Negative indefinites and negative concord

Abstract

Negative indefinites like nobody and nothing are traditionally analyzed as negative quantifier. This analysis faces a compositionally problem in languages exhibiting negative concord, where semantic negation is expressed by more than one morphosyntactically negative element. This chapter critically discusses the most influential approaches to negative concord. The first type of analyses considers negative indefinites as negative quantifiers, the second as negative polarity items and the fourth as ambiguous between negative quantifiers and negative polarity items. A forth type of analyses views negative concord syntactic agreement.

1 Negative indefinites

Languages do not only express negation by means of sentential negative markers, such as English not, but also by means of negative indefinites, such as English nobody, no man or never. The traditional view on the semantics of negative indefinites, going back to Aristotle, holds that they are negative quantifiers, that is their lexical entry contains a negation as well as an existential meaning component (see Horn (2001) for an extensive historical overview). In the framework of Generalized Quantifier Theory (Barwise and Cooper, 1981), the lexical entry generally assigned to nobody, for instance, is the one shown in (1).

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

This view on the semantics of negative indefinites, however, is challenged by a phenomenon called negative concord, which occurs in many of the world’s languages. In these languages negative indefinites co-occur with other items expressing negation in the same clause and nevertheless the sentence is interpreted as containing only one negation. This is illustrated in the following examples from Italian, Russian and non-standard English, where a negative indefinite co-occurs with the sentential negative marker.

(2) a. Maria non ha visto nessuno. (Italian)
   Maria NEG has seen n-person
   ‘Maria hasn’t seen anybody.’

   b. Nikto ne videl nikogo. (Russian)
   n-person NEG saw n-person
   ‘No-one saw anyone.’

(from Brown, 1999, 35)
Under the assumption that negative indefinites are negative quantifiers, the meaning of these sentences is unexpected. If both the sentential negative marker and the negative indefinite contribute a negation to the semantics, we would expect these negations to add up or cancel out each other. In the Italian sentence (2a), for instance, the two negations should cancel out each other to express a positive meaning (‘Maria didn’t see nobody’ = ‘Maria saw someone’). But as the paraphrase makes clear, the meaning of the sentences involves only one negation. This contrasts with Standard English, where a meaning with double negation results if an negative indefinite is used together with a negative marker.

(3) a. I didn’t see nobody.
    = ‘I saw somebody.’

Cross-linguistically, languages like Standard English, Classical Greek and Latin, which behave ‘logically’ with respect to the expression of negation and also happen to be the languages on which traditional grammarians and modern linguists focused their investigation, represent the exception rather than the rule. In fact, the majority of the world’s languages exhibit negative concord (see Haspelmath, 2005).

The phenomenon of negative concord was brought to the attention of modern linguistics by Jespersen (1917) and Labov (1972), and has since then be discussed extensively in the semantic as well as the syntactic literature. In negative concord languages the semantic status of negative indefinites is unclear and several different approaches to their semantics have been taken (these are discussed in sections 3 to 6). In order to remain neutral with respect to the question whether negative indefinites in negative concord languages are semantically negative or not, the term ‘n-word’, coined by Laka (1990), is often used.

In many languages, negative indefinites display morphology relating them to negation (e.g. the prefix no- in English), but in some languages they do not (e.g. the negative indefinites personne ‘nobody’ and rien ‘nothing’ in French). A useful criterion to classify negative indefinites, and in particular to tell them apart from negative polarity items (see chapter XX Negative Polarity), is the following test (see Bernini and Ramat (1996, 121) and Haspelmath (1997, 194 ff.)): If an item can be used as a negative fragmentary answer it is classified as negative indefinite. To illustrate the test, consider the following example from Polish, where the pronoun nikt is used on its own as answer, and crucially, the answer is negative.

(4) Q: Kto przyszedl? (Polish)
    who came
    ‘Who came?’
A: Nikt.
    n-person
    ‘Nobody’ (=‘Nobody came’) (from Haspelmath, 1997, 195)

According to the test, Polish nikt is therefore classified as negative indefinite, despite the fact that nikt has to co-occur with the sentential negative marker in non-elliptical
environments as in (5) and thus seems to be more like a negative polarity item being semantically non-negative but showing a certain affinity towards negation.

(5) **Nikt nie przyszedł.**

*‘Nobody came.’* (from Haspelmath, 1997, 194)

Crucially, elements that are classified as negative polarity items, e.g. English *any*, cannot be used as negative fragmentary answers.

(6) **Q:** Who did you meet?

**A:** *Anybody.*

Before discussing the main approaches that have been proposed to account for negative concord, the next section will present the phenomenon in more detail and introduce some typological distinctions that have been identified in the literature.

## 2 Negative Concord

**Negative concord** refers to a structure where multiple negative constituents in a clause contribute only one instance of negation to the interpretation. The term ‘negative constituent’ subsumes negative markers (glossed as `neg`) and negative indefinites (glossed as ‘n-’). Negative concord is illustrated in the following sentences from Italian:

(7) a. **Maria non ha visto nessuno.**

*‘Maria hasn’t seen anybody.’*

*‘Maria hasn’t seen nobody.’* (= ‘Maria has seen somebody.’)

b. **Nessuno ha visto niente.**

*‘Nobody has seen anything.’*

*‘Nobody has seen nothing.’* (= ‘Everybody has seen something.’)

