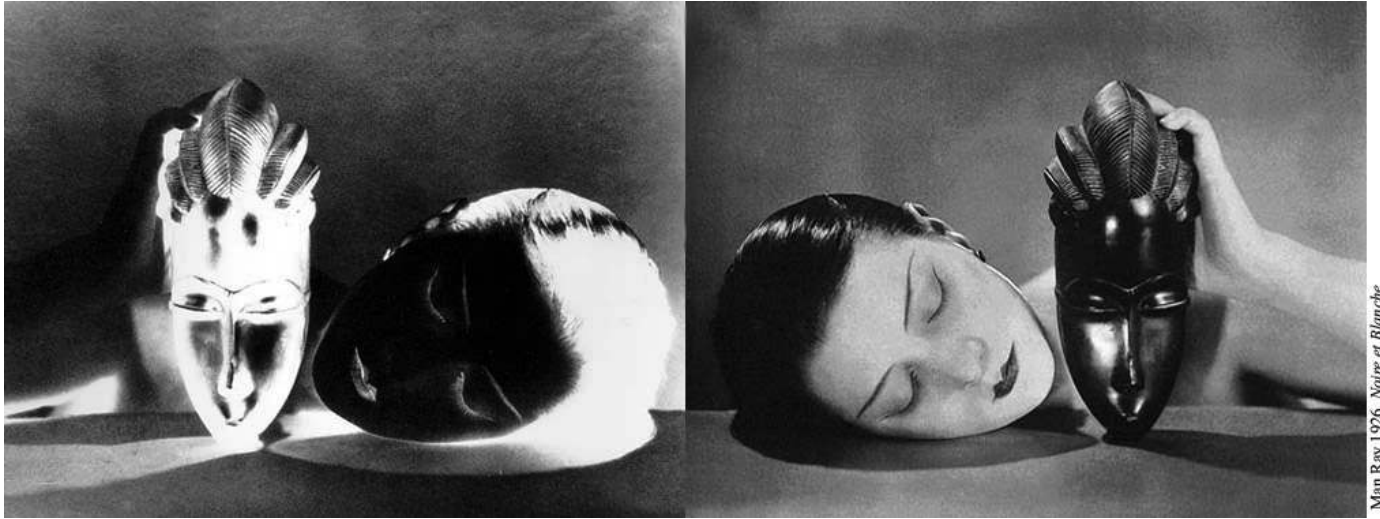


The Scope of Negation



Man Ray 1926, *Noire et Blanche*

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SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY IN COGNITIVE SCIENCE.

JUNE 2006

Keywords: *negation, negative quantifiers, Italian, Negative complementizers, N-words, polarity items, negation raising, modality.*

A Milena

Acknowledgments

I wish to express my gratitude to many friends which have supported this work both on personal and on scientific side. I'm grateful to Luigi Rizzi for his advice and for his inspiring attitude, and to all the members of the Centro Interdisciplinare di Studi Cognitivi sul Linguaggio (Ciscl), in particular to Valentina Bianchi, Adriana Belletti, Cristiano Chesi and Ida Ferrari.

A special thank goes also to Liliane Haegeman, Maria Rita Manzini and to all the participants to her lectures series held at the University of Florence in Fall 2005.

I can not forget all the people I've met during those days of study and many evenings of recreation, especially during the cold winter spent at the department of linguistic at MIT and the rainy summer of Hamburg: my thank goes to Andrea Gualmini, Marta Abrusan, Michael Wagner, Andrew Newins, Justin Fitzpatrick and Pranav Anand; and to Jurgen Meisel and Wolfgang J.Meyer, together with the audience at the SFB of Hamburg, for the many helpful comments I received.

My acknowledgments go also to Genoveva Puskas, Johan van der Auwera, Margarita Suner, Karin Stromswold, Marit Westergaard, Paolo Aquaviva, Carlo Cecchetto, Gabriele Usberti, Günther Grewendorf, Ian Roberts; and to Federico Misirochi and his granny for judgments on Milanese and to Prof. Shevcenko for Russian.

This work wouldn't be accomplished without the support of my family and my friends: my deepest and more sincere gratitude is for them.

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principle proposed by Baker (1985), and the examples in (1) argue in favour of a different ordering between the negative and the tense projection in the two languages. Such a parameterization is motivated by many other similar examples, but the consequences that a variation of this sort has at LF have been largely underestimated. It is a common assumption, in fact, that NegP is the site dedicated to host the negative operator itself, which is tied to the structural realization of NegP. The problem is that the variation of NegP will reflect also on LF representations, a conclusion which results unavoidable, if the negative operator and the negative projection are bound together at Phonological and Logical form. Clearly, this idea is not conceptually appealing, since it forces us to assume parametrical variations at LF, nor empirically adequate, given that the scope of the negative operator results variable but not the position of the sentential negation marker.

A way to overcome this problem is to release the LF representation of the negative operator from its PF realization, in a way that its scope could be universally included within a certain range. My proposal is that this range is defined, at the lower end, by the vP. With regard to the upper boundary, this can be as high as some position within the Complementizer. This conclusion finds support from the psycholinguistic literature, since it is known that negative sentences require longer reaction time, but this delay is crucially related to the context provided for the stimulus, more than to the processing cost of the logical computation (Wason 1965). This suggests that negation might be a strongly context-dependent category. A fact that can be formally expressed by admitting negative features within the Complementizer layer, considered to be the interface with the discourse/context. This intuition seems to be confirmed by the fact that many languages express negation by means of negative complementizers, and chapter 2 is intended as an overview on such varieties.

I believe that this position at the left-periphery of the clause might provide us a way to unificate the analysis for the wide scope readings of negation, given that the negative operator could be interpreted there, irrespective of the position of NegP. I take an operation similar to Quantifier Raising to be operative on negation, which I

INTRODUCTION

call Negation Raising. The main argument in favour of it will be provided in the first chapter, while the operation itself will be refined in Chapter 3.

But negation markers are not the only elements able to convey sentential negation, and a negative operator with sentential scope might also come from the nominal domain. In Chapters 4 and 5 I will extend the application of Negative raising also to negative quantifiers, examining the syntax of clausal negation in many varieties, with special attention to Italian.

Chapter 1. Negation Raising.

Around the beginning of the 90's works from Pollock (1989) and Belletti (1990) revealed that an empirically adequate description of the clause architecture requires a model of the inflectional system more articulated than that consisting of a unique projection as previously assumed. This idea led to the multiplication of functional projections above the VP and in this perspective a dedicated phrase NegP was also assumed to provide a suitable site where the sentential negation marker (SNM) could be inserted.

I share this idea, but I believe that not enough attention has been paid to the consideration of what could possibly happen after such a negative element has been successfully merged. There are cases, in fact, where negation might be interpreted in a position different from the one in which it is base-generated, suggesting that the relation between lexical insertion and interpretation is not as straightforward as it was once thought. Consider the following sentences:

- (2) a. I don't think that he has come (Jespersen 1917)
 b. I don't cut my salami with a hacksaw (Stockwell, Schachter, Partee, 1973)

In (2a-b) the negative marker *n't* surfaces in a structural position different from the one where it is actually interpreted by the semantic component. In the example (2a), negation seems to refer to the embedded clause, although the SNM appears in the auxiliary of the main clause. Notice that this phenomenon is by no means limited only to dependent clauses, and also within the clause boundaries the SNM might appear in a position higher than its interpretive one, as shown in (2b). Here the negative marker appears again in clausal position cliticized on the auxiliary, but it actually seems to be better understood as having scope only on the constituent *with a hacksaw*. Thus the sentences in (2) are logically equivalent to the sentences in (3):

- (3) a. I think that he hasn't come
 b. I cut my salami not with a hacksaw

I take these facts to indicate that some mechanism can separate the LF interpretation of negation from its overt realization, a general observation already made by Jespersen (1917) who called this phenomenon *attraction of negative*.

Successively, authors as Kiparsky & Kiparsky (1973) and Horn (1989) have changed the terminology, instead adopting the term *Negative Raising* to describe sentences such as (2a), where a matrix psych verb attracts the negative marker. I wish here to maintain the original label *attraction of negative*, since the term *raising*, in the current framework, is more or less explicitly used to denote LF operations. In the next paragraph I will show that the overt displacement of the negative marker also has a covert counterpart, which I believe is best characterized as a raising operation.

