised by moving V_{imp}, carrying a feature [IMP], to C°. Han takes negation in Romance languages to head a projection somewhere high in the IP domain. Hence, V_{imp} head-adjoins first to

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[20] Negative sentences with the illocutionary force of an imperative are often referred to as prohibitives.

[21] See Van der Auwera (2005) (and references therein) for many more examples of languages that ban TNI's and the way those languages express SNIs.

negation, and then as a unit the negative marker and V_{imp} move further to C° (or Force° in Rizzi's (1997) terms). As a result Op_{IMP} remains in the c-command domain of negation, which violates the constraint that negation may only operate on the propositional content of the clause. The structure (61) is thus ill formed.

(61)   *   CP   Spanish

                    C'

              C   IP

              |
              I_i
                                        t_i

         Neg: no   I

                      |
                      $V_{[Imp]}$:lee

This means that it is predicted that in all Non-strict NC languages TNI's are banned. This prediction is indeed born out (cf. Zeijlstra (2006)). In languages that have a negative marker that is semantically non-negative, the marker's [uNEG] feature can have been checked by an abstract operator when it was inserted below C°. Note that such a generalisation is always unidirectional. It does not guarantee that all Strict NC languages allow TNI's as TNI's can be banned on different grounds as well.[22]

     On the basis of these three arguments I conclude that negative markers in Strict NC languages carry [uNEG] and those in Non-strict NC languages carry [iNEG]. Now let us see how this proposal applies to Czech (Strict NC) and Italian (Non-strict NC).

     In Czech the negative marker *ne* is associated with Neg° and carries [uNEG]. The same feature is carried by preverbal and postverbal n-words. Both in (62) and (63) an abstract negative operator must be responsible for the semantic negation, yielding (64) and (65) respectively. The negative operator immediately c-commands the highest instance of [uNEG].

(62)   Dnes *nikdo* *(*ne*)volá   Czech
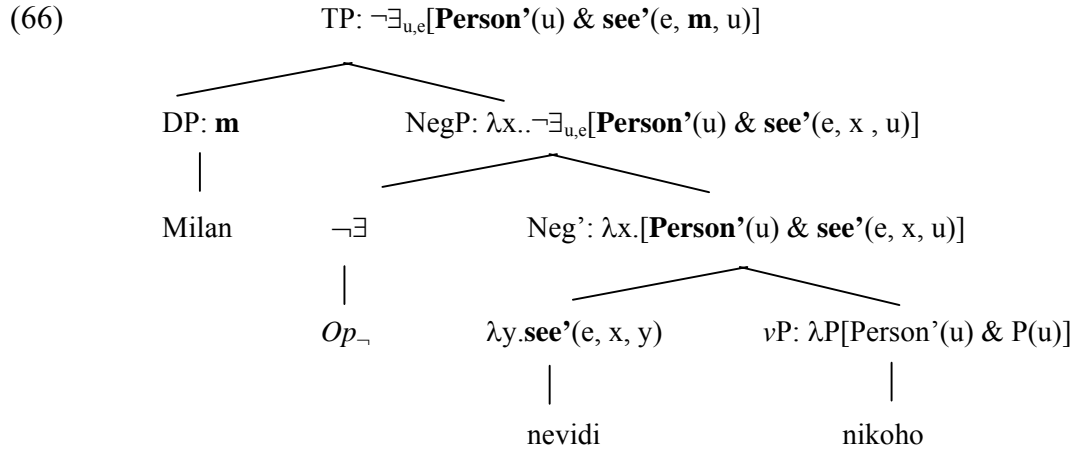
         Today n-body NEG.calls

         'Today nobody is calling'

(63)   Milan *ne*vidi *nikoho*   Czech

         Milan NEG.sees n-body

         'Milan doesn't see anybody'

(64)   [Dnes $Op_{\neg[iNEG]}$ [$_{TP}$ *nikdo*$_{[uNEG]}$ *ne*volá$_{[uNEG]}$]]   Czech

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[22] See Han (2001) and Zeijlstra (2006) for a thorough discussion of these facts.

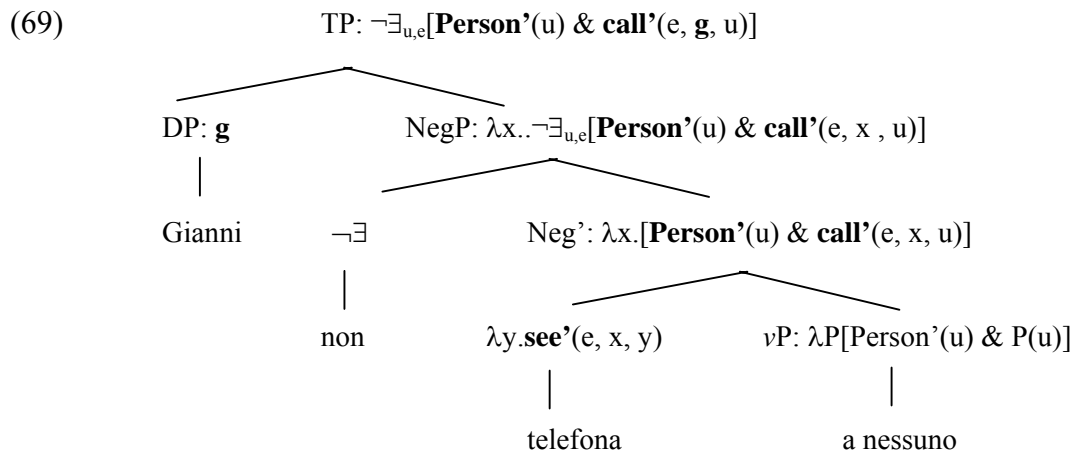(65)   [TP Milan $Op_{\neg[iNEG]}$ [Neg° *ne*vidi[uNEG]i [vP *nikoho*[uNEG] ti]]]

Now the semantics follows immediately. As there is only one semantic negation in the syntactic representation, so the meaning of the sentences also contains one negation only. This is shown in (66) for (65).

(66)   TP: $\neg\exists_{u,e}$[**Person'**(u) & **see'**(e, **m**, u)]

DP: **m**   NegP: $\lambda x..\neg\exists_{u,e}$[**Person'**(u) & **see'**(e, x , u)]

Milan $\neg\exists$ Neg': $\lambda x.$[**Person'**(u) & **see'**(e, x, u)]

                  $Op_{\neg}$ $\lambda y.$**see'**(e, x, y)   vP: λP[Person'(u) & P(u)]

                                        nevidi   nikoho

In Italian, the negative marker itself is the realisation of the negative operator. Therefore postverbal n-words can have their features checked against the negative marker *non*. The syntactic representation of (67) is thus (68). As *non* is the only semantic negation, the sentence receives an NC reading (67).