In (7a), the negative indefinite *nessuno* occurs together with the negative marker *non* such that the sentence contains two negative constituents. But the sentence can only be interpreted in a way such that the meaning involves one negation only. In a similar fashion, in (7b) two negative indefinites co-occur, but again the meaning involves one negation only. The configuration in (7b) where two or more negative indefinites co-occur under a single negation reading is also called **negative spread** (den Besten, 1986). **Negative doubling** refers to structures such as (7a) where an negative indefinite occurs together with a negative marker under a single negation reading.

Negative concord is not a uniform phenomenon and languages differ regarding the patterns they display. The two main types of negative concord that have been distinguished in the literature are strict and non-strict negative concord (the terminology is due to Giannakidou, 2000, 2006). In **strict negative concord** languages,
negative indefinites obligatorily co-occur with the negative marker, independently of the position of the negative indefinite. This is illustrated in (8) with examples from Polish.¹

(8)  

a. ̈Żadne dziecko *(nie) wyjechało na wakacje. (Polish)  
n-DET child NEG went on holiday  
‘No child went on holiday.’

b. *(Nie) wyjechało ̈żadne dziecko na wakacje.  
NEG went n-DET child on holiday  
‘No child went on holiday.’ (from Błaszczak, 2001, 217)

Strict negative concord is also found in all the other Slavic languages as well as in Romanian and Greek.

In non-strict negative concord languages, in contrast, negative indefinites are not always accompanied by a negative marker. Whether they are or not depends on their position in the clause. As illustrated in the examples (9) from Spanish, an negative indefinite following the verb has to be accompanied by the negative marker no, cf. (9a). Without no, the sentence is ungrammatical. For n-words in preverbal position, the requirement is exactly the opposite: preverbal n-words cannot co-occur with the negative marker (at least not under an interpretation with one negation), as shown in (9b). If a preverbal and a postverbal negative indefinite occur in the same clause, as in (9c), the negative marker has to be absent.

(9)  

a. *(No) vino nadie. (Spanish)  
NEG came n-person  
‘Nobody came.’

b. Nadie (*no) vino.  
n-person NEG came  
‘Nobody came.’

c. Nadie (*no) ha comido nada.  
n-person NEG has eaten n-thing  
‘Nobody has eaten anything.’

In practice, it is not always straightforward to classify a language as strict or non-strict negative concord language. French, for instance, has two negative markers, the preverbal clitic ne and the postverbal particle pas, which behave differently regarding the patterns of negative concord in which they enter. While negative indefinites obligatorily co-occur with ne, independently of their position, and thus give rise to a pattern of strict negative concord, negative indefinites cannot co-occur with pas under a negative concord reading at all. (The co-occurrence of pas and negative indefinites always yields a reading with double negation.) Again, this holds for pre- and postverbal negative indefinites alike, as shown in (10).

¹The notation *(X) is used if the sentence is ungrammatical without X. (*X) means that the sentence is ungrammatical if X is included.
One should thus rather speak of a given language as exhibiting strict or non-strict negative concord with respect to a particular negative marker.

The picture is further complicated by another issue. In many languages, negative indefinites do not only occur in a non-negative meaning in the context of sentential negation, but also in certain environments that involve a weaker notion of negation. The precise set of contexts in which negative indefinites can occur in a non-negative existential meaning varies cross-linguistically, but they are often possible under certain ‘negative’ prepositions such as without, (11a), in complement clauses of adversative predicates like doubt and prohibit, (11b-c), and in the complement of comparatives, (11d).

The question how negative concord can be given a compositional semantic analysis has been addressed in the syntactic and semantic literature alike. The behavior of negative indefinites in non-strict negative concord languages like Spanish and Italian is particularly puzzling. In some environments, in particular in preverbal position, negative indefinites on their own contribute negation to the interpretation and thus seem to be semantically negative. But in other environments, especially in postverbal position, negative indefinites cannot contribute negation by themselves and need to be accompanied by a negative marker. Even in strict negative concord languages, where negative indefinites always co-occur with a negative marker and hence seem to be semantically non-negative, the puzzle surfaces when considering the fact that negative indefinites contribute negation in fragmentary answers. The question how this double-faced nature of negative indefinites can be explained has been widely
discussed, and the main approaches that have been proposed to account for negative concord are critically discussed in the next sections.

The approaches that have been prosed to account for negative concord can essentially by classified into three different types, depending on the semantic status they ascribe to negative indefinites. The first type of analyses maintains the standard analysis according to which negative indefinites in negative concord languages are semantically negative quantifiers. Extra assumptions are employed to explain that not every negation is factored into the meaning of the sentence. The main two analyses in this fashion are discussed in 4. The second line of approaches, discussed in section 5 and 6, starts from the opposite assumption and holds that n-words are semantically non-negative. They face the challenge of explaining why in certain configurations n-words are sufficient to contribute negation. Analyses in this spirit can again be divided into different camps. Some assume that n-words are negative polarity items that have to be licensed by sentential negation, while others argue that the relation between n-words and sentential negation is a form of syntactic agreement. The third type of analyses, finally, takes the ambivalent behaviour of n-words at face value and assumes that they are lexically ambiguous between inherently negative quantifiers and non-negative indefinites. These approaches, which face the challenge to explain the distribution of the two types of n-words, are the topic of the next section.

3 Negative indefinites as being ambiguous between negative quantifiers and negative polarity items

One starting point for an analysis of negative concord is to take the ambivalent behavior of n-words in non-strict negative concord languages at face value and assume that they are ambiguous between negative quantifiers and negative polarity items (NPIs), i.e. elements that are not negative themselves but have to be licensed by negation (see chapter XX Negative Polarity). Such proposals were elaborated by van der Wouden and Zwarts (1993) and Herburger (2001).