Notice that the *attraction of negative* cannot be easily reduced to other kinds of movement. It is immediately evident that it cannot be A or A' movement. But it can not be simple head movement either, as in (2a) the element *n't* crosses clause boundaries. This is a possibility forbidden for head movement, unless we are in some kind of *restructuring domain* (Rizzi 1982). This is clearly not the case for the English sentence (2a). Moreover, even in languages such as Italian, which show *clitic climbing* in restructuring contexts, the phenomenon of attraction of negative cannot be treated the same. In (4) we see that an object clitic may appear on the finite verb *volere* 'to want', but the same situation is not allowed with the psych verb *pensare* 'to think':

- (4) a. Gianni lo vuole vedere <lo>
 G. him want to see him
 'Gianni wants to see him'
 b. *Gianni lo crede di vedere <lo>
 G. him believe to see him
 'Gianni believes he will see him'

On the contrary, attraction of negative is acceptable in contexts like (5b) where clitic climbing is forbidden:

- (5) a. Gianni non vuole <non> vedere Carlo
G. not want not to see Carlo
'Gianni doesn't want to see Carlo'
- b. Gianni non crede di <non> vedere Carlo
G. not believe to not see Carlo
'Gianni doesn't believe he will see Carlo'

Sentence (5b) contrasts with (4b), showing the limit of an analysis which would consider attraction of negative as a particular kind of clitic climbing.

Since my main interest here is concerned with covert negative movement, I won't try to give a precise characterization of the process involved in sentences like (2) and (5), and we could informally describe *attraction of negative* as a mechanism which creates a chain between two elements where the topmost link is the one phonetically realized while the lower one is semantically interpretable.

This is the more intricate case we can have when a chain between two elements is created. In fact, two distinct processes are needed here: a syntactic movement and a reparatory complement at LF. Moreover, we need also syntactic-internal motivations to account for an LF vacuous movement. For this reason, I will limit the discussion only to the simpler cases of covert negative movements, in order to deal only with a semantically motivated movement which requires no additional reconstruction process. This work concerns mainly LF movement or, if we assume just one derivational cycle, silent copies.

1.1. Inverse wide scope

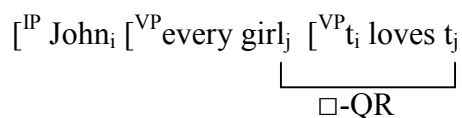
Let me further clarify what is intended here for Negative Movement. We have already made a first distinction between overt movement (*attraction of negative*) and covert movement, the latter being triggered by some LF requirements. The existence of such a kind of invisible movement has been assumed since May (1977), and from

then on the assumption that some scope-bearing elements as quantifiers may widen their scope by means of such a process has been subject to less controversy.

Recently, Danny Fox (2000) and Tania Reinhart (2006) have argued that Quantifier Raising (QR) must be subject to some restrictions, in order to ban unnecessary movements. Fox introduced a distinction between necessary LF movements needed to create meaningful LF representations (Non Scope-Shifting Operations, NSSO) and optional LF movements eventually applied when more than one LF representation is needed (Scope-Shifting Operations, SSO). I will refer to those two distinct operations as Necessary and Optional Raising.

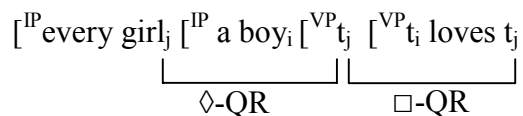
In the case of a quantifier inserted in direct object position of a transitive verb, a Necessary QR operation (\square -QR) raises the quantifier in order to provide the semantic component with an interpretable representation (Heim & Kratzer 1998):

(6) John loves every girl



This necessary movement can be contrasted with Optional-QR (\diamond -QR), justified only when another scope bearing element is present. Consider (7) below and its derivation:

(7) a boy loves every girl

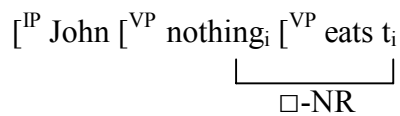


The QP *every girl* is first raised in an interpretable position on top of VP, the first available to be in a clause-denoting expression, and then \diamond -QR raises it again above the second QP *a boy* in order to derive the inverse wide scope reading¹.

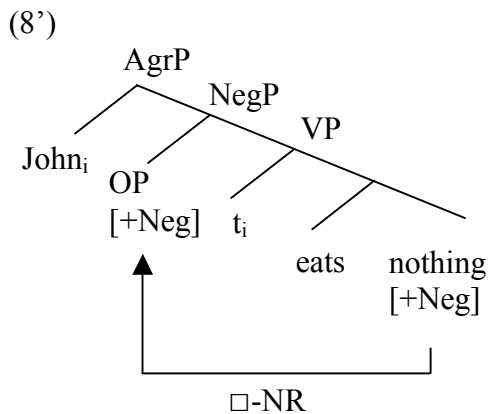
¹ If we adopt Beghelli & Stowell (1997) framework, all movements seem to be considered \square -QR.

I believe that the distinction between \diamond -QR and \square -QR can also be adopted in the case of negation. Consider the case of a negative quantifier, introduced in the derivation in verb complement position. If we believe that the negative quantifier may take clausal scope, then it *must* raise in order to scope on the predicate:

(8) John eats nothing



This kind of movement seems to be necessary, on par with the first kind of QR, and can be considered as a Necessary Negation Raising (\square -NR). This operation is less controversial, and it was already incorporated within a system such as the one proposed by Haegeman & Zanuttini (1991). Consider again sentence (8). In H&Z (1991) the quantifier is assumed to move (or be linked) in a NegP above the VP:



The movement illustrated in (8') takes place everytime the quantifier takes sentential scope, and it has been extensively studied in the literature (Haegeman & Zanuttini 1991, Acquaviva 1993, Haegeman 1995, Watanabe 2004).

In this chapter I will focus instead on the less studied cases of \diamond -NR. Assuming that \diamond -NR cannot be a free operation, but needs to be motivated, I will consider some cases where the motivation is given by the presence of another scope bearing element

appearing in a higher position at PF. In this case we will have the proper contexts for looking at \diamond -NR, defined as follows:

(9) Optional Negation Raising is possible when:
 α c-command β at PF but β scopes over α .

where: α is a logic operator and
 β is the logic operator ‘ \neg ’

Given that I will mainly deal with Optional Negation Raising, I will simply use the abbreviation NR to refer to this particular kind of movement, unless otherwise specified.

1.1.1. Scope over Modality

The interactions between negation and modality will be considered in this section and in particular I will examine those cases where NR is triggered by a modal operator c-commanding the negative one at PF. We need to find then a language which inserts the Sentential Negation Marker in a structural position lower than modality, and if such a language exists, we may look at the different meanings generated by the interaction of those two operators. I will next consider some languages which seem to show an overt ordering of projection as in (10):

(10) ModP > NegP

This configuration emerges with particular clarity in those languages which overtly express negation by means of an adverbial-like element, unable to undergo head-movement. West-Germanic languages seem to be suitable candidates, as well Milanese, a romance variety spoken in the Northern Italian region.

1.1.2. German and West Flemish

A close scrutiny of the property of sentential negation in German and West Flemish seems to support the idea that the NegP is situated right above the vP. The combination of two factors brings us to look at those particular languages. The first one, already introduced, is that they present an adverbial-like sentential negative marker. The second is that those two languages present overt Object Shift.

Many different analyses for SOV languages have been proposed, stemming from Keyne's (1994) work (Zwart 1993, 1997a, 1997b; Den Dikken 1996; Koster 1994, 2000; Hinterhölzl 1999; Haegeman 1998a, 1998b, 2000a, 2001a, 2002; Koopman & Szabolcsi 2000), but a common feature is that all of them give a similar analysis for Object Shift, which triggers a category AgrO presumably above NegP.

The examples below show that the SNM, when in sentential scope position, must always follow the direct object, both in main (11) and in embedded clauses (12):

(11) Hans sieht [Julia] nicht
 H. see-2s J. not
 'Hans doesn't see Julia'

(12) ...dass Hans [Julia] nicht sieht
 ...that H. J. not see-2s
 '...that Hans doesn't see Julia'

The linear order between the two elements has usually been considered to reflect a hierarchical organization of functional projections where AgrO dominates NegP. At this point we may ask what happens when a modal operator is also inserted.