(67)   Gianni *non* telefona a *nessuno*   Italian
        Gianni NEG calls to n-body
        'Gianni doesn't call anybody'

(68)   [TP Gianni [NegP non[iNEG] telefona [vP a nessuno[uNEG]]]]

(69)   TP: $\neg\exists_{u,e}$[**Person'**(u) & **call'**(e, **g**, u)]

DP: **g**   NegP: $\lambda x..\neg\exists_{u,e}$[**Person'**(u) & **call'**(e, x , u)]

Gianni $\neg\exists$ Neg': $\lambda x.$[**Person'**(u) & **call'**(e, x, u)]

                  non $\lambda y.$**see'**(e, x, y)   vP: λP[Person'(u) & P(u)]

                                  telefona   a nessuno

At the same time, it follows that if an n-word precedes the negative marker, its [uNEG] feature cannot be checked against *non*'s [iNEG], thus rendering sentences like (70) ungrammatical.

If however in Italian an n-word precedes the verb in a sentence without a negative marker, then the syntax and semantics follows straightforwardly. In (71), which is grammatical, no overt element carries [iNEG] and *nessuno* carries [uNEG]. Hence an abstract operator maybe assumed again, immediately c-commanding *nessuno*, as demonstrated in (72).

(70)   *Ieri *nessuno non* ha telefonato a *nessuno*   Italian
        Yesterday n-body NEG has called to n-body
        'Yesterday nobody called anybody'

(71)   Ieri *Nessuno* ha telefonato a *nessuno*   Italian
        Yesterday n-body has called to n-body
        'Yesterday nobody called anybody'

(72)   [Ieri *Op*$_{\neg[iNEG]}$ [$_{TP}$ *nessuno* ha telefonato a *nessuno*]]

Evidence for the inclusion of this abstract operator even follows from sentences, acceptable to some speakers of Italian, where preverbal n-words co-occur with a negative marker and where the n-word is strongly focussed. Those constructions exhibit a Double Negation reading, indicating that the sentence contains an additional negative operator apart form the negative marker.

(73)   [?]Ieri *NESSUNO non* ha telefonato a *nessuno*   Italian
        Yesterday n-body NEG has called to n-body
        'Yesterday nobody didn't call anybody'

The differences between Italian and Czech follow quite nicely from the differences in feature values of their negative markers. However, a question that immediately arises is that if there is an abstract negative operator available in Italian, why would it not have replaced the negative marker and be responsible for all negative sentences, like Czech. In other words, why is NC obligatory in languages such as Italian, and likewise, why is NC obligatory in Czech? In the following subsection I demonstrate that expressing sentential negation always requires an overt marker of negation to c-command *v*P.

3.2.2 Proper vs. non-proper NC

Before addressing the question as to why (74) is ill-formed, it is important to see that not all constructions like (74) are ruled out. Spanish (75) for instance is grammatical, be it with a different reading than the plain NC variant in (76).

(74)   Gianni telefona a *nessuno*   Italian

        Gianni calls to n-body

        Int. 'Gianni doesn't call anybody'

(75)   El bebé pasa el tiempo mirando a *nadie*[23]   Spanish

        The baby spends the time looking at n-thing

        'The baby spends the time looking at nothing'

(76)   El bebé *no* pasa el tiempo mirando a *nadie*

        The baby NEG spends the time looking at n-thing

        'The baby spends the time looking at nothing'

Sentence (75) is well formed with a reading where some baby is simply staring in front of it. It does not seem to take notice of anything happening around it. Hence, despite the fact that there is a looking event, there is no referential theme in the looking relation. The proper reading of (75) is given in (77).

(77) $\exists$e.[**look'**(e) & **Agent'**(e, **b**) & $\neg\exists$x[**Thing'**(x) & **Theme'**(e, x)]]

The example in (76) on the other hand has a reading in which the existential quantifier binding the event variable is outscoped by negation, i.e. it has the representation in (78).

(78) $\neg\exists$x.$\exists$e.[**look'**(e) & **Agent'**(e, **b**) & **Thing'**(x) & **Theme'**(e, x)]

The reading of (75) follows from the analysis presented above with the assumption that the event variable is introduced by the finite verb (presumably in v°, following Chung and Ladasuw (2004)). If the abstract negative operator were introduced, it would be vP-internal, immediately above *nadie*. This is exactly the reading given in (77). Hence, in order to yield sentential negation, the negative operator, be it overt or covert, must be in a position above *v*P. Note that such readings are hardly ever felicitous. Normally, such readings lead to a contradiction: the reading of (74) entails that there is a calling event

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[23] Example based on Herburger (2001: 303)

and at the same time states that there was nobody being called. However, if nobody is called, there cannot be a calling event.

In order to express sentential negation, languages with no true negative quantifiers mark that the entire *v*P is under the scope of negation, and not just a part of it. This explains why inclusion of the negative marker is obligatory in the case of postverbal negative n-words. Therefore Italian and Czech are proper NC languages, in the sense that whenever some negative element appears in *v*P-in situ position, an additional preverbal negative element is needed as well except for cases when no sentential negation is involved, like (75).

Things are different however, in languages like West Flemish, which independently require movement of quantifiers out of *v*P (cf. Haegeman (1995)). In those languages there would not be any need to use a negative marker to indicate that the entire vP is under the scope of negation if the vP is already outscoped by one or more n-words. Not surprisingly, it is amongst this class of scrambling languages that NC may be optional, as has already been shown in example (3)b repeated as (79).

(79)   … da Valère *niemand* (*nie*) kent   West Flemish
        … that Valère n-body NEG knows
        '… that Valère doesn't know anybody'

The only reason why proper NC languages require *v*P-external negative elements to show up whenever a *v*P-internal negative element is present is to ensure that that the highest negative element is in a position dominating *v*P. In these languages, like West Flemish, where no n-word may remain *v*P in situ in the first place, such a requirement cannot be violated and does therefore not force any additional action to be taken. If this analysis is correct it predicts that in all non-proper NC languages n-words freely move out of vP and therefore also allow scrambling. To the best of my knowledge, this prediction is indeed borne out: all non-proper NC languages exhibit scrambling.

The distinction between proper and non-proper languages thus reduces to the question whether n-words occur vP-internally at surface structure or not. If they do indeed, then the language must be a proper NC language.

3.3   NC vs. DN

In the subsections above, I presented how the proposal applies to the different types of NC languages that have been attested. However, nothing has been said as of yet, as to what distinguishes NC from DN languages. The answer to this question is of some importance as it forms the basis behind the unidirectional generalisation between that phrasal status of negative markers and NC.

Hence, to what exactly distinguishes NC from DN languages? In DN languages every negative element corresponds with a semantic negation. This means that every negative element

carries a semantic negation. However, it does not imply that very negative element also contains a formal feature negation.

Which element gets assigned which formal features is a result of the process of language acquisition. Clearly, lexical items get assigned a particular formal feature if there is evidence for it in the language input. Thus, if there was evidence in some language that the negative feature be formal, the language learner will assign a formal negative feature to it. But what shape can such evidence have?

In syntactic theory, formal features are generally taken to trigger Agree. An operation Agree is said to establish a relation between elements carrying [iF] and [uF] respectively, such that the element carrying [uF] can have its feature checked.