The view that negative indefinites are lexically ambiguous between negative quantifiers and NPIs is suggested in particular by negative spread constructions in non-strict negative concord languages like Spanish as illustrated in (12).

\[(12) \quad \text{Nadie} \quad \text{comió nada.} \quad \text{(Spanish)}\]
\[\text{n-person ate} \quad \text{n-thing} \quad \text{‘Nodody ate anything.’}\]

If it is assumed that the first negative indefinite, \textit{nadie}, is a negative quantifier, while the second, \textit{nada}, is a non-negative NPI, just as it is the case in the English translation, the meaning of the sentence is readily explained. The assumption that negative indefinites in Spanish can be NPIs also accounts for the fact that negative indefinites in Spanish occur in a non-negative meaning in several contexts in which NPIs in other languages are licensed, e.g. in the complement of \textit{without} and under
adversative verbs, cf. (11).

The main challenge for the ambiguity approach is to ensure that the right kind of negative indefinites occurs in the right kind of environment to prevent the derivation of unattested readings. In case of (12) it has to be ensured that the preverbal n-word *nadie* cannot be an NPI, and the postverbal n-word *nada* cannot be a negative quantifier. It thus has to be explained why the distribution of the two varieties of negative indefinites is so closely linked to the syntax: negative indefinites of the negative quantifier variety are only possible in preverbal position, and negative indefinites of the NPI variety are restricted to postverbal position.

Herburger (2001) reduces the fact that n-words of the NPI type are banned from postverbal position to the fact that genuine NPIs in Spanish, like in English, are generally not licensed in preverbal position. To explain that negative indefinites of the negative quantifier variety occur only in preverbal, but not in postverbal position, Herburger argues that negative quantifiers in postverbal position cannot yield a reading with sentential negation. She observes that if a postverbal n-word occurs without the negative marker, a reading results where the negative quantifier takes scope below the quantifier binding the event variable introduced by the verb. Such readings are pragmatically highly restricted, but are illustrated in the following example.

(13) Temen que el bebé sea autista. Se pasa el tiempo mirando a nada.

**(Spanish)**

‘They fear the baby is autistic. He spends his time looking at nothing.’

(from Herburger, 2001, 302)

(13) asserts that an event of looking with the baby as agent takes place, but that this event does not have a theme i.e. there is no thing at which the looking is directed. Usually, the negation associated with negative quantifiers takes scope above the event quantifier, negating the existence of an event of a certain kind. Thus, Herburger (2001) argues, negative indefinites of the negative quantifier type cannot usually occur in postverbal position. Implicit in Herburger’s analysis is the assumption that negative quantifiers necessarily take surface scope and cannot take scope above the event quantifier when they occur in postverbal position. This seems problematic as it is unclear why this should be the case when in other languages, such as English, postverbal negative quantifiers are perfectly well able to yield sentential negation.

4 Negative indefinites as negative quantifiers

4.1 The neg-criterion

The most influential approach to negative concord maintaining the assumption that negative indefinites are semantically negative quantifiers is due to Zanuttini and Haegeman (Zanuttini, 1991; Haegeman and Zanuttini, 1991, 1996; Haegeman, 1995). At the core of their proposal is a syntactic constraint, the neg-criterion. Building on
the idea that there is a functional projection NegP which hosts sentential negation (Pollock, 1989), the neg-criterion is formulated in analogy to the wh-criterion (May, 1985; Rizzi, 1996) and requires negative indefinites to be in the specifier position of NegP. To account for negative concord it is assumed that multiple items that are semantically negative only contribute one instance of negation when they are situated in NegP. To this end Haegeman and Zanuttini (1996) formulate a rule of negative absorption which is supposed to turn two (or more) unary negative quantifiers into one quantifier quantifying over several variables simultaneously:

\[
[\forall x \neg][\forall y \neg][[\forall z \neg]] = [\forall x, y, z] \neg
\]

Note that Zanuttini (1991) argues that negative indefinites are universal quantifiers that have a negation in their scope, based on the observation that negative indefinites as well as universal quantifiers can be modified by almost, while existential quantifiers cannot. Italian nessuno (‘noone’), for instance, is assigned the lexical entry in (15), which is semantically equivalent to the standard lexical entry of negative quantifiers in terms of \(\neg \exists\), cf. (1).

\[
[\text{nessuno}] = \lambda P. \forall x[\text{person}(x) \rightarrow \neg P(x)]
\]

The rule of Neg-absorption takes care of the co-occurrence of multiple n-words in negative spread constructions, as in the Italian sentence (16a). Applying the rule is assumed to result in the truth conditions (16b), which can be paraphrased as ‘for every pair of persons, it is not the case that one talked to the other’, equivalent to ‘there is no pair of persons such that one talked to the other’.

\[
\begin{align*}
\text{a. } & \text{Nessuno ha parlato con nessuno.} & \text{(Italian)} \\
& \text{n-person has spoken with n-person} \\
& \text{‘Nobody talked to anybody.’} \\
\text{b. } & \forall x, y[\text{person}(x) & \& \text{person}(y) \rightarrow \neg (x \text{ spoke to } y)]
\end{align*}
\]

Haegeman and Zanuttini (1996) also propose a rule of negation factorization, which voids the semantic contribution of a negative marker and is supposed to account for cases of negative doubling where a negative indefinite co-occurs with a negative marker under a negative concord reading (as e.g. in (7a)).