If we follow Cinque's proposal (1999), modality is expressed by means of a clausal category in the higher part of the functional structure, above AgrO and NegP:

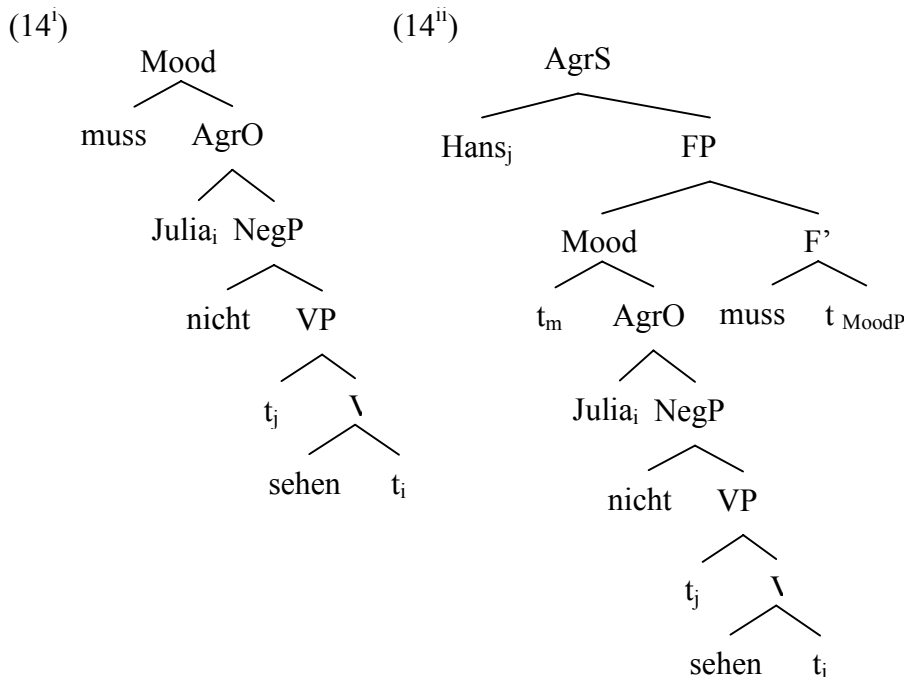
(13) ModP > ... > AgrO > NegP

It is immediately evident that the linear order of constituents in (11) and (12) doesn't respect hierarchy in (13) and some operation of linearization is needed. One

possibility is to adopt some kind of *remnant movement* (Pearson, 2001; Haegeman 1998a, 1998d, 2000a, 2001a, 2002; Koopman and Szabolczi 2000). In order to see how the proposal essentially works, consider sentence (14):

- (14) ... dass Hans Julia nicht sehen muss
 ... that H. J. not see must
 ‘...that Hans must not see Julia’

The derivation of such a sentence proceeds in two steps, illustrated in (14ⁱ) and (14ⁱⁱ). In the first step, a complex constituent is created, the object moves in AgrO, and the modal is inserted. In the second step, the final word order is obtained through head movement of the modal in a functional projection FP above ModP and successive remnant movement of ModP in the specifier of FP:



According to this analysis, the ordering of the functional projections results conform to the organization proposed in (13).

For our purposes it is crucial to notice that even if remnant movement raises the sentential negative marker in a position higher than the one where it is base-

generated, it doesn't c-command the modal. Moreover, the superficial order reached by remnant movement doesn't seem to be the one delivered to LF, as suggested by Huang (1993), who provided several arguments for obligatory LF reconstruction.

From this analysis follows the idea that the scope relation between modality and negation is asymmetrical, with only narrow scope reading allowed for negation in (14). But this is not the case, since (14) results as ambiguous between the following two interpretations:

- (14) ... dass Hans Julia nicht sehen muss
- | | |
|---|----------------------|
| a. ... it is not required that Hans sees Julia | $\neg > \text{must}$ |
| b. ... it is required that Hans doesn't see Julia | $\text{must} > \neg$ |

In order to allow for the interpretation (14b), one option is to admit a further movement of the negative operator, of the kind proposed in (9), triggering a higher projection, that we may label XP, above modality:

- (15) $XP > \text{MoodP} > \text{AgrO} > \text{NegP}$

For the moment, let us assume that XP is a projection at the top of the inflectional system.

1.1.3. Negative Quantifiers and Split Scope readings.

We have considered the case where the negative operator was introduced within the inflectional system by the Sentential Negation Marker, but SNMs are not the only lexical elements able to introduce negative operators; in addition, negative quantifiers seem to be available carriers for negation.

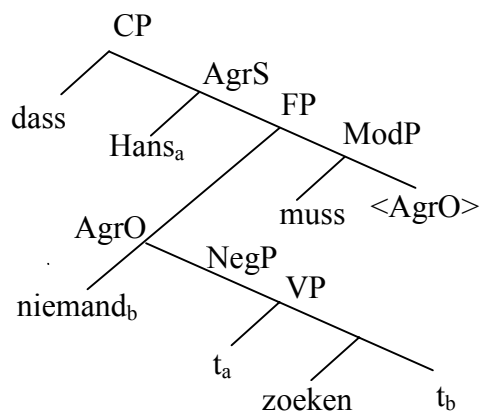
The discussion will parallel in many respects that of the previous paragraph, but this time the inverse wide scope over modal will be generated by a negative quantifier inserted as a verb complement.

We saw that a negative operator in the object position of a transitive verb must undergo \square -QR in order to satisfy well-formedness conditions at LF. The first question to ask is what is the position triggered by this operation. One option will be to assume that the negative quantifier moves in a vP adjoined position or alternatively, in the specifier of the low NegP. A second possibility, suggested by Haegeman (2002b), is that the negative quantifiers behave like other object complements, moving in the AgrOP. Whatever option we decide to choose, however, the negative quantifier will still appear in a structural position below the modal verb. Consider a sentence like (16):

- (16) ... dass Hans niemand sehen muss
- a. ... it is not required that Hans sees anybody $\neg > \square \square$
- b. ... it is required that Hans doesn't see anybody $\square \triangleright \neg$

Even adopting Haegeman's proposal that *niemand* ends up in AgrOP, it is evident, from the structural representation given in (17), that some additional process is necessary to account for the inverse wide scope reading in (16a).

(17)



The necessity of deriving the interpretation (16a) suggests that \diamond -NR might play a role. But we must be careful here, since *niemand* is a quantifier and may raise in a position dominating modality by virtue of another process, namely QR. We should

find a way to identify the real culprit for such a movement operation. I believe that this is possible, give that QR and NR make different predictions in modal contexts. In the case of QR, in fact, both the negative operator and the quantifier will be raised in a position above the modal, resulting in the following configuration:

(18) Quantifier Raising (\diamond -QR)

$$[\neg\exists]_i > \Box > t_i$$

On the contrary, if the rising operation is confined only to the negative operator, the quantifier will stay in a lower position, as illustrated in (19) below:

(19) Negative Raising (\diamond -NR)

$$[\neg]_i > \Box > t_i \exists \Box$$

At this point we may ask if there is any evidence in favour of the NR analysis.

Support comes from the so-called *Split Scope Reading* constructions attested in West-Germanic Languages (Beck 1955, Jacobs 1991, Rullmann 1995, De Swart 2000, Penka & Zeijlstra 2004). But let me first introduce the modal logic distinction between *de re de* and *de dicto* interpretations. *De re* readings describe a situation in which the quantifier takes wide scope over the modal operator (20a), while *de dicto* readings do not commit to presupposition of existence and the modal is the element taking widest scope (20b):

(20) a. *de re*: $x > \Box$

b. *de dicto*: $\Box > x$

To clarify the consequences between (20a) and (20b), consider the example (21) below:

(21) the author of this sentence must be taller than 1.70cm

a. *de re*: there is an x that wrote the sentence (28) that is required to be at least 1.70

b. *de dicto*: it is necessary that there is an x that wrote the sentence (28) at least 1.70 tall.