Any evidence that a negative element in a DN language carries a formal negative feature would therefore (amongst others) consist of the existence of lexical items carrying [uNEG]. Elements carrying [uNEG] must have their features checked against elements carrying [iNEG]. But this leads to a contradiction: languages that exhibit agreement relations between [iNEG] and [uNEG] can only be analysed as NC languages. In other words, DN languages, do not contain any formal negative features. Negative elements are only purely semantic (see also Zeijlstra (2008)).

Only in NC languages is the negative feature a formal feature, and therefore only in (a subset of) NC languages negative features may project a head, which can be realised as a negative marker that is a syntactic head. In DN languages no negative feature is present, so no Neg° position can be created and therefore no DN languages may exhibit a negative marker Neg°.

It might be good to discuss what is exactly meant by head here. After Chomksy's (1995b) introduction of Bare Phrase structures, head status is no longer a linguistic primitive. Rather it is the result of features [+Minimal][-Maximal]. This means that the merger of feature [X] with feature [Y] carries carries [X] and not [Y], the lowest element of [X] exhibits head behaviour, as it is minimal, but not a maximal realisation of [X]. Hence, the proposal sketched above rules out [+Minimal][-Maximal] occurrences of [NEG] in DN languages.

But the proposal is even stronger: it also rules instances of [=Minimal] in general. If [NEG] is not a formal feature in some language, syntax is basically blind to it. Hence, it can not even be minimal.

A consequence of this is that negation in DN languages, not being formal in any sense, cannot project either. There is nothing to project in the first place, as has been stated by Giorgo and Pianesi's (1997) feature scattering principle, which was the first to claim that only formal features can project a head. This can thus be stated as follows:

(80)   Only NC languages have formal negative features

Note that (80) entails the generalisation that I presented in (45), repeated as (81).

(81)　　Every language that has a negative marker X° is an NC language (provided that n-words are present).

3.4　　Concluding remarks

In this section I hope to have shown that NC can be seen as an instance of syntactic agreement between a possibly covert negative operator and one or more negative elements that carry uninterpretable formal features [uNEG].

　　　Furthermore I hope to have shown that this analysis in terms of syntactic agreement nicely distinguishes Strict from Non-strict NC languages (negative markers in Strict NC languages carry [uNEG]; negative markers in Non-strict NC languages carry [iNEG])

　　　Moreover, I have argued that the fact that negative markers must be obligatorily inserted is due to the fact that the entire *v*P must be outscoped by negation, and that this requirement is responsible for the fact that in languages where n-words always scramble out of vP, NC is be optional.

　　　Finally, I have argued that the analysis that takes NC to be an instance of Agree relations between formal negative features predicts that in DN languages, where such formal negative features are absent, no negative head can be projected in the first place. Consequently, no negative marker Neg° can be attested in such languages.

　　　The idea that NC is an instance of syntactic agreement is different from other approaches of NC, which take it to be instances of e.g. quantifier resumption or NPI-licensing. In the next section I discuss a number of such approaches and the problems these approaches face, and I argue that the proposal that NC is syntactic agreement does not meet these problems.

4.　　Negative Concord is syntactic agreement

One of the central questions in the study of NC concentrates on the question whether n-words are inherently (i.e. semantically) negative or not. The example in (2) (repeated below as (82)) illustrates this question.[24]

(82)　a.　　*Nessuno* ha telefonato　　　　　　　　　　　　　　　Italian
　　　　　　N-body has called
　　　　　　'Nobody called'
　　　b.　　*Non* ha telefonato *nessuno*
　　　　　　NEG has called n-body
　　　　　　'Nobody called'

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[24] Cf. Herburger (2001: 289) who introduces the problem by means of a similar example from Spanish.

Examples such as (82)a suggest that n-words are semantically negative: otherwise it remains a question how the semantic negation is introduced. However, if the n-word *nessuno* is semantically negative, an explanation is needed as to why (82)b does not yield Double Negation (DN).

In the past two decades two major approaches (next to some other alternatives) have been formulated to solve the problem sketched above: one approach, *the Negative Quantifier approach* (*NQ approach)*, argues that n-words are semantically negative and that multiple negative elements undergo some process of resumptive quantification and turn into one polyadic quantifier. The other approach, *the Negative Polarity Item approach (NPI approach)*, takes the opposite perspective and considers n-words to be (a class of) NPIs: n-words are semantically non-negative indefinites that need to be licensed by a (possibly abstract) negative operator.

In sections 4.1 and 4.2, I discuss both approaches. I show that both approaches face serious problems. In 4.3, I discuss two alternative positions: Herburger's (2001) approach that takes n-words to be lexically ambiguous between negative quantifiers and NPI's and Watanabe's (2004) account who takes NC to be the result of independent agreement processes. In section 4.4, I evaluate both approaches against the proposal outlined in 4.3 and I argue that the latter overcomes the difficulties that the former ones have been suffering from.

4.1   The NQ approach

4.1.1   N-words as NQ's

The idea that n-words are NQs traces back to Zanuttini (1991) and has been further elaborated in Haegeman (1995) and Haegeman & Zanuttini (1996). More recently this proposal has been rephrased in a polyadic quantification framework by De Swart & Sag (2002). Haegeman and Zanuttini argue that NC readings result from a factorization and absorption mechanism that is available in NC languages. Under this approach n-words are negative unary universal quantifiers that may form together one negative complex quantifier through negative absorption, as formalized in (83).

(83) $\forall x \neg \forall y \neg (\forall z \neg) = [\forall_{x,y(,z)}] \neg$

De Swart & Sag (2002), as well as others (Giannakidou (2000)) criticize this factorization and absorption mechanism for its ad hoc character. Although initially motivated by the fact that multiple *Wh* also seems to undergo factorization, the application to NC seems to be mainly adopted in order to account for NC readings. Moreover, (83) does not solve the problem of compositionality, as argued by May (1989), since negative features are simply erased without further motivation. These considerations led De Swart & Sag (2002) to formulate an implementation of Haegeman & Zanuttini's

original proposal in a polyadic quantification framework, thus preserving the negative status of n-words.

De Swart & Sag adopt a framework in which occurrences of multiple NQs can be interpreted under two different modes of interpretation: functional application or polyadic quantification. In the first case these NQs are interpreted as an iteration of monadic quantifiers and give rise to a DN reading. In the second case two NQs $[NO_E^A]$ and $[NO_E^B]$ create a polyadic quantifier $[NO'_E^{A, B}]$, where the sets A and B are provided by the denotation of the NP's.[25] The interpretation of polyadic quantifiers follows from the definition of resumptive quantification, provided by Keenan and Westerståhl (1997), as shown in (84).

(84)   Resumptive quantification (De Swart & Sag (2002)):
$$Q'^{A_1, A_2, ..., A_k}_E(R) = Q^{A_1 \times A_2 \times ... \times A_k}_{E^k}(R)$$

whereby $A_1, A_2, ..., A_k \subseteq E$ and $A_1 \times A_2 \times ... \times A_k, R \subseteq E_K$

Under the definition in (84) a polyadic NQ yields an NC reading. This is shown in the following example from French, which is reported to be ambiguous. The composition of the DN reading is exemplified in (86), the NC reading in (87).