\footnote{The different proposals vary with respect to the level at which the neg-criterion is assumed to apply. Zanuttini (1991) and Haegeman and Zanuttini (1991, 1996) argue that it has to be met at S-structure in languages that allow scrambling, and at LF in other languages (e.g. Italian), while Haegeman (1995) proposes that the neg-criterion universally applies at S-structure, but can also be met by a syntactic chain headed by an abstract operator in the specifier of NegP.}

\footnote{In fact, Haegeman and Zanuttini (1996) restrict the application of negation factorization to adverbial negative markers (e.g. West Flemish niet), which the neg-criterion also requires to move to the specifier of NegP. Hence the rules of negation absorption or factorisation seems to be meant to affect only negative elements being located in (or having moved through) the specifier of NegP, but not negative markers that are heads of NegP, e.g. Italian non. Regarding the question how negative concord readings of sentences with negative markers in Italian such as (7a) can be explained, not much is said in the work of Zanuttini and Haegeman. They simply seem to assume that specifier head agreement between a negative head and...}
Problematic aspects of this approach concern the proposed rules of negation absorption and factorisation. They seem stipulative and it is not clear how they can be made formally explicit. They would also have to be generalized to account for the fact that n-words occur in certain non-strict negative environments. Furthermore, the assumption that negative indefinites are universal negative quantifiers is at odds with the etymology and the morphological make-up of negative indefinites, which in most languages consist transparently of a negative and an indefinite part (e.g. Italian *nessuno* = *nec* (‘not’) + *uno* (‘one’); cf. Haspelmath (1997, 263)). Finally, it is not clear how this approach can account for the difference between pre- and postverbal n-words in non-strict negative concord languages. The neg-criterion requires negative indefinites to be in specifier-head agreement with a negative head, independently of their position. And if this configuration is assumed to void the negative contribution of negative indefinites, then it would be expected that n-words in preverbal position also enter a negative concord relation with the negative marker, contrary to fact (viz. the data in (9b) and (9c)).

### 4.2 Resumptive quantification

The question how a rule voiding the semantic contribution of negative indefinites can be made formally explicit is addressed in de Swart and Sag (2002) and Iordăchioaia and Richter (2014), who define absorption of negative quantifiers as resumption in a polyadic quantifier framework (van Benthem, 1989). The idea behind the formal definition in (18) (where the sets $A_1$ through $A_k$ represent the restrictors of the quantifiers, and $E$ the universe of discourse) is that the resumption of $k$ unary quantifiers $Q$ yields one polyadic quantifier $Q'$, interpreted as quantifying over $k$-tuples.

\[
\text{Res}(Q_{E_1}^{A_1}, Q_{E_2}^{A_2}, \ldots, Q_{E_k}^{A_k}) = Q_{E}^{A_1 \times A_2 \times \ldots \times A_k}
\]

negative concord is analysed as $k$-ary resumption of a sequence of anti-additive quantifiers. An operator is anti-additive if it satisfies the first Law of De Morgan i.e. if the equivalence in (19) is valid. Since inferences like (20) go through, negative indefinites are the paradigmatic examples of anti-additive operators (see Zwarts (1996) and chapter XX Negative Polarity).

\[
f(X \cup Y) \leftrightarrow f(X) \cap f(Y)
\]

\[
a. \quad \text{Nobody sings or dances.} \quad \leftrightarrow \\
b. \quad \text{Nobody sings and nobody dances.}
\]

Applying the rule of resumption to the two negative indefinites in the Italian sentence (21) yields the polyadic negative quantifier (22b), which according to (18) is
interpreted as quantification over pairs, cf. (22c). This is supposed to be semantically equivalent to the first-order representation in (22d).

\[
\begin{align*}
(21) & \quad a. \textbf{Nessuno} \ ha \ parlato \ con \ \textbf{nessuno}. \quad \text{(Italian)} \\
& \quad \text{n-person has spoken with n-person} \\
& \quad \text{‘Nobody talked to anybody.’}
\end{align*}
\]

\[
\begin{align*}
(22) & \quad a. \text{Res}([\text{NO}^{\text{HUMAN,HUMAN}}][\text{talk to}]) \\
& \quad b. \text{NO}^{\text{HUMAN}}([\text{talk to}]) \\
& \quad c. \text{NO}^{\text{HUMAN} \times \text{HUMAN}}([\text{talk to}]) \\
& \quad d. \neg \exists x \exists y [\text{person}(x) \& \text{person}(y) \& \text{talk-to}(x, y)]
\end{align*}
\]

To extend resumption to negative markers participating in negative concord, de Swart and Sag (2002) treat propositional operators such as sentential negation as 0-place quantifiers. Resumption is then assumed to apply to a sequence consisting of 1-place and 0-place quantifiers.

De Swart and Sag (2002) apply their proposal to French, and Iordăchioia and Richter (2014) mainly discuss Romanian. Negative concord in these two languages has a characteristic which is cross-linguistically somewhat exceptional and meshes well with the assumption that quantifier resumption is optional: Clauses involving multiple negative indefinites are generally ambiguous between an negative concord reading and a double negation reading where each negative indefinite contributes negation, as illustrated in (23) for French.

\[
\begin{align*}
(23) & \quad \textbf{Personne} \ n’ \ aîme \ \textbf{personne}. \quad \text{(French)} \\
& \quad \text{n-person NEG loves n-person} \quad \text{(from de Swart and Sag, 2002, 376)} \\
& \quad a. \ ‘\text{No one loves anybody.}’ \\
& \quad b. \ ‘\text{No one loves nobody.}’ = ‘\text{Everybody loves somebody.}’
\end{align*}
\]