Sentence (21a) becomes true if we know who wrote (21) and we also know that this person is 1.80cm tall. From this knowledge related to the existence of a certain specific x , it will logically follow the necessity that this x is taller than 1.70cm.

On the other hand, (21b) expresses the fact that there is the logic necessity that the author of (21), whoever he may be, is taller than 1.70. Since there is no warranty that the author of (21) will be taller than 1.70cm in every possible world, the interpretation (21b) forces the sentence to be false, while the interpretation (21a) can be true under certain circumstances (and it is actually true, given that I am taller than 1.70cm).

With this distinction in mind, it is clear that if the quantifier appears at PF below the modal operator, an interpretation *de re* reveals the application of QR, being it a plain quantifier or a negative one. However, the two readings presented in (21) are not the only possibilities, and at least in West Germanic languages a third reading is also available. To illustrate this third choice, consider the Dutch sentences reported in (22) and (23) from Rullman (1995):

(22) Ze hoeven geen verpleegkundigen te ontslaan
 ‘They need no nurses to fire’

- | | |
|---|------------------------------------|
| a. For no nurse x it is the case that it is necessary to fire x | $\neg \exists \Box \square$ |
| b. # ² It is necessary that they fire no nurses | $\square > \neg \exists \square$ |
| c. It is not necessary for them to fire a nurse x | $\neg > \square > \exists \square$ |

(23) Ze mogen geen eenhoorn zoeken
 they are allowed no unicorn seek

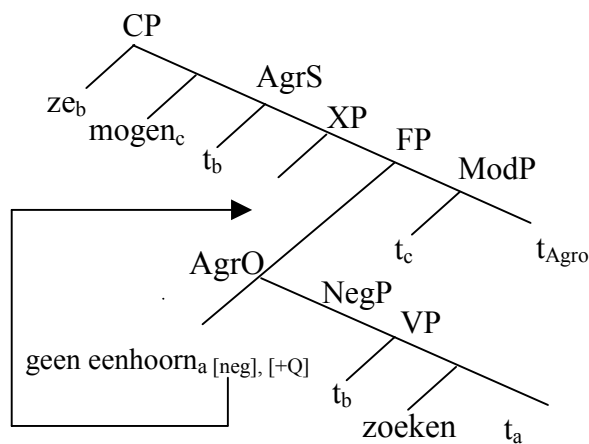
- | | |
|--|---|
| a. they are not allowed to seek a unicorn | $\neg > \text{allowed} > \exists \square$ |
| b. there is no unicorn that they are allowed to seek | $\neg > \exists \Box \text{allowed}$ |
| c. they are allowed to seek no unicorn | $\text{allowed} > \neg > \exists \square$ |

The readings (22a)-(23a) are the *split readings*. As the name suggests, the quantifier and the negation are interpreted separately, resulting in a configuration which cannot

² The reading (18b) is excluded since the modal *hoeven* "need" is a polarity item which requires to be within the scope of the negative operator.

be derived by application of QR. Instead they can be derived with NR, suggesting that inverse wide scope over a modal verb can and sometimes *must* be obtained through the application of NR. Sentence (23a) is best accounted for assuming the movement of the negative feature alone according to the general schema in (19). This is illustrated in (23a’):

(23a’)



A further argument to confirm that negation can be raised independently comes from the accessibility of the split scope reading, also in contexts that typically don't allow QR, as expletive *there* sentences (Penka and Zeijlstra 2005):

(24) Es muss kein Arzt anwesend sein.

there must no physician present be

a. 'It is not required that there be a physician present.'

$\neg > \square > \exists \square$

b. *'There is no physician who is required to be present.'

$\neg \exists \square > \square$

c. 'It is required that there be no physician present.'

$\square > \neg \exists \square$

Given that (24b) is not a proper interpretation for (24), without admitting NR the wide scope interpretation will be totally unexpected. Thus, in conformity with the original proposal of Jacobs and Rullmann, I assume that *kein* and *geen*, but also *niemand* in (16) are formed by a quantifier plus a negative operator, and that the

- (26) a. Maria a mangia *nen* (Piedmontese)
 M. s.cl. eats neg
 ‘Mary doesn’t eat’
- b. lo film l’era *pa* dzen (Valdaotain)
 the movie s.cl. was neg beautiful
 ‘the movie wasn’t good’
- c. Il parle *pas* jamais (Quebecois)
 he talks neg never
 ‘he never talks’
- d. Troberon *pas* digun (Occitan)
 will-find neg nobody
 ‘They won’t find anyone’
- e. El l’ha scrivuu *no* (Milanese)
 s.cl. s.cl. written neg
 ‘he hasn’t written’

In Italian it is not an easy task to relate the pre-verbal position of the SNM to the NegP projection, given that *non* behaves as an X° element which moves together with the verb. For this reason I will focus here mainly on the examples in (26). In those varieties the verbs may move across the SNM in order to reach its final landing site, a fact which suggests that in all the examples in (26) the SNM is of class X' . Given that adverbial-like elements usually surface in their base position, I take the SNMs in (26) as showing the insertion site for the negative operator.

Between the varieties belonging to this group, we may further individuate some variations in the position where the SNM is first merged, looking at the position between SNMs and past participial forms. Contrast Piedmontese in (27) with Milanese in (28):

- (27) Maria a l’ha *nen* parlà tant. (Piedmontese)
 M. s.cl. s.cl. has neg talked much
 ‘Mary hasn’t talked much’

- (28) a. El l'ha scrivuu *no* (Milanese)
 s.cl. s.cl has written neg
 'he hasn't written'
- b. *El l'ha *no* scrivuu

The example in (27) shows that in Piedmontese the negative marker precedes the participle while this linear order results ungrammatical in Milanese (28b): the only option here is that *no* obligatorily follows the participle, as in (28a). Among the Romance languages examined in Zanuttini (1997), Milanese *no* is the only element able to follow the past-participle, resulting as the lower negative marker. Further evidence supporting the idea that *no* in Milanese is merged right above the vP comes from the linear order between this element and other adverbials. If we consider the fixed sequence of adverbial as proposed in Cinque (1999), we have the following order:

- (29) di solito > già > sempre > vP
 usually > already > always

As predicted, *no* might follow the lower of those adverbials, in contrast with the other romance languages:

- (30) l'a semper pagà *no* i tas (Milanese)
 s.cl. has always paid neg the taxes
 'It's always been the case that he hasn't paid taxes'

- (31) da 'ntlura, a l'ha pi *nen sempre* vinciu (Piedmontese)
 from then, s.cl. s.cl. has more neg always won
 'since then, he has no longer always won'

On the basis of similar arguments, Zanuttini traced a fine topography of the different positions of NegP, distinguishing between at least four of them, with Milanese *no* occupying Neg4, immediately above the vP :

(32) ${}^{\text{neg1}}[{}^{\text{TP}}[{}^{\text{Neg2}}[{}^{\text{TP2}}[{}^{\text{Asp}}[{}^{\text{Neg4}} \textit{no}]]]]]$

At this point we expect that, if the negative operator coincides with the overt position of *no*, it won't be able to scope over modality, which I assume to occupy a higher IP position. But this is not confirmed by my informants³ who allow both interpretations for (33):

(33) El gà de studià no
 s.cl must of to-study neg
 a. he is not required to study $\neg > \square$
 b. he is required not to study $\square > \neg$

Speakers accept without problems the wide scope reading of (33a), mirroring the case of German. Again the solution for dealing with the reading in (33a) is to admit covert movement of the negative operator above the modal.

1.2. A refinement of the notion of modality

In the previous section I have illustrated several kinds of indications that I take to confirm the idea according to which the phonetic realization of the negative marker doesn't constrain the scope of the negative operator at LF. In order to account for the inverse wide scope reading encountered, the solution I propose is to admit a covert process able to widen the scope of the negative operator moving it up in the structure. At this point we may want to identify, if possible, a specific clausal position triggered by \diamond -NR. This amounts to asking what scopal elements allow negation to take wide scope over them. We may continue to use modality as a diagnostic tool, but a refinement of our notion of modality seems to be necessary.

In the previous section we considered modality as a whole, and this was sufficient to show that NR must apply in certain cases. But several different properties are

³ Thanks to Federico Misirochi.

associated to different kinds of modality, which seems to constitute a complex category, not realized by means of a single projection.