(85)   *Personne* aime *personne*   French
        N-body loves n-body
        DN: Nobody loves nobody
        NC: 'Nobody loves anybody'

(86) $[NO_E^{Human}, NO_E^{Human}](LOVE)$
        NO(HUMAN, {x | NO (HUMAN, {y | x LOVE y})})
        HUMAN $\cap$ {x | HUMAN $\cap$ {y | x LOVE Y} = $\varnothing$} = $\varnothing$
        DN: $\neg\exists x \neg\exists y$ Love(x, y)

(87) $[NO'_E^{Human,Human}](LOVE)$
        $[NO'_{E2}^{Human \times Human}](LOVE)$
        NC: $\neg\exists x \exists y$ Love(x, y)

In order to account for the exact behaviour of NC some additional assumptions have to be made. First, the notion of NC is an instance of resumptive quantification that applies to multiple quantifiers of the

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[25] Under this notation *nobody* is denoted as $[NO_E^{Human}]$, *nothing* as $[NO_E^{Thing}]$, *no student* as $[NO_E^{Student}]$, etc.

'same' kind. As NC does not apply to semi-negative expressions such as *hardly*, or *seldom*, De Swart & Sag formulate an additional requirement to NC that restricts this instance of resumptive quantification to anti-additive expressions.[26] Note that an agreement account already sneaks in, as all negative elements in NC languages must share some particular formal feature.

4.1.2   Arguments against the NQ approach

In this subsection I discuss three problems with respect to the NQ approach. In brief, these are: (i) the cross-linguistic distribution of NC remains unexplained; (ii) n-words may also occur in non-anti-additive contexts that license standard NPIs; and (iii) it is unexplained why in NC languages at least one elements needs to outscope vP.

4.1.2.1 the cross-linguistic distribution of NC

A central property of De Swart and Sag's (2002) analysis is that the analysis of NC (in terms of quantifier resumption) is independent of the analysis for the typology of NC languages. This point is fully acknowledged by these scholars and in De Swart (2006, 2008) a bidirectional OT analysis has been developed that operates on top of this analysis.

However, one may wonder whether the mechanism underlying the semantics of NC and the range of cross-linguistic variation that NC exhibits should be treated independently. Scientific parsimony would prefer an explanation of NC that not only correctly predicts the semantics of NC constructions, but also the types of NC that can be expected over two theories that apply independently.

But the problem is bigger, since it is crucial for De Swart & Sag's proposal that the polyadic quantifier approach provides both a DN and an NC reading to multiple negative expressions. The analysis De Swart and Sag provide is mainly based on data from French, in which multiple negative expressions are known to be ambiguous between DN and NC readings. A similar situation seems to hold for English of which many varieties are known that do give rise to NC effects (mostly involving the weak negative marker *n't*), as shown in (88) (cf. Ladusaw (1992)).

(88)   I did*n't* see *no one*   Non-standard English
          'I did not see anybody'

English and French are however not representative of the NC vs. DN distinction. Most other NC languages (Romance languages such as Romanian, Spanish, Italian or Portuguese, Slavic languages, Albanian, Greek, Hebrew or Hungarian) do not allow DN readings for standard NC constructions.

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[26] A function f is anti-additive iff $f(X \cup Y) \Leftrightarrow f(X) \cap f(Y)$

(89) *Non* ha telefonato a *nessuno*   Italian

NEG has called to nobody

'He didn't call anybody'

*'He didn't call nobody' = 'He called somebody'

On the other hand most DN languages cannot give rise to NC readings (Dutch, German, Scandinavian languages). [27]

(90) Zij heeft *niet niets* gedaan   Dutch

She has NEG n-thing done

'She didn't do nothing' = 'She did something'

*'She didn't do anything'

Hence the NC landscape exists of a large number of languages, which only allow for one reading and two, possibly a few more, languages where these sentences are indeed ambiguous. Obviously a theory of NC should account for the fact that in languages such as French and English in most cases DN and NC readings are allowed. It seems likely to assume that English and French are exceptional in this respect and not the other languages.

The question, however, arises as to why English and French are different in this respect. It should be noted that English and French are currently languages in a process of change with respect to their negative markers. English *not* is about to disappear (see Yaeger-Dror and Hall-Lew (2002), Van Kemenade (2000a,b)), leaving *n't* as the only negative marker. French *ne* is also losing force to *pas*, and is no longer used in colloquial French. Since negative head markers may function as a cue to the acquisition of NC (if a language has a negative head marker, it must also exhibit NC), this may have its effects as to the language as a DN or NC language. Hence, along the lines of the syntactic agreement approach it is far from surprising that English and French allow much more ambiguity than the other languages, as English and French are actually languages in change w.r.t. their negative markers). In terms of the syntactic agreement hypothesis, this means that French is currently changing form a language where n-words carried [uNEG] to a stage in which they are ppurely semantically negative, the ambiguity being a side effect of this language change. As for English, the reverse applies.

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[27] Sometimes it has been claimed that Dutch (and to a lesser extent also German) allow NC, as expressionist such as Dutch *nooit niet* 'never not' or *niets geen* 'nothing no' can be interpreted with an NC reading. Van der Wouden (1994) refers to this phenomenon as Emphatic Negation. In Zeijlstra (2004: 67-73) it is argued at length that these expressions are not instances of NC, as they behave very differently to standard NC constructions. One reason for this is that the two negations need to be strictly adjacent, contrary to standard NC. I will not repeat all the other arguments here, but take EN to be a different phenomenon than NC.

4.1.2.2 n-words in non-anti-additive contexts

Another problem for the NQ approach is the fact that in several cases n-words seem to behave as NPIs (such as English *any*-terms) rather than as NQs, and may be licensed in non-anti-additive contexts that allow NPI licensing too. Several examples are listed below.

(91) a. Pedro compró el terreno sin contarselo a *nadie*[28]   Spanish

     Pedro bought the land without telling to n-body

     'Peter bought the land without telling anybody'

  b. Antec de hacer *nada*, debes lavarle las manos

     Before of do n-thing, must.2SG wash.CL the hands

     'Before doing anything, you should wash your hands'

(92) a. Dudo que vayan a encontar *nada*[29]   Spanish

     Doubt.1SG that will.3PL.SUBJ find n-thing

     'I doubt they will find anything'

  b. Prohibieron que saliera *nadie*

     Forbade.3PL that went_out.3SG.SUBJ n-body

     'They forbade anybody to go out'

(93) a. Es la última vez que te digo *nada*[30]   Spanish

     Is the ultimate time that you tell.1SG n-thing

     'This is the last time I tell you anything'

  b. Juan ha llegado más tarde que *nunca*

     Juan has arrived more late than n-ever

     'Juan has arrived later than ever'

In (91) n-words are interpreted non-negatively in the complement of a downward entailing preposition (*without* resp. *before*). In (92) a negatively connotated verb such as *to forbid* or *to doubt* licenses the presence of an n-word with an indefinite reading. The examples in (93) show that n-words may achieve a non-negative reading in the complements of a superlative or comparative.