In most languages, however, negative concord between multiple negative indefinites is obligatory (cf. e.g. the Italian example (7b)), and this does not follow from the resumption analysis. There are further differences between languages which are not yet explained, and further assumptions are needed to address the following questions: First, if negative indefinites cross-linguistically are negative quantifiers, and negative quantifiers are able to undergo resumption, then why do not all languages allow negative concord? Second, why do not all negative markers participate in negative concord (viz, e.g. the difference between \textit{ne} and \textit{pas} in French, cf. (10))? Third, why do strict and non-strict negative concord languages differ in the negative concord patterns they allow, and how can the asymmetry between pre- and postverbal negative indefinites in non-strict negative concord languages be accounted for? Finally, how can the ability of negative indefinites to occur in certain non-strictly negative environments be explained and how can these contexts be delineated?

In sum, while the resumption analysis is able to account for the basic negative concord phenomenon and explains why negative indefinites do not always contribute negation to the semantics, additional machinery is needed to account for the full typology of negative concord (see Iordăchioia and Richter (2014) for some ideas formulated in the framework of Lexical Resource Semantics).
5 Negative indefinites as negative polarity items

A third type of approach analyzes negative indefinites in negative concord languages as negative polarity items. This approach straightforwardly explains why n-words in negative concord languages can be used without contributing negative force. It is particularly well suited for strict negative concord languages, where negative indefinites always require a negative marker in the same clause. But more needs to be said in order to explain that n-words do not quite have the same distribution as run-of-the-mill NPIs like English *any* and are able to contribute negative force in certain configurations, for instance when occurring preverbal in a non-strict negative concord-language. There are two main approaches addressing these challenges, an essentially syntactic proposal due to Laka (1990), and a semantic approach pursued by Giannakidou (1998, and sequel).

5.1 The ΣP approach

The first analysis subsuming n-words under NPIs is due to Laka (1990), who discusses negative concord in Spanish. Recall that Spanish is a non-strict negative concord language, as shown in the following paradigm, repeated from (9) above.

(24)  a. *(No) vino nadie.  
     NEG came n-person  
     ‘Nobody came.’

      b. Nadie (*no) vino.  
     n-person NEG came  
     ‘Nobody came.’

      c. Nadie (*no) ha comido nada.  
     n-person NEG has eaten n-thing  
     ‘Nobody has eaten anything.’

The assumption that n-words are non-negative items that have to be licensed by negation readily explains why negative indefinites in postverbal position do not themselves contribute negation to the semantics and require the presence of the negative marker, as shown in (24a).

In order to account for the fact that preverbal n-words in Spanish can occur without the negative marker, cf. (24b), Laka (1990) posits a functional projection ΣP, which hosts operators such as sentential negation and emphatic affirmation. She further argues that ΣP can be headed by a phonologically empty negative operator, but only if an overt element in the specifier position indicates its presence. Assuming that preverbal negative indefinites occupy the specifier position of ΣP, where they are licensed by a null negative operator under specifier-head agreement, this explains that preverbal negative indefinites can be used without an overt negative marker. The structure assumed for (24b) is the following:

(25)  [[[ΣP [ nadie [ ∅ Neg ]] ] vino ]
Assuming that postverbal negative indefinites are located lower than ΣP it also fol-
lows that postverbal negative indefinites cannot be licensed by a null negative oper-
ator unless there is also a preverbal negative indefinite in the same clause, cf. (24a)
and (24c).

Although the proposal of Laka (1990) explains that n-words in Spanish do not
always contribute negation, but can do so in preverbal position, it leaves open two
important questions. First, while it explains that preverbal negative indefinites in
Spanish do not have to be accompanied by the negative marker, it does not explain
the fact that they can in fact not co-occur with a negative marker under a negative
concord reading. Under Laka’s analysis we would expect that preverbal negative
indefinites can also be licensed by an overt negative marker heading ΣP. Second,
n-words do not have quite the same distribution as regular NPIs in Spanish, which
is unexpected under the assumption that n-words can simply be subsumed under
NPIs. While n-words can in certain configurations occur without an overt negation,
in particular in preverbal position and in fragmentary answers, regular NPIs cannot.
Laka’s analysis therefore begs the question why n-words can be licensed by a covert
negation while it seems that regular NPIs cannot. Therefore more needs to be said
to explain the differences between n-words and NPIs.

5.2 The antiveridicality approach

Giannakidou (1998, 2000, 2006) addresses the differences between NPIs and n-words
and argues that negative indefinites in are a special kind of polarity sensitive items.
While regular NPIs like English any are argued to be licensed in nonveridical contexts,
defined in (26a), n-words are only licensed by antiveridical operators, defined in (26b).

\begin{align*}
\text{(26) a. An operator Op is nonveridical iff } & \text{[Op } p \text{] does not entail } p, \text{ for any} \\
\text{b. An operator Op is antiveridical iff } & \text{[Op } p \text{] entails } \neg p, \text{ for any proposition } p. 
\end{align*}

Since antiveridicality represents a stronger notion than nonveridicality, the contexts
in which n-words are licensed form a proper subset of the contexts in which NPIs are
licensed. Questions, for instance, qualify as nonveridical environments (a question
does not entail the truth of the questioned proposition), and consequently license
NPIs of the any kind (e.g. Is there anything I can do?). But as questions are not
antiveridical (it does not follow that the questioned proposition is false), they do
not license n-words. Negation, on the other hand, is antiveridical (by definition)
as well as nonveridical, and thus n-words as well as NPIs are licensed in its scope.
Other antiveridical operators are negative quantifiers and the preposition without
(in whose scope n-words can occur under a non-negative reading in a number of
languages, amongst others in Greek).