In all the examples given to support the existence of inverse wide scope, only Deontic Modality was involved, since those contexts most easily manifest different scopal readings. But different kinds of modality exist, and if one of them necessarily forces a narrow scope reading of negation, we will find evidence to posit the higher interpretable instance of negation in a position below such a modal projection. Next, I will examine different modalities, in order to explore this possibility.

1.2.1. Alethic and Root modality

Modality in general refers to notions such as ‘possible’ and ‘necessary’ truth, but the domain of the possible worlds where the truth conditions are calculated can be subject to a certain degree of variation. In this respect, some distinctions between different kinds of modality have been proposed (Palmer 1986) and a first one regards the so-called Alethic modality (Lyons 1977) in opposition to Epistemic modality.

In alethic modality the truth conditions must be calculated considering all the possible worlds, and since the speaker’s beliefs are not relevant to the computing of truth conditions, alethic necessity/possibility is similar to logic necessity/possibility. Conversely, epistemic modality is dependent to the speaker’s model of the world, and to account for this intuition, Palmer defines epistemic modality as “the status of the proposition in terms of the speaker’s commitment to it” (Palmer, 1986: 54-5).

This distinction it is not always easy to recognize, given that personal inferences are often based on more general assumptions which seems to coincide with necessary truth. Consider the following sentence from Lyon (1977):

(34) It may rain tomorrow

This sentence can be uttered with a low grade of commitment by a speaker talking on the street with one of his friends. He is probably stating (34) basing its forecast on some clues that he takes to be an indication for rain. But the same sentence can be

uttered by a meteorologist who adopts a scientific model with an extremely accurate degree of reliability. In this case we are getting closer to the Alethic modality, since in this case the sentence can be considered as necessarily true. Even if it is not always easy to draw the distinction between Epistemic and Alethic modality, the opposition between these two kinds of modality seems to be a genuine one, supported by the fact that language occasionally marks it both lexically and structurally. Cinque (1999) reports the following contrast originally given in Vikner (1988) for Danish:

- (35) a. Der vil let *kunne* gå oget galt
 ‘it will easily be possible that something goes wrong’
- b. * Han vil *skulle* have læst bogen
 ‘it will be said t (must) have read the book’

According to Vikner, Danish marks in the lexicon the distinction between epistemic and alethic modality by means of two different modal forms, *skulle* and *kunne*, to indicate, respectively, the first and the second kind of modality. But this distinction is also wired into the structure, as it is possible to see looking again at the pair in (36): in (36a) the alethic modal *kunne* may follow the modal *vil* used to mark future tense, while instead *skulle* cannot (36b). This suggests, according to Cinque, that epistemic modality in Danish occupies a higher structural position than Tense.

This contrast between Epistemic and Alethic modality is not sufficient to cover the whole realm of modality, and other kinds can be individuated as well. I will limit the discussion to only one other type, usually referred to as Deontic modality, to indicate necessity and possibility with reference to moral beliefs, obligations or norms in general. English itself seems to overtly mark this distinction through the use of two different modal forms, *may* and *can*, to indicate epistemic possibility in opposition to deontic possibility. Other languages, similar to what happens in Danish for epistemic and alethic modality, additionally realize this difference structurally, like in the case of Una, an Irian Jaya language of New Guinea:

(36) a. Er bin-kwan-de-darib (Cinque 1999, from Louwrese 1988)
 she go-T_{FUT}-3sg-PROBABILITY

b. Ni buk-ti-nyi
 I sit-ABILITY-T_{PRES}

This language is a rich agglutinating one, and it shows a difference in the linear order between suffixes expressing deontic and epistemic modality with regard to suffixes expressing tense. In (36a), the epistemic particle *-darib* results external to the tense particle *kwan*. In (36b) instead, the root modal particle *-ti* appears embedded internally to the present tense suffix *-nyi*. In accordance with Baker’s Mirror Principle (Baker 1985), Cinque utilizes those and other examples to argue for the following universal ordering of projections:

(37) Epistemic Mod > Alethic Mod > Root/Deontic Mod.

Even if finer-grained distinctions between different kinds of modality can be drawn, those will be sufficient for the present purposes. We may now examine each one of the different modalities individuated in order to assess if one of them asymmetrically scopes over negation. In the case of Deontic modality, it is less controversial that negation may take wide scope over it (Cinque 1999, Drubig 2001, Stowell to appear), as is shown by the following sentences, taken from Drubig 2001:

(38) a. nobody may be home $\neg > \Diamond_{\text{DEONTIC}}$

b. John never may leave early $\neg > \Diamond_{\text{DEONTIC}}$

Also for the case of Alethic modality, it seems safe to conclude that negation might take wide scope. Consider the following sentence from Italian:

(39) Il numero dei pianeti del nostro sistema stellare non deve essere per forza dispari
 ‘the number of planets of our stellar system need not be odd’

It is not logically necessary that the number of planets is odd $\neg > \Box > x$

This sentence can be considered ambiguous between various readings, given the distinction between interpretations *de dicto* and *de re*. But one of the possible interpretations is surely the one reported. I gave a sentence from Italian to illustrate the wide scope of negation over an alethic modal since this language always uses the same modal *dovere* to express necessity, being it inside or outside the scope of negation. English behaves differently, as I will show in the next paragraph, when I will consider modals like *must* and *need*.

To summarize, the main conclusion is that a negative operator may scope both on Alethic and Deontic modality, and we can represent it by inserting a NegP on the top of those modal projections:

(40) Epistemic Mod > Neg > Alethic Mod > Neg > Root/Deontic Mod.

I will now consider the last and more problematic possibility: the wide scope of negation over an Epistemic modal.

1.2.2. Epistemic modality

Authors like Cinque (1999) and Drubig (2001) claim that *Epistemic modality* cannot fall under the scope of negation. Drubig in particular takes the following examples as indicators that scope readings between Epistemic modals and negation are unidirectional:

- (41) a. John must not be at home. $\Box_{\text{EPIST}} > \neg ; * \neg > \Box_{\text{EPIST}}$
 b. John may not be at home. $\Diamond_{\text{EPIST}} > \neg ; * \neg > \Diamond_{\text{EPIST}}$

But his argument appears to be weak, given that the inverse scope readings may be ruled out for different reasons. In fact, as noted by many authors (Rullmann 1995, Hoeksema 2000 for Dutch and German, Stowell 2004, von Stechow and Iatridou 2003), modal verbs may be sensitive to polarity. With this respect, *may* and *must* can also be considered as positive polarity modals, given that they have a corresponding version under negative polarity. Consider the following examples, (42) from von Stechow and Iatridou (vF&I) and (43) from Stowell (2004):

- (42) a. John need not be home (...he might be at work) $\neg > \Box_{\text{epist}}$
 b. John can't be at home (...he must be at work). $\neg > \Diamond_{\text{epist}}$
- (43) That can't be a Dodo bird: they are extinct $\neg > \Diamond_{\text{epist}}$

Modals as *need* and *can* may be considered as the equivalent of *must* and *may* in negative context and are forced to be interpreted with narrow scope. The situation now reverses and the problematic examples in (41), if carefully considered, can be taken instead as a confirmation that negation is indeed able to scope over epistemic modality, given that there are even specialized forms for expressing this possibility. This conclusion is further supported by many different kinds of evidence. For example, quasi-modal verbs in English are able to convey epistemic modality, and they are perfectly fine under the scope of negation (Papadimitrova, to appear):

- (44) a. John does not have to be the prime suspect. $\neg > \Box_{\text{epist}}$
 b. John is not necessarily the prime suspect. $\neg > \Box_{\text{epist}}$

One final argument comes from Italian. This language does not present different modal forms in order to distinguish between epistemic modality and other kinds of modality, nor does it manifest polarity sensitivity in its modal paradigm. There are only two distinct modal verbs, *dovere* and *potere*, used to mark necessity and

possibility, respectively. It is nevertheless possible to recognize when one of such modals is used with an epistemic meaning.

Zagona (1990) noticed that deontic modals expressing permission trigger a future shifted interpretation of the eventuality time, as in the following two sentences:

- (45) a. John can run today FUTURE-SHIFTED
 b. John can stay in class today FUTURE-SHIFTED

In sentences (45) the event time results $t+1$ with respect to the modality time t . This means that if (45a) gives John the permission to run, the act of running can only be successive to the time t when (45a) is uttered.