   These results are completely unexpected under the NQ approach as no polyadic quantifier relation can be established between these NPI licensers, as the latter are not anti-additive and in some case not even quantificational either. An attempt by De Swart and Sag to account for the fact that French *sans* 'without' is able to establish an NC relation with an n-word in its complement by

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[28] Herburger (2001: 297).
[29] Herburger (2001): 297.
[30] Herburger (2001): 298.

assuming that *sans*, like they assume for the negative marker *ne*, is a 0-place quantifier seems only to be adopted to account for this fact and therefore lacks independent motivation.

Within the syntactic agreement approach, all it takes to establish an NC relation is a proper feature checking relation between [iNEG] and [uNEG] features. Nothing prevents language learners from assigning an [iNEG] feature to an element that could be decomposed into amongst other things a negative operator, as long as proper evidence is provided in the language input. Words like *without, doubt, forbid,* etc are typical candidates for such a decomposition, as *without* can be taken to mean 'not with', *doubt* to mean 'not to be sure', etc. Hence the examples presented above, do not posit any problems for the syntactic agreement approach.

4.1.2.3 NC vs. DN

A striking problem for the NQ approach is that the necessity of NC never becomes clear. If n-words are negative quantifiers, n-words should be possible in postverbal position, just as is the case in English. Thus the question immediately arises why English (94) is well formed, whereas Italian (95) is not.

(94)   John has said *nothing*

(95)   Ieri *(*nessuno/non*) ha detto *niente*   Italian
          Today n-body/NEG has said n-thing
          'Today nobody said anything'/'Today he didn't say anything'

If *niente* in (95) is an NQ it is unclear why it is unable to yield the (second) reading without any negative material present in preverbal position. De Swart and Sag, following Ladusaw (1992), argue that the negative or the preverbal n-word in such cases function as scope markers. This is in fact the same position that is taken in the syntactic agreement approach. However, in the syntactic agreement approach, n-words are fundamentally different from negative quantifiers. N-words are taken to be semantically non-negative elements that need to be checked by a possibly abstract negative operator, whereas DN languages like English simply have negative quantifiers at their disposal that may undergo QR. On the NQ approach n-words in Italian are similar to negative quantifiers in DN languages, so the argument concerning scope markers incorrectly predicts that English (94) lacks a scope marker.

4.1.3   Concluding remarks

In this section I have discussed the motivations and mechanics behind the DN approach and I have argued that in at least in three respects the NQ approach suffers from problems that the syntactic agreement approach does not suffer from: (i) the cross-linguistic distribution of NC remains

unexplained; (ii) n-words may also occur in non-anti-additive contexts that license standard NPIs; and (iii) it is unexplained why in NC languages at least one element needs to outscope *v*P. Furthermore, I have shown that these problems do not surface in the syntactic agreement approach.

4.2   The NPI approach

4.2.1   N-words as NPI's

The reader will have noticed that the English translation of the NC examples in the previous sections all contained NPI's. For instance, the Italian example in (96)a has the reading as the English one in (96)b.

(96)   a.   Gianni *(*non*) ha telefonato a *nessuno*

        b.   Gianni has*(*n't*) called anybody

In this example *nessuno* and *anybody* share two important properties: (i) they are interpreted as indefinites; and (ii) they must be licensed by negation (*non* resp. *n't*). The similarities between NPI's and n-words do not end with these two properties. A third parallel between NPI's and n-words, already mentioned above, is that both can appear in constructions which are downward entailing but not anti-additive.

Given these strong similarities between NPI's and n-words (or polarity and NC) and in order to overcome the problems that the NQ approach has been facing, several scholars (a.o. Laka (1990), Ladusaw (1992), Suñer (1995), Giannakidou (1997, 2000, 2006)) have proposed that n-words are in fact special kinds of NPI's. If the lexical semantics of elements such as Italian *nessuno* is actually *anybody* instead of *nobody*, the proper reading in (96)b follows immediately: the negative marker *non* introduces the negation in the semantics and *nessuno* is semantically non-negative.

This approach tackles several problems facingthe NQ approach. First, the difference between n-words in NC languages and NQ's in DN languages has been reduced to the differences in their lexical properties. NQ's are semantically negative, n-words are not. Moreover, the occurrence of n-words, being NPI's, in typical NPI-licensing contexts is also predicted. Finally, the obligatory co-occurrence of negative markers and n-words in proper NC languages also follows immediately: just like plain NPI's, n-words have to be licensed by a negation as well.

4.2.1   Arguments against the NPI approach

Despite its attractive properties, a series of factors arguing against the NPI approach have been put forward in the literature, mostly in defence of the NQ approach. I list the two main arguments briefly here and discuss them in more detail below: (i) n-words may occur in positions that are not available

to plain NPI's; and (ii) NC is subject to syntactic locality constraints, such as clause-boundedness and island constraints.

4.2.2.1 Differences between the ditribution of n-words and NPI's

A major problem for the NPI approach is that NPI's and n-words to not have the same licensing requirements. This problem is twofold. First, if n-words are semantically non-negative, how can the readings of sentences such as (97) where a single n-word induces semantic negation be derived?

(97)   *Nessuno* ha telefonato   Italian

N-body has called

'Nobody called'

And second, if n-words are special kinds of NPI's, why do they exhibit differences in terms of their licensing conditions?

Concerning the first problem: what is responsible for the licensing of *nessuno* in (97)? In an influential proposal by Ladusaw (1992) n-words are said to differ from plain NPI's in the sense that they are self-licensing, i.e. if nothing else can license n-words, NPI's may license themselves. But how is this mechanism of self-licensing implemented within a particular syntactic framework? Ladusaw (1992) proposes two implementations of this idea. In a GPSG framework, Ladusaw takes NC to be an instance of syntactic agreement, an idea that actually predates the proposal presented in section 3, which operates on top of the n-words' NPI licensing requirements. All n-words are said to carry a negative feature ([neg]). Combining multiple negative elements would then lead to a percolation of these negative features (cf. Gazdar, Klein, Pullum and Sag (1985)). In terms of GB, Ladusaw (1992) argues that it is the highest negative element in a functional projection NegP that induces the semantic negation. But the compositionality problem remains unsolved under such an analysis: if n-words have a feature that can introduce a semantic negation, why does this featural equipment not prevent the introduction of multiple semantic negations in a multiple negative construction? The idea thain this paper, but it needs to be explained what licenses negative features to induce negative force.

The second problem concerns differences between the licensing of plain NPI's and n-words. Two differences immediately come to mind and require closer inspection: (i) the fact that n-words but not plain NPI's may be licensed by a lower negative marker and (ii) the fact that n-words but not plain NPI's may constitute fragmentary answers.