Besides stricter licensing requirements for n-words, Giannakidou also argues that
they are subject to locality conditions: While NPIs can be licensed long distance,
n-words require their licensor to be in the same clause. Giannakidou relates this
to the well-known clause-boundedness of QR and proposes that negative indefinites
in Greek are universal quantifiers that have to take scope over their licenser at LF. Under these assumptions, sentence (27), for instance, is assigned the LF (28a) and expresses the truth-conditions (28b), which are equivalent to (28c) with an existential quantifier in the scope of negation.

(27) Dhen irthe KANENAS. (Greek)
    NEG came.3SG n-person
    ‘Nobody came.’ (from Giannakidou, 2006, 13)

(28) a. KANENAS; [ dhen irthe t_i ]  
    b. \( \forall x[\text{person}(x) \rightarrow \neg \text{came}(x)] \)  
    c. \( \neg \exists x[\text{person}(x) \& \text{came}(x)] \)

Under analysis, n-words are not only special with respect to the semantic negativity required of the licenser, but also with respect to the nature of the licensing relation. While NPIs of the any kind must occur in the scope of a licenser (Ladusaw, 1979), n-words are required to combine with a negated predicate.

This approach is tailored to negative indefinites in strict negative concord languages like Greek, where negative indefinites obligatorily cooccur with a negative marker, and is not readily extendable to non-strict negative concord languages, where the co-occurrence patterns of negative indefinites with a a negative marker crucially depends on the position of the negative indefinite. For the full typology of negative concord Giannakidou (2006), argues for a ‘pluralistic’ view, where negative indefinites can be negative, universal or existential quantifiers or ambiguous between them, and offers a range of diagnostics to distinguish negative indefinites in different languages.

6 Negative concord as syntactic agreement

Another analysis of negative concord is similar to approaches striving to subsume n-words under NPIs in starting from the assumption that negative indefinites in negative concord languages are non-negative. But instead of trying to reduce n-words to another well-known class of items sensitive to negation, these analyses view negative concord as a kind of syntactic agreement, akin to subject-verb agreement. Such an analysis meshes well with work undertaken within the Minimalist Program (Chomsky, 1995) and has accordingly been elaborated since the late 1990s starting with Brown (1999) and later most prominently by Zeijlstra (2004).

The core idea of the agreement analysis is that n-words are semantically non-negative and bear a syntactic feature that needs to be licensed (“checked” in Minimalism parlance) by semantic negation. In the analysis of Zeijlstra (2004), negative indefinites in negative concord languages carry an uninterpretable negative feature [uneg], which has to be checked by an interpretable [neg]-feature on a semantic negation under c-command. This immediately explains cases of negative doubling,

\footnote{Capital letters indicate intonational stress. As Giannakidou (1998) shows, negative indefinites in Greek are emphatic items and require stress. The same word kanas without stress behaves like an NPI of the any kind.}
where an negative indefinite co-occurs with a negative marker, as in the following Italian example.

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

(30) Gianni non_[NEG] telefona a nessuno_[uNEG]

In the syntax, the n-word nessuno checks its [uNEG]-feature against the [iNEG]-feature of the negative marker non, interpreted as sentential negation and c-commanding the n-word, as indicated in (30). In the semantics, nessuno just means ‘somebody’ and so the meaning of the sentence (29) follows.

To explain the fact that preverbal negative indefinites in non-strict negative concord-languages do not co-occur with a negative marker, Zeijlstra builds on Laka (1990) and Ladusaw (1992) and assumes that the semantic negation bearing the feature [iNEG] may be covert. He argues that preverbal negative indefinites in non-strict negative concord languages are licensed by a covert negation operator Op¬, as shown in (32) for sentence (31).

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

(32) Op¬_[NEG] nessuno_[uNEG] telefona a Gianni

This analysis assumes that n-words are self-licensing in the sense that they can trigger a covert negation: since the feature [uNEG] would not be checked otherwise, rendering the sentence ungrammatical, a covert negation is inserted into the structure as last resort. The insertion of a covert negation, however, needs to be restricted to cases where it is triggered by an item in preverbal position, in order to prevent spurious insertions of Op¬ and to account for the fact that postverbal negative indefinites need to co-occur either with the negative marker or a preverbal negative indefinite. Cases of negative spread, where a preverbal negative indefinite occurs with one (or more) postverbal negative indefinites in the same clause, are analyzed as instances of Multiple Agree, where the feature [iNEG] on the covert negation triggered by the preverbal negative indefinite checks all [uNEG]-features simultaneously, as shown in (33).