Instead, in the case of Epistemic modals taking a stative verb as complement, we have another possibility. Here a simultaneous reading, in which the event time coincides with the modality time, is possible:

- (46) John must/should be in class today SIMULTANEOUS OR FUTURE-SHIFTED

This fact indicates that when a simultaneous reading is obtained, the modal has to be interpreted with an epistemic value. At this point we have a diagnostic to reveal the modal dimension in Italian, since the time shift effect illustrated in (45) – (46) is also found in this language:

- (47) a. Giovanni può andare al mare PERMISSIVE MOD. → FUTURE-SHIFTED
 G. Aux-3s go to-the beach
 ‘Giovanni can go to the beach’
- b. Elvis può essere vivo EPISTEMIC MOD. → SIMULTANEOUS
 E. Aux-3s to be alive
 ‘Elvis may be alive’
- (48) a. Giovanni deve andare al lavoro OBLIGATION MOD. → FUTURE-SHIFTED
 G. Aux-3s go to-the work
 ‘Giovanni must go to work’

(50) Il sugo non può essere pronto: non ne sento l'odore
 the sauce not Aux-3s Aux-be ready not of-it smell the scent
 'The sauce can't be ready yet: I don't smell it'

As expected, this sentence can be interpreted only simultaneously, with modal evaluation coinciding with eventuality time. What about the interpretation of negation? Can it receive wide scope? It seems that this is actually the only interpretation, reported in (50a):

(50) Il sugo non può essere pronto: non ne sento l'odore
 a. It is not possible that the sauce is ready $\neg > \Diamond_{\text{epist}}$
 b. It is possible that the sauce is not ready $\# \neg > \Diamond_{\text{epist}}$

All these arguments show that negation has the possibility to scope over all the different kinds of modality, including the epistemic one. In order to account for this, the ordering of projection in (51) must be extended:

(51) Neg > Epistemic Mod > Neg > Alethic Mod > Neg > Root/Deontic Mod.

1.2.3. Over Quantifiers

What has emerged so far is that negation might be the highest category projected in the inflectional layer, at least in relation to modal projections. A more complicated problem will be to determine if negation always has the possibility to also take wide scope over other kinds of scope bearing elements, as quantifiers. The matter here increases in complexity, given that quantifiers may raise as well. I won't try to settle the issue here, but just want to point out one consequence which originates from our previous discussion.

We saw that both wide and narrow scope readings of negation are possible with respect to epistemic modality. This result might be represented as follows:

- (52) a. Neg > Ep. modality
b. Ep modality > Neg

The situation appears to be different if we consider the interactions between quantifiers and Epistemic modality, since quantifiers seem to be unable to take wide scope over it. The issues was extensively discussed in von Stechow and Iatridou 2003, who gave the following example:

We are standing in front of an undergraduate residence at the Institute. Some lights are on and some are off. We don't know where particular students live but we know that they are all conscientious and turn their lights off when they leave. So, we clearly know that not all of the students are out (some lights are on and they wouldn't be on if the students were away). It could in fact be that all of them are home (the ones whose lights are off may already be asleep). But it is also possible that some of them are away. Since we don't know which student goes with which light, for every particular student it is compatible with our evidence that he or she has left.

With this background, consider this sentence:

- (53) Every student may have left.
a. every student x (may x have left) TRUE
b. may (every student have left) FALSE

If the interpretation (53a) is available, it should be possible to judge (53) as a true statement in the scenario sketched above. But according to vF&I, speakers judge (53) as false, indicating that the reading of (53a) is hard or impossible to get. In order to capture this state of affairs, vF&I propose the following principle:

(54) *Epistemic Containment Principle*

A quantifier cannot have scope over an epistemic modal.

This principle can be incorporated⁴ in a clause typological account, assuming the following ordering:

- (55) a. EP Mood > Q
b. *Q > EP Mood

At this point, if we combine the order in (55a) with the one given in (52a), for transitivity we obtain:

- (56) Neg > EP Mood > Q

This seems to be another indication that negation can occupy the topmost IP position, but this can be considered nothing more than a suggestion for further research.

Conclusions. □

We have seen that West-Germanic languages, but also Romance varieties such as Milanese, provide strong arguments in favour of an operation that widens the scope of an interpretable negative feature. This operation of NR might come in two flavours. On one hand it is an obligatory process required in order to generate sentential negation when the negative feature is inserted in a structural position where it fails to scope over the predicate. In this respect it looks similar to the chain-formation mechanism already proposed in Haegeman and Zanuttini (1991). On the other hand, such a process is an optional mechanism able to widen the scope of negation in such a way that it will include other scopal elements as modals.

We have also considered different kinds of modality, trying to assess if the scope of negation might be bounded by some modal category which asymmetrically scopes

⁴ Von Stechow & Iatridou choose a different account, relying on crossing effects.

over it. A candidate was epistemic modality, as proposed by several authors, but a closer scrutiny revealed that epistemic modals can also receive narrow scope.

At this point it is plausible to assume that NR might trigger a position at the leftmost edge of the inflectional layer, or even a position within the complementizer. I believe that this last hypothesis is also conceivable, and in the next section I will look at some morpho-syntactic indication which I take to support the idea that NR might move the negative operator even in some position inside the CP layer.

Chapter 2. Negation in the complementizer

In the previous chapter we tried to establish if NR can be bounded by some category IP internal, but this task was unsuccessful, since all the IP elements examined may fall under the scope of a raised negative operator. Since NR seems to be upper unbounded within the limits of the inflectional system, we now would like to explore the possibility that this operation may also trigger CP projections. This will be the topic of this chapter, articulated in two parts. In the first (§2.1) I will look at several different languages, showing that morphological realizations of negation in CP are not uncommon, and that there are even languages in which this is the only means of conveying sentential negation. In the second (§2.2.), instead, I will look briefly at languages as English and Italian, showing that also these languages, which typically express negation in their inflectional system, may host a negative feature in their complementizers. The chapter will close with the presentation of a peculiar construction found in Italian, where words (LEL) belonging to a given semantic class may appear to the left of the overt complementizer in order to express a negative meaning.

2.1. Overt Manifestations

The overwhelming majority of contributions about the syntax of negation come from the study of Romance and Germanic languages. Although the members of these families behave very differently in many distinct aspects, there is one strong regularity: they lack negative complementizers. Thus all the analyses conducted in the field of negation have only seldom (with some notable exceptions as Progovac 1994 and Laka 1990) considered the CP as a possible syntactic locus available to host a negative feature. Crucially, the great amount of morphological evidence led

many scholars to assume that negation is a characteristic of the extended vP projection, hosted in the middle-field of the clause.

But we saw in the previous section that inverse wide scope readings of negation suggest that a negative operator can be hosted in a position higher than its overt morphological manifestation. What remains to be established is if this position is confined within the boundaries of the inflectional layer.

Phenomena such as NR suggest that a *strict correspondence* between LF scope and overt structural representation cannot be maintained in the case of negation, even if such a strong link has been proposed for other IP material, such as adverbials, for example. But, nevertheless, a correspondence of a weaker kind could be expected, and if negation has the possibility to be interpreted in different structural positions, it would be possible to find overt realizations of negation in each one of them across languages. This means that if a negative feature can be interpreted into the IP layer, in certain languages it could surface there, as is the case for several Romance languages. Analogously, if the CP layer is also a suitable interpretable site for negation, we may expect that this option could, in principle, be chosen by other languages.

In this section I will present a collection of data, coming from different unrelated languages, which provides support for the idea that IP is not the only domain for negation.

2.1.1. Irish

Probably the best documented case of negative complementizers is Irish, whose rich system of complementizer's particles has been extensively studied since the seminal work of McCloskey (1979). Irish is especially interesting for our purposes since the paradigm of such particles distinguishes between several dimensions of variation, including negative meaning.

One well-understood case is given by the particle *nach*, used to introduce an embedded negative clause (or a negative question). The analysis of *nach* as a CP element is uncontroversial, also assuming a position such as that of Duffield

(1995), which restricts the analysis of comp particles to only those elements showing the following properties⁵ altogether: eclipsis (or nasalization) on the verb, selection of the dependent form of the verb, and the selection of the past tense marker *-r*.