First, plain NPI's must not only be licensed by a negative operator at LF, but also by a negation at surface structure. This latter constraint does not hold for n-words:

(98)   a.   *Nikdo ne* volá   Czech

            N-body NEG.calls

            'Nobody calls'

       b.   *Anybody does*n't call

In English the NPI anybody must be c-commanded by *n't* (or any other negation) at surface structure, but it suffices that the n-word *nikdo*, if it is an NPI, is only semantically outscoped by negation. Giannakidou (2000), following Szabolcsi (1981), tackles this problems by arguing that (in Strict NC languages such as Greek) n-words are indeed NPI's, but that they differ from the English type of NPI's in the sense that the latter are indefinites, where as the former are universal quantifiers that must outscope negation. Giannakidou supports this view by showing that Greek n-words satisfy most diagnostics that apply to universal quantifiers. For instance she demonstrates that Greek n-words may be modified by *almost*.[31] If n-words are licensed by negation in a reverse way, i.e. when all n-words must outscope negation, it follows that at LF all n-words must c-command negation. That preverbal n-words already c-command negation at surface structure only supports this view and is no longer problematic.

However, if n-words are semantically non-negative, how can they occur solely in Non-strict NC constructions like (97) Giannakidou (2000) leaves this issue unexplained and focuses only on Strict NC languages, where such constructions are ruled out. The only case in Greek where an n-word may occur without a corresponding negative marker is in a fragmentary answer.[32]

(99)   Ti idhes? {*TIPOTA* / *Tipota}[33]   Greek

       What saw.2sg? N-thing / anything

       'What did you see? N-thing / anything'

Giannakidou (2000) argues that in these cases the n-word is still licensed by the Greek negative marker *dhen*, but that this *dhen* has been deleted under ellipsis. The sentence underlying the answer in (99) is then as in (100):

(100) Q: Ti ides?   A: *TIPOTA* ~~*dhen*~~ ~~ida~~   Greek

          What saw.2SG?   N-thing NEG saw

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[31] Compare *I saw almost everything* to **I saw almost something*. But see (Horn 2005; Penka 2007) for a number of arguments against this diagnostic.

[32] Except for the cases concerning oute kan ('even'), discussed in 3.2.1.

[33] Example taken from Giannakidou (2000: 485). Greek distinguishes n-words from NPI by emphasis. The emphatic *TIPOTA* behaves like standard n-words, the unemphatic *tipota* exhibits the same behaviour as English *anything*.

This account however has been criticised by Watanabe (2004) who bases himself on Merchant's (2001) notion of e-GIVENness. This notion demands that material deleted under ellipsis is identical to its antecedent. Informally speaking, *ida* ('I saw') may be deleted since it has the same denotation as *ides* 'you saw' in the corresponding question. Giannakidou (2006) responses to problem by arguing that the semantic of questions is constituted by the set of possible answers, including negative sentences. Then, the fact that the answer in (100) is a possible answer should license the ellipsis of the negative marker in the answer. Watanabe (2004) points out, however, that if the n-word in (100) could have been licensed by a deleted *dhen*, in principle every short answer could contain a hidden negation. This cannot be the case as the answer *a present* to a question *what did you buy* can never mean 'a present, I didn't buy'. Although Giannakidou's (2000) idea that n-words in Strict NC languages are NPI's that are universal quantifiers solves the reverse licensing problem, her analysis fails to provide an answer as to why n-words may occur in fragmentary answers.

Note that the syntactic agreement approach can easily tackle these problems. Only n-words are licensed by [iNEG] features, which can be provided by an abstract negative operator, as long as the sentence contains overt elements that carry [uNEG]. Therefore, both in (97) and (98)a, the abstract negative operator is responsible for properly licensing the n-words (and the negative marker in Strict NC languages).

Also the case of n-words in fragmentary answers is solved under the syntactic agreement approach, both in Strict and Non-strict NC languages. Take (101), which repeats the Greek sentences in (99).

(101) a. A Quién ha viste? {A *Nadie* / * A un alma}[34]   Spanish

Who has seen? N-body / A soul

'Who did you see? Nobody / A single soul'

b. Ti idhes? {*TIPOTA* / *Tipota}[35]

What saw.2sg? N-thing / anything

'What did you see? N-thing / anything'

Like Giannakidou I analyse these sentences as sentences that have undergone deletion under ellipsis. The fully spelled-out responses to the questions in (102) would be sentences in (102):

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[34] Example taken from Herburger (2001: 300).
[35] Example taken from Giannakidou (2000: 485). Greek distinguishes n-words from NPI by emphasis. The emphatic *TIPOTA* behaves like standard n-words, the unemphasized *tipota* exhibits the same behaviour as English *anything*.

(102) a.   Nadie ho viste

        N-body have.1SG seen

        'Nobody, I saw'

    b.   TIPOTA *dhen* idha

        N-thing NEG saw.1SG

        'Nothing, I saw'

But both examples (102), albeit being grammatical, do not contain any overt element carrying [iNEG]. Hence the [uNEG] features of the n-words and the Greek negative marker must be checked by an abstract negative operator, yielding the underlying representations in (103).

(103) a.   *Op$_\neg$* Nadie ho viste

        N-body have.1SG seen

        'Nobody, I saw'

    b.   *Op$_\neg$* TIPOTA *dhen* idha

        N-thing NEG saw.1SG

        'Nothing, I saw'

Now, deletion of the overt material is no longer problematic: Spanish *ho viste* does not contain any negation at all and Greek *dhen idha* contains a negative marker that is not semantically negative (it carries a feature [uNEG]). Hence, in these cases deletion under ellipsis does not violate semantic identity criteria. (The abstract negative operators are not deleted; being phonologically empty lexical items, they are just there.)

A final question may arise as to why plain NPI's cannot be licensed by this abstract negative operator. This question relates to the status of the ungrammaticality of sentences containing an unlicensed NPI. Although in early generative proposals, NPI's were thought to be subject to particular selection criteria, rendering unlicensed NPI's simply syntactically ill-formed, a long research tradition that started with Kadmon and Landman (1992), followed by Krifka (1995), Lahiri (1998) and Chierchia (2004), argued that it was domain-widening effects of NPI-indefinites that forced upon their occurrence in downward-entailing contexts.

If this line of reasoning is correct, the illformdness of sentences containing unlicensed NPI's is not due to the fact that they are syntactically ungrammatical, but pragmasemantically infelicitous. Strictly speaking, those sentences are not ungrammatical: it is only their meaning that contains semantic or pragmatic contradictions. If NPI's lack any syntactic encoding for negation, no abstract negative operator can be included in the ill-formed NPI answers in (101).

4.2.2.2 NC and syntactic locality constraints

Thus far, I have discussed cases where n-words could occur where NPI's could not. It turns out that such cases cannot be adequately handled under the NPI approach, but are well treated by the syntactic agreement approach. On the other hand, there are also environments where NPI's are allowed but weher n-words are banned. For instance, NPIs can be licensed across the clause boundary (cf. Giannakidou (2000)), but NC is known to obey clause boundedness, as illustrated in (104).