(33) a. Nessuno ha parlato con nessuno. (Italian)
    n-person has spoken with n-person
    ‘Nobody talked to anybody.’

b. Op¬_[NEG] nessuno_[uNEG] ha parlato con nessuno_[uNEG]

To explain the difference between strict and non-strict negative concord languages, Zeijlstra (2004) argues that the negative marker is semantically negative, i.e. inter-
interpreted as sentential negation, in non-strict negative concord languages (as in the analysis of the Italian sentence (29) above), whereas it is semantically vacuous in strict negative concord languages. In the latter type of languages, the negative marker is assumed to parallel n-words in that it carries the feature \([u_{\text{neg}}]\), which has to be licensed by the feature \([i_{\text{neg}}]\) on a semantic negation. Consequently, the semantic negation is always contributed by covert Op\(^{-}\) in these languages. This explains the difference between strict and non-strict negative concord languages: while negative indefinites always co-occur with the negative marker in strict negative concord languages, negative indefinites in preverbal position cannot co-occur with the negative marker in non-strict negative concord languages. In strict negative concord languages both the preverbal negative indefinite and the negative marker are assumed to be licensed by the same covert negation c-commanding both, as illustrated in (35).

\[(34) \quad \text{Nikt} \quad \text{nie} \quad \text{n-przyszł.} \quad \text{(Polish)}
\]
\[
\quad \text{n-person NEG came}
\quad \text{‘Nobody came.’}
\]

\[(35) \quad \text{Op}^{-[i_{\text{NEG}}]} \quad \text{nikt}[^{[u_{\text{NEG}}]}] \quad \text{nie}[^{[u_{\text{NEG}}]}] \quad \text{n-przyszł.}
\]

In a non-strict negative concord language in contrast, the combination of a preverbal negative indefinite, which triggers Op\(^{-}\) in order to be licensed, and a negative marker, interpreted as sentential negation, would result in two semantic negations:

\[(36) \quad *\text{Nessuno non ha mangiato.} \quad \text{(Italian)}
\]
\[
\quad \text{n-person NEG has eaten}
\quad \text{‘Nobody ate.’}
\]

\[(37) \quad \text{Op}^{-[i_{\text{NEG}}]} \quad \text{nessuno}[^{[u_{\text{NEG}}]}] \quad \text{non}[^{[u_{\text{NEG}}]}] \quad \text{ha mangiato}
\]

The difference between strict and non-strict negative concord languages is thus reduced to a difference in the status of the negative marker. In order to accommodate an even more fine-grained typology of negative concord languages, Penka (2011) proposes that also negative indefinites vary cross-linguistically along two dimensions. The first option for variation is whether Multiple Agree is obligatory or optional, the second is whether negative indefinites can be licensed by both overt and covert semantic negation or only by covert negation. Motivation for both of these parametric distinctions comes from French.

In French, negative concord between multiple negative indefinites is optional, and when two negative indefinites co-occur both an negative concord reading and double negation reading is possible. Recall the example we considered above in connection with the analysis of de Swart and Sag (2002):

\[(38) \quad \text{Personne n’ aime personne.} \quad \text{(French)}
\]
\[
\quad \text{n-person NEG loves n-person} \\
\quad \text{(from de Swart and Sag, 2002, 376)}
\]
\[
\quad \text{a.} \quad \text{‘No one loves anybody.’}
\quad \text{b.} \quad \text{‘No one loves nobody.’ = ‘Everybody loves somebody.’}
\]
The ambiguity readily follows under the assumption that Multiple Agree of [u\neg]-features is optional. The first, negative concord, reading arises if the [u\neg]-features of both negative indefinites are simultaneously checked by Op\neg triggered by the first occurrence of personne under Multiple Agree. The second, double negation, reading arises if each negative indefinite triggers ‘its own’ covert negation. The latter option is not available in languages like Italian where Multiple Agree of [u\neg]-features is obligatory, and consequently, only an negative concord reading is possible when multiple negative indefinites co-occur (cf. (33a)).

The second peculiarity of French concerns the difference in negative concord patterns exhibited by the two negative markers: whereas negative indefinites generally co-occur with ne under a negative concord reading, cf. (39a), the combination of negative indefinites with pas necessarily leads to a double negation reading, cf. (39b).

(39) a. Jean n’ a vu personne. (French)
   Jean NEG has seen n-person
   ‘Jean has not seen anyone’.

   b. Jean n’ a pas vu personne.
   Jean NEG has NEG seen n-person
   ‘Jean has not seen noone’. (= ‘Jean has seen someone.’)
   ‘Jean hasn’t seen anyone.’ (from Rowlett, 1998, 178)

Penka (2011) explains this pattern by assuming a difference in the status of the negative markers as well as a special property of negative indefinites in French. Following Rowlett (1998), who argues that pas corresponds to semantic negation whereas ne is semantically vacuous, pas is assigned the feature [i\neg], while ne carries [u\neg]. It is further assumed that negative indefinites in French can only be licensed by a covert negation, but not by the negative marker pas. This explains that negative indefinites can always co-occur with ne under a negative concord reading, when all are licensed by the same Op\neg. If negative indefinites occur with pas in the same clause, they nevertheless trigger Op\neg leading to a reading with double negation.

The agreement approach accounts for the basic phenomenon of negative concord as well as a range of typological variation in negative concord patterns. It also faces certain challenges. Since assuming a covert negation operator is essential, it has to be ensured that the availability of covert negation is appropriately restricted. The fact that in a number of languages negative indefinites do not only occur in clauses that semantically involve sentential negation, but also in certain environments that are not strictly negative, also poses a problem. To account for this, the agreement approach would have to generalize the feature [i\neg], such that its bearer is not only sentential negation, but also certain other items whose meaning relates to a weaker notion of negation. Since there is considerable cross-linguistic variation with respect to the precise set of words licensing negative indefinites, there does not seem to be a principled way of assigning the feature [i\neg].
7 Cross-linguistic perspective

This chapter took as starting point the compositionality problem that arises if the traditional analysis of negative indefinites as negative quantifiers is applied to negative concord languages. After having reviewed the most influential approaches to negative concord, it is now time to revisit the initial assumption that negative indefinites are semantically negative quantifiers. This view suggests itself if languages not exhibiting negative concord are considered, which also happen to be the languages most traditional grammarians worked on. On closer inspection of the behavior of negative indefinites in these languages, however, it seems that the traditional analysis of negative indefinites as negative quantifiers is mistaken even in these languages.