For the sake of exposition, consider the following example of eclipsis, orthographically signalled by an initial *g* prefixed to the verb:

(57) Eclipsis

a. Creidim *go gcuirfidh* sí isteach air.
 I-believe c put [fut] she in on the job
 'I believe that she'll apply for it.'

b. Creidim *nach gcuirfidh* sí isteach air.
 I-believe neg c put [fut] she in on it
 'I believe that she won't apply for it.'

The example in (57) shows that *nach*, as its positive counterpart *go*, triggers nasalization on the verb immediately following. This example, like the next ones in (58) showing the selection of the *-r* ending for past tense, is taken from McCloskey (2001):

(58) a. **D**-ól siad an t-uisce
 past-drunk they the water
 'They drank the water.'

b. Deir siad *gu-r* ól siad an t-uisce.
 say they c-past drank they the water
 'They say that they drank the water.'

c. Deir siad *ná-r* ól siad an t-uisce.
 say they c[neg]-past drank they the water
 'They say that they didn't drink the water.'

⁵ McCloskey (2001) considers those features to be a requisite sufficient (but not necessary) for individuating the comp particles.

In (58a) we see that in matrix clause the past-tense marker is *d(o)*. But in embedded clause, past tense is signalled on the complementizer by the suffix *-r*, both in cases of a positive (58b) and a negative (58c) dependent clause. Notice also that, apart from these tests, the complementary distribution between *go* and *nach* is another important indication for an analysis of *nach* as a real complementizer.

Another element of great interest is the particle *cha*, found in the Ulster variety of Irish (McCloskey 2001). This particle behaves like *nach* and *go* with respect to eclipsis⁶, dependent forms and past tense marker, but it appears in clause initial position of matrix sentences, able to express a negative meaning alone:

- (59) *Cha-r ól tú a gcuid uisce.*
 neg-past drank you their portion water
 'You didn't drink their water.'

Notice that the existence of such a particle directly challenges the assumption that negation must be confined within the boundaries of the IP system. Irish has, then, at least two negative particles that carry an interpretable negative feature into the CP system: one in the embedded and one in the Matrix CP.

TABLE 1.

	Syntactic position	Semantic
nach	Embedded - Matrix C	<i>i</i> [Neg]
cha (Ulster)	Matrix C	<i>i</i> [Neg]

But as McCloskey notes, those morpho-syntactic tests only assert what the properties of some prototypical complementizer particles are. It is not at all clear that one element lacking one of those feature cannot be considered to be in CP. There are, in fact, also other relevant factors to be considered, like the distribution at the left edge of the sentence and the complementary distribution with other complementizers, two properties that lead many scholars to also consider the

⁶ As McCloskey (2001, 2004) notes, there is sub-dialectal variation as to whether this elements lenites, eclipses or has no effect.

preverbal negative marker *ní* [a Comp element]⁷. This particle always appears in clause initial position, it triggers the choice of the verbal dependent form (*fhaca*, in 60a), and it forms the past tense by means of the suffix *-r* (60b):

- (60) a. *Ní fhaca tú mo nighean.*
 neg see [past] you my daughter
 ‘You didn’t see my daughter.’
- b. *Níor ól tú a gcuid uisce.*
 neg-past drank you their portion water
 ‘You didn’t drink their water.’

I will follow McCloskey and I assume that there are two classes of comp elements, one with the cluster morpho-syntactic properties of *go* and *nach*, and another that doesn’t present all those properties. Besides *ní*, members of this second class are *mura(r)* and *gan*. The first is the negative counterpart of *má*, the equivalent of English *if*, that can be considered as the negative form for conditionals:

- (61) *Mura gcuireann tú isteach ar an phost*
 if neg put [pres] you in on the job
 ‘if you don’t apply for the job’

The other element, *gan*, is also likely to be best analyzed as being in CP. This element introduces negative non-finite clauses.

- (62)⁸ *Ba mhaith liom gan e' a bheith a'balta e'iri'*
 were good at.me neg him to be able get.up
 ‘I would like him not to be able to get up’

⁷ Duffield has proposed that *ní* is not a complementizer, lacking the eclipsis effect. McCloskey 2001, instead, considers the absence of eclipsis as an idiosyncratic property of this special element.

⁸ From Svenonius (1994)

The case of *gan* looks peculiar, but we will see (§ 2.1.5) that this is not an isolated case, and that also in Hebrew it is possible to find a similar element. The variegated paradigm of Irish complementizer's particles is summarized in Tab.2. below.

TABLE 2.

	Matrix	Dependent	Finiteness	Semantic
nach ¹		+	+	<i>i</i> [Neg]
mura		+	+	<i>i</i> [Neg]
gan		+	-	<i>i</i> [Neg]
ní	+		+	<i>i</i> [Neg]
cha (Ulster)	+		+	<i>i</i> [Neg]
nach ²	+		+	<i>i</i> [Neg]

As it is possible to see by looking at the last column of the table above, all those particles are best analyzed as carrying an interpretable +neg feature, given that they do not require any other negative element in order to convey a negative meaning.

The diversity of the elements in Tab.2 covers almost all the variation that can be expected, and we will see next that many other languages, though not showing such a rich variety of particles, present complementizers that share different properties with the elements just considered.

2.1.2. Latin

Another language whose negative complementizers are often reported is Latin. Traditional grammars describe *ne* and *quin* as negative complementizers and examples involving these constructions are easy to find in classical authors.

- (63) a. Dionysius tyrannus [*ne tonsori collum committeret,*] tondere suas filias docuit⁹
 ‘the tyrant Dyonisius, [in order to not commit the neck to a barber], taught his daughter to shave’

⁹ Cicero, Tuscolanae Disputationes.

- b. Timeo *ne* Verres fecerit¹⁰
 ‘I fear that Verres has done’

- (64) numquam tam male est Siculis, [*quin* aliquid facete dicant]¹¹
 ‘Sicilians are never so bad, not to say something witty’

While it is unsure that *quin*, illustrated in (58), has a negative meaning per se and certain classic authors seem to use it only when selected by a negative matrix clause (in a distribution similar to *enik* in Basque), there is less doubt that the complementizer *ne* is inherently negative and can be used in a wide range of contexts, as negative final clauses (63a) or in sentential complements of verb of fearing (63b).

Traditional Latin grammars usually analyze *ne* as equivalent to *ut+non*, similar to the English complementizer *lest*. Consider sentential negation in Latin, expressed through the SNM *non* and final clauses introduced by *ut*:

- (65) Hominem *non* video
 man-acc neg see-1s
 ‘I don’t see a/the man’

- (66) a. Veni *ut* hominem videam
 I-came Comp man-acc see-1s-subj
 ‘I came to see the man’

- b. Veni *ne* hominem videam
 came-1s Comp_{Neg} man-acc see-1s-subj
 ‘I came in order not to see the man’

The complementizer *ut* possesses a feature that we may label [+final]. However, when the embedded clause has a negative meaning, *ut* has to be replaced by its negative equivalent *ne* (66b), which can be analyzed as equipped with features [+final] and [+neg].

¹⁰ Cicero, Actionis in C. Verrem Secundae.

¹¹ Cicero, Actionis in C. Verrem Secundae.

2.1.3. Basque

Basque presents an interesting alternation between the two particles (*e*)*nik* and (*e*)*la* that constitutes additional evidence for the existence of a negative feature in CP, as documented in Laka (1990). She considers Basque to be essentially a head-final language, an assumption motivated by the relative order between the auxiliary and the lexical verb. In the examples in (67) we may see that main sentences show the order V-Aux:

(67) a. Etxea **erori da**
house fallen Aux
'The house fell down'

b. *Etxea **da erori**

c. ***erori** etxea **da**

The proper syntactic analysis of head-final languages is beyond our objectives, and we will use here the definition head-final only descriptively. For our purposes it is sufficient to notice that the finite verb or the auxiliary may appear in sentence final position in an embedded clause, given that the CP can be head-final¹². Now consider the following examples, chosen from Laka (1990) to illustrate the complementary distribution between the positive complementizer *ela* and its negative counterpart *enik*:

(68) a. ^{CP}[Galapagoak muskerrez beterik daudela] diote
Galapagos lizards-of full are-**that** say-they
'They say that the Galapagos are full of lizards'

¹² Of course a remnant movement analysis can be attempted, saying that the finite verbs move outside its constituent to reach the head of CP and the remnant constituent successively reaches its specifier.