(104) a. John did*n't* say that he bought *anything*

 b. *Gianni *non* ha detto che a achato(?) *niente*
  Gianni NEG has said that has bought n-thing
  John didn't say that he bought anything

A second observation is that n-words in an adjunct island cannot be licensed by a negation outside the island as illustrated in (105)a, whereas this is not excluded for standard NPI licensing ((105)b) (for more examples of locality constraints of NC licensing in French, see Mathieu (2001), Giannakidou (1997) amongst many others).

(105) a. *Gianni *non* labora per guadagnare *niente* argente   Italian
  Gianni NEG works in.order.to earn n- money
 b. 'Gianni doesn't work in order to any money'

The examples above indicate that contrary to traditional NPI licensing NC obeys standard syntactic locality constraints, such as subject islands or subjacency effects. The fact that NC obeys syntactic locality constraints, whereas NPI licensing does not suggests again that NC and NPI licensing are not two sides of the same coin, but in fact different grammatical phenomena.

The differences between NC and NPI licensing does not necessarily entail that they are fundamentally distinct phenomena. It could be the case that, as Giannakidou has suggested, the quantificational force of n-words is different from that of plain NPI's. Giannakidou (2000) argued that n-words are universal quantifiers and plain NPI's indefinites in the sense of Kamp (1981) and Heim (1982). However, as I have shown before, such a treatment of n-words may only apply to Strict NC languages, whereas the problem of locality concerns n-words in all types of NC languages. Hence, the problem of locality cannot be reduced to the quantificational status of n-words.

Under the syntactic agreement approach, the locality effects follow straightforwardly, since feature checking is generally restricted to clauses and strong islands. Both in (104) and (105) the n-word cannot have its feature checked against the negative marker.

However, in several cases negative markers in the matrix clause may actually license n-words in embedded sentences. Cases of this have been shown in (92), repeated below:

(106) a.   Dudo que vayan a encontar *nada*[36]   Spanish

                         Doubt.1SG that will.3PL.SUBJ find n-thing

                         'I doubt they will find anything'

       b.   Prohibieron que saliera *nadie*

                         Forbade.3PL that went-out.3SG.SUBJ n-body

                         'They forbade anybody to go out'

However, in both cases the embedded clause contains a subjunctive, and subjunctives clauses are known to induce only weak locality effects (cf. Quer (1998)). This is illustrated, for instance, by the fact that Italian long-distance anaphora in embedded clauses can only refer to main clause antecedents if they are in a subjunctive clause and not if they are in an indicative clause (cf. Giorgi (2004)).[37] In (107) subordinate *proprie* ('his own') can only refer to a main clause antecedent if the subordinate V_{fin} clause is subjunctive.

(107) a.   *Quel dittatore$_i$ ha detto che notiziari televisivi   Italian

                   parleranno a lunge delle proprie$_i$ gesta

                   The dictator has said that news.programs TV talk.FUR.IND at long of.the own deeds

                   'The dictator said that the news programs will talk a lot about his own deeds'

       b.   Quel dittatore$_i$ ha detto che notiziari televisivi parlino a lunge delle proprie$_i$ gesta

                   The dictator has said that news.programs TV talk.FUT.SUBJ at long of.theown deeds

                   'The dictator said that the news programs will talk a lot about his own deeds'

Giorgi accounts for these facts by assigning a different structure for subjunctive and indicative clauses. Indicative clauses are said to have a full CP layer, containing ForceP and FinP, whereas subjunctive clauses lack ForceP (cf. Rizzi (1997)).

(108) a.   [ForceP … [FinP]]   Indicatives

       b.   [FinP]   Subjunctives

This predicts that the examples in (106) become ungrammatical, once the subjunctive verb is replaced by an in indicative verb. This prediction is borne out indeed.

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[36] Herburger (2001): 297.

[37] An exception is formed by cases in which no separate subjunctive form is available. In those cases Giorgi argues that the indicative and subjunctive forms are phonologically identical.

(109) a.   *Dudo que van a encontrar *nada*[38]   Spanish

             Doubt.1SG that will.3PL.IND find n-thing

             'I doubt they will find anything'

       b.   *Prohibieron que salio *nadie*

             Forbade.3PL that went-out.3SG.IND n-body

             'They forbade anybody to go out'

Hence, the cases of locality also indicate that NC is different from NPI licensing and favours the syntactic agreement approach over the NPI approach.

4.2.3   Concluding remarks

In this section I have discussed the NPI approach to NC. It turned out that the differences between NPI's and n-words could not be captured by the existing versions of the NPI approach, whereas the syntactic agreement approach in fact predicts all these differences, again providing strong support for the idea that NC is an instance of syntactic agreement.

4.3   Alternative analyses

Before entering the conclusions, I discuss two less canonical, but no less interesting analyses of NC that both try to overcome the problems that the NQ and NPI approach face. These are Herburger's (2001) analysis in terms of lexical ambiguity and Watanabe's (2004) analysis in terms of focus agreement.

4.3.1   Lexical ambiguity

Herburger (2001) has argued that n-words are lexically ambiguous between NQ's and NPI's. This means that every n-word can in principle receive both the reading of an NPI and of an NQ. Take for instance (110):

(110) *Nessuno* ha detto *niente*   Italian

       N-body has said n-thing

       'Nobody said anything'

The first n-word, *nessuno*, can only receive an NQ reading; the NPI reading is blocked since it is not in a downward-entailing context. The second n-word should in principle be able to receive two readings: the NPI reading and the NQ reading. If it receives the NPI reading, the NC interpretation of

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[38] Herburger (2001): 297.

(110) follows immediately. The postverbal n-word should be able to receive an NQ interpretation. However, (110) cannot mean 'Nobody said nothing'.

Herburger argues that this is due to an independent constraint that bans QR of NQ's across the existential quantifier binding the event variable, basing herself on those rare examples of postverbal n-words without any preverbal negative element (see the discussion in 3.2.2). If this constraint holds, then (110) would indeed get a second reading like (111), which in almost all contexts will lead to a semantic contradiction.

(111) ¬∃x.∃e.[**Say'**(e) & **Person'**(x) & **Agent**(e, x) & ¬∃y.[**Thing'**(y) & **Theme**(e, y)]]

Therefore, 'Nobody said anything' is the only salient reading for (111).

Herburger's analysis suffers from both conceptual and empirical problems. First, lexical ambiguity seems to be some kind of last resort, as it is extremely hard to actually prove that there are two lexical entries for n-words (cf. Kroch (1994)). Second, the mechanism that blocks postverbal movement of n-words across the existential quantifier that binds the event variable, is purely stipulated as it lacks any kind of independent motivation. This is especially problematic, since it appears only to hold in NC languages. In DN languages postverbal negative quantifiers are not constrained by this ban.