While negative indefinites do not co-occur with other negative elements in non-negative concord languages, evidence that negative indefinites are not negative quantifiers comes from a different phenomenon that has been discussed under the label ‘split scope readings’ (Jacobs, 1980; Geurts, 1996; de Swart, 2000; Potts, 2000, amongst others). Here negative indefinites split their scope in the sense that another expression, in particular a modal, can take scope in between the negative and the indefinite meaning component. This is illustrated in the following German example, whose most natural interpretation is the one paraphrased.

(40) Bei der Operation muss kein Anästhesist anwesend sein.
    at the surgery must n-det anaesthesist present be
    ‘It is not required that there be a anaesthesist present at the surgery.’

Under the reading paraphrased, the sentence expresses that the presence of an anaesthetist is not obligatorily required. It is not about a particular anaesthetist, but rather about the presence of some anaesthetist or other. This corresponds to the de dicto reading of the indefinite, which requires interpretation of the indefinite in the scope of the modal. At the same time, the necessity modal is interpreted in the scope of negation, expressing the absence of an obligation. This split reading cannot be derived under the standard analysis of negative indefinites as negative quantifiers where the negation and the existential quantifier form a lexical unit.

Split scope readings also arise in other non-negative concord languages, as illustrated in the following examples from Dutch and English.

(41) Ze hoeven geen verpleegkundige te ontslaan.
    they need no nurse to dismiss
    They dont need to dismiss any nurse. (from Rullmann, 1995, 194)

(42) The company need fire no employees.
    The company is not obligated to fire any employees. (from Potts, 2000)

Some analyses of split scope readings maintain the assumption that negative indefinites are negative quantifiers. But these need to employ extra machinery such as quantification over kinds (Geurts, 1996) over higher types (de Swart, 2000) or over choice functions (Abels and Martí, 2010).

Other analyses argue that negative indefinites are composed of a sentential nega-
tion and an indefinite, and that under certain conditions another expressions can take scope in-between the two components (Jacobs, 1980; Rullmann, 1995; Penka, 2011). These analyses are discussed in more detail in chapter XX Lexical Decomposition. They are mentioned here because they mesh well with approaches to negative indefinites in negative concord languages that take n-words to be semantically non-negative and to bear a certain licensing relation to sentential negation. While in negative concord structures not every negative indefinites contributes negation, the existence of split scope readings suggests that the negation is not interpreted in the position where it is marked.

Viewing negative concord and split scope readings as two sides of the same coin, a cross-linguistic picture of negative indefinites emerges (see in particular Penka, 2011). Under this perspective, negative indefinites are not negative quantifiers, but morpho-syntactic markers of sentential negation. Since its presence is marked by negative indefinites, the semantic negation itself may be realized covertly. Languages then vary with regard to the patterns of negation marking they exhibit. While in negative concord languages every indefinite in the scope of negation is realized as a negative indefinite, negation is marked only once in non-negative concord languages. Under this perspective there is no fundamental difference in the semantic nature of negative indefinites across languages, but rather small parametric variation leading to superficially very different co-occurrence patterns of negative indefinites and negative markers.

8 Conclusion and directions for further research

This chapter aimed at providing an overview over the most influential approaches to solving the compositionality problem to which negative concord gives rise. We only considered a basic typology of negative concord and many in depth-studies of negative concord in particular languages have not been addressed. The approaches to negative concord can be group according to the semantic status they ascribe to negative indefinites. One line of approaches follows the traditional view and analyzes negative indefinites as negative quantifiers. Another option is them to view them as non-negative items, where approaches further differ in whether they view the licensing relation negative indefinites bear towards negation as akin to NPI licensing or as a form of syntactic agreement. A final possibility is to assume that n-words are ambiguous between negative quantifiers and non-negative indefinites. Each of the discussed analysis faces certain challenges and leaves open some questions, so the issue of how negative concord is to be explained is not yet finally settled.

Before closing, I would like to point to some issues that are usually neglected in the study of negative concord but need to be addressed to gain a full understanding of the semantics of negative indefinites and the relation they bear towards negation. The first question concerns the fact that in many cases negative concord is obligatory. In many languages, negative indefinites have to co-occur with the negative marker, even though the negative marker does not seem to make any semantic contribution. This is the case in strict negative concord languages, in particular, where the negative marker is often assumed to be semantically vacuous. Even though, the negative marker has to
be included for a negative sentence to be grammatical. In converse to the observation that the negative marker is obligatory, is the fact that negative indefinites often the only indefinites that can be used in the scope of negation to the exclusion of NPIs and general indefinites. (This observation has been discussed in the literature under the label ‘bagel-problem’, because the illustration of the contexts in which NPIs are licensed takes the shape of a bagel with the hole in the middle representing strictly negative contexts (Pereltsvaig, 2006).) Both observations suggest that the relation between negative indefinites and negation are not yet completely understood.

Another issue relates to the observation that not only negative indefinites are able to enter negative concord relations with sentential negation, but also certain other expressions. These are in particular focus particles like neanche (‘neither’/ ‘not even’) and nepurre (‘not even’) in Italian, and ni siquera (‘not even’) and tampoco (‘neither’) in Spanish. The question how an analysis of negative concord can be extended to these expressions is rarely addressed. So there are several venues for investigation that future work on this topic should take and the hope is that this chapter will contribute to them.

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