- b. Amaiak^{CP}[inork gorrotoa dionik] ukatu du
 Amaia anyone hated has-**thatN** denied has
 'Amaia denied that anybody hated her'
- c. ez du Zuriñek^{CP}[inor etorriko denik] esan
 no has Zuriñek anyone come will-that said
 'Zuriñek has not said that anybody will come'

When the embedded clause is selected by a positive declarative matrix sentence (68a), the complementizer *ela* must be chosen. On the other hand, the negative complementizer *enik* must be obligatorily selected when the matrix results as negative by means of an adversative predicate (68b) or because of the SNM *ez* (68c).

It is interesting to note that *enik* belongs to a different class of complementizers, with respect to those encountered so far. In fact, it is selected by a c-commanding negative element and cannot be considered as carrying an interpretable negative feature by itself. It looks like a polarity element, and on par with other polarity items, it seems to require a proper c-commanding licenser.

2.1.4. Gbe languages

This family of languages is spoken in the Western part of Africa, and presents the interesting characteristic of lexically marking Focused and Topicalized constituents by means of a set of discrete free morphemes. The following example, taken from Aboh (1999) illustrates this peculiarity:

- (69) Kòfì_k yà [Lésì Gúkòmè] tòn]_i wé [_{IP} é_k yì xò] t_i
 Kofi **Top** rice Gukome Poss **Foc** 3sg go buy
 'Kofi went to buy the RICE FROM GUKOME'

In (69) the topic particle *yà* triggers the movement of the subject in its specifier, while the focalized constituents *Lésì Gúkòmè] tòn* is attracted into the specifier of the focus particle *wé*. According to Aboh, only the constituent moved to the left of those particles receives the topical or focal interpretation. But notice that the

- (72) Kòfi *(mú) d̀ù nú *(ò) [Gengbe]
 Kofi Neg eat thing Neg
 'Kofi did not eat'

In this case Aboh proposes that also the particle *mú*, generated in a position inside the IP system, moves together with the other sentential material in the specifier the projection hosting of δ :

- (73) $CP_{[SpecP [Neg[\bar{a}/\delta] \dots [IP \dots [Spec [Neg[m\acute{a}/m\acute{u}] \dots]]]]}$
-

Gengbe languages could also be considered to host an interpretable negative feature in their Comp system, but in this case, since the sentence final negative marker δ cannot appear alone, we don't have any indication as to whether its negative feature is interpretable or not.

2.1.5. Hebrew

Landau (2002) discusses at length the property of the Hebrew particle *me*¹³, which he considers to be homophonous between a non-finite complementizer and a preposition. Landau gives the following examples in order to show that *me-* can be analysed as a complementizer selected by a certain class of verbs:

- (74) a. *[Im mi] Gil hitragez **me**-ledaber?
 with whom Gil became-angry from-to-talk
 'To whom did Gil become angry from talking?'
 b. [Im mi] Gil nizhar **me**-ledaber?
 with whom Gil was-careful from-to-talk
 'To whom was Gil careful not to talk?'

¹³ Landau mentioned also *ilmale*, *(i)lule*, *pen* as possible negative complementizers, as suggested by Aldo Sevi in a reply to a query appeared on LingList (<http://linguistlist.org/issues/9/9-1331.html#1>). □ At any rate, examples with these particles are not clear (Ur Shlonsky, p.c.), therefore we will not consider them.

- c. [*Be-eyze ton] Gil nizhar me-ledaber im Rina?
 in-which tone Gil was-careful from-to-talk with Rina
 ‘In what tone was Gil careful not to talk to Rina?’

In (74a), *me-* is selected by a non-negative verb and, according to Landau, it has to be treated as a PP. We would then expect to find strong island violations if the extraction site of the constituent is inside the island created by this preposition. This is exactly the case in (74a). Instead, (74b) shows, contrary to (74a), that it is possible to extract a DP element across the complementizer *me-*, proviso that this element is not one of those subject to weak negative islands (74c).

With respect to the class of verbs able to licence the complementizer *me-*, we find some verbs as *nimna* 'refrain' which obligatorily selects it (75). But *me-* is also optionally selected by a second class of negative verbs like *nizhar* 'careful' and *nišmar* 'watchful' as reported in (76):

- (75) Gil nimna **me**-leha'aliv et Rina.
 Gil refrained from to-insult ACC Rina
 ‘Gil refrained from insulting Rina.’

- (76) a. Gil nizhar **me**-leha'aliv et Rina.
 Gil was-careful from_[neg] to-insult ACC Rina
 ‘Gil was careful not to insult Rina.’

- b. Gil nizhar **lo** leha'aliv et Rina.
 Gil was-careful *not* to-insult ACC Rina
 ‘Gil was careful not to insult Rina.’

This last class of verbs is particularly telling since they always demand the presence of a negative element in the embedded clause: either the negative complementizer *me-* (76a) or the sentential negative marker *lo* (76b). The complementary distribution of *me* and *lo* indicates that these verbs ultimately select for an *i*[neg] feature.

Since selectional requirements are satisfied, under standard assumptions, in the CP layer of the embedded, an intuitive way to state the dependence between the verb *nimna* and its clausal complement is to say that a CP with the feature [+neg] is

required. What (76) shows is that this feature can be provided in two ways: either by the SNM *lo* or by the non-finite negative complementizer *me-* base generated in the CP. This means that a [+neg] feature in CP can be provided through in situ lexical insertion or through agreement with the SNM:

(76a) Gil nizhar [^{CP+neg} **me-**leha'aliv [^{IP} [^{VP} et Rina

(76b) Gil nizhar [^{CP+neg} [^{IP} **lo** leha'aliv [^{VP} et Rina

The operation indicated in (76b) seems to be similar to the NR proposed in the previous section, and the analysis given above for construction as (76b) provides support for the idea that negation might move as high as the topmost position available in the clause, the one which is actually visible for selection. This issue will be extensively discussed in the next chapter.

2.1.6 Summary

We have shown that several unrelated languages present particles that are best analyzed as negative complementizers, and I believe that if we take the proposal that negation can be signalled in the CP system seriously, the constellation of negative complementizers is likely to enlarge. However it is already possible to give a first taxonomy of complementizer particles with the elements at hand, differentiating them along three main oppositions: interpretability (+/- i[neg]), finiteness (+/- [fin]) and distribution (matrix-embedded).

Regarding the first opposition +/- i[neg], we saw that some particles are obligatorily selected by a negative matrix. In this case there is no evidence that such particles possess an interpretable negative feature themselves. In such a slot we posit the Basque negative complementizer *enik* and Latin *quin*, in opposition to the Irish *nach* that independently signals a negative meaning.

With respect to the second opposition, we saw that both *enik* and *nach* are found exclusively in embedded clauses but a complementizer particle could also surface in sentence initial position, as confirmed by particle *cha* found in Ulster Irish main clauses.

The last element of variation +/- [fin] has to do with the finiteness of the clause introduced by the Comp particle. Hebrew *ma* and Irish *gan* differ from all other particles along this dimension.

With those oppositions in mind, table 3 summarizes the characteristics of the negative complementizers so far examined.

TABLE 3. Taxonomy of Negative Complementizers

	matrix C	c-selected C	fin	i[neg]
nach¹		+	+	+
mura		+	+	+
ne		+	+	+
quin		+	+	-
enik		+	+	-
gan		+	-	+
ma		+	-	+
ò/ă	+		+	+
ní	+		+	+
cha	+		+	+
nach²	+		+	+

Before closing this chapter, I will briefly look at Italian and English, which have usually been assumed to be able to signal negation only within its IP system. I will try to show that these languages as well may reveal the presence of an interpretable negative feature in their CP layer.

2.2. Morpho-syntactic reflexes.

We saw that many languages have morphological means to express negation within their complementizer and I take this fact as an indication that the CP layer might play an important role in the syntax of negation.

Once this has been recognized, we might also look with different eyes at those languages which are usually assumed to express negative meanings only in lower structural positions.

Some traces of an involvement of Comp