Apart from that, a number of empirical problems show up. First, it is unclear why syntactic locality effects hold. Nothing would forbid the occurrence of n-words appear in the embedded sentences in downward entailing contexts. Both sentences in (112) expected to be grammatical with the n-words receiving an NPI interpretation, but are appear to be ruled out:

(112) a. *Prohibieron que salio *nadie*   Spanish
           Forbade.3PL that went-out.3SG.IND n-body
           'They forbade anybody to go out'
       b. *Prohibieron que *nadie* salio
           Forbade.3PL that n-body went-out.3SG.IND
           'They forbade anybody to go out'

Finally, the proposal does not extend to Strict NC languages. Take again (98)a, repeated as (113).

(113) *Nikdo ne* volá   Czech
       N-body NEG.calls
       'Nobody calls'

Following Herburger, *nikdo* ('n-body') must receive an NQ interpretation as it is not c-commanded by any downward entailing operator. The negative marker *ne* in Herburger's terms is the negation itself (otherwise she cannot explain cases with only postverbal n-words), and introduces a semantic negation as well. However, the entire sentence has a plain NC reading.

The syntactic agreement approach, again, is immune to the problems that the lexical ambiguity account faces. First of all, no ill-motivated ban on movement of postverbal negative quantifiers has to be stipulated, while this approach still accounts for those cases where n-words may occur solely in postverbal position. The fact that postverbal n-words that appear on their own must be interpreted *v*P in situ, has in fact even received an explanation, Second, the data in (112) are not problematic since these examples are ruled as a result of general syntactic locality constraints. Finally, (113) is not problematic as in Strict NC languages it is not the negative marker that is taken to be the carrier of semantic negation.

4.3.2 Focus agreement

The final analysis of NC that I discuss in this paper is Watanabe's proposal of NC as an epiphenomenon of focus-based agreement. Watanabe argues that it is crucial that any theory of NC should be able to handle the fact that n-words may show up in fragmentary answers, inducing semantic negation. He correctly argues that Giannakidou's (2000) proposal that n-words are NPI's, which in fragmentary answers are licensed by a negative marker deleted under ellipsis, is wrong, but his conclusion that this means that n-words for that reason must be thought of as being semantically negative is too strong. As discussed in section 4.2.2.1, the idea that n-words are semantically non-negative is not incompatible with the fact that n-words may pop up in fragmentary questions, reducing the strength of Watanabe's original motivation for his analysis of NC as a side-effect of focus agreement.

Watanabe implements his proposal in a somewhat austere version of minimalism dating back to Chomsky's (2000, 2001) probe-goal analysis of Agree. He also adopts Chomsky's (1995a) proposal (withdrawn in Chomsky (2000, 2001)) that states that Move also involves copying of the feature that probes after movement. This is shown in (114) where XP's feature [F] copied on H, which therefore carries two features [F]. The features of the lower copy are no longer interpretable on LF.

(114) $[H_{[F]} [\ldots XP_{[F]} \ldots]]$ $\rightarrow$ $[XP [F+H_{[F]} [\ldots <XP_{[F]}> \ldots]]]$

In addition, Watanabe argues that the feature of the probe does not have to be uninterpretable (as I have argued as well), as long as the goal is active by some other uninterpretable feature. Since negative markers induce a semantic negation (if they are not joined by an n-word), Watanabe takes the negative head to carry [iNEG] and assigns it an [EPP] feature as well to ensure that its specifier position be filled.

Watanabe furthermore argues that in cases of NC not an uninterpretable negative feature, but an uninterpretable focus feature activates the goal, basing himself on the fact that n-words in a number of languages exhibit focus-like morphology (like the stress on Greek n-words). This means that n-words also carry a feature [iNEG]. Thus, both the negative feature on the probe and the goal carry a feature [iNEG], whilst the n-word also carries a [uFOC] feature. Now, let's see what happens of the negative head attracts the n-word to its specifier position:

(115)   [n-word$_{[uFOC][iNEG]}$ [[iNEG]+Neg°$_{[iNEG]}$ [… < n-word $_{[iNEG][uFOC]}$> …]]]

Movement of the n-word to Spec,NegP increases the number of features [iNEG] from two to three: one on the moved n-word, one which was already there on the negative head and one that, as a result of the movement procedure, is copied on the head as well. The two unordered [iNEG] features on the negative head then cancel each other out. As a result only one negation survives, yielding the NC interpretation.

Apart from the fact that the original motivation for this account, the alleged semantic interpretability both n-words and the negative marker, lacks firm ground (see 4.1.2), this account faces some other problems as well. The hardest, and to the best of my knowledge entirely unavoidable problem, is that Watanabe's two assumptions that deviate from standard probe-goal agreement are incompatible as they violate compositionality. Chomsky's original proposal was based on the fact that probes always contained uninterpretable features and then copying the probes formal features does not add anything new to the semantics of the probe. However, if the probe's triggering feature is interpretable no such feature may be copied without deletion, as this would be a major violation of compositionality. The fact that the negative head receives an additional [iNEG] feature as a result of copying of the n-word can by no means be semantically motivated.

Moreover, as Watanabe acknowledges, this approach can only handle cases in which an n-word in combination with a negative marker (cases of Negative Doubling in Den Besten's (1985, 1989) terms), yield an NC reading. Other instances of NC, such as Negative Spread (two n-words without a negative marker yielding NC (also from Den Besten (1985, 1989))), cannot be explained in this way, since NC is said to result from the fact that the negative head obtains an extra negative feature. Watanabe argues that in those cases De Swart & Sag's NQ approach may apply, but by doing so he violates principles of scientific parsimony. If De Swart & Sag's proposal applies to Negative Spread, why not adopt it for Negative Doubling as well? Hence, even if Watanabe's approach were not based on assumptions, that have proven to be unmotivated, it would still be an open question as to why this proposal would be in any sense preferable over an approach that can handle all kinds of NC, such as the syntactic agreement approach presented in section 3. Note that the fact that in some languages n-words carry focus morphology is not sufficient as this fact has already received

independent explanation in terms of side effects of language change (cf. Jespersen (1917), Condoravdi and Kiparsky (2005))

5.   Conclusions

In this paper I first have argued that Jespersen's idea that there is a strong correlation between NC and the syntactic status of negative markers is correct in a unidirectional sense: every language that has a negative marker X° is an NC language (provided that n-words are present).

Furthermore I have presented an explanation of NC that takes it to be an instance of syntactic agreement and I have demonstrated how this analysis correctly accounts for the readings of sentences containing multiple negative elements, both in NC and in DN languages. Moreover, I have shown how different types of NC have to be accounted for and I have argued that the syntactic agreement approach also correctly predicts the unidirectional generalisation concerning NC and the syntactic status of negative markers.

Finally I have compared this approach to other approaches of NC. Apart from the fact that those approaches do not predict this unidirectional generalisation, I have also argued that these approaches, the NQ approach, the NPI approach, Herburger's analysis of n-words being lexically ambiguous and Watanabe's analysis of NC as a side effect of focus agreement, all face problems that the syntactic agreement approach does not suffer from. On the basis of the data and considerations presented in the paper I therefore conclude that NC is an instance of syntactic agreement between a single negative operator that may be phonologically unrealised and one or more negative elements that are morpho-syntactically, but not semantically marked for negation.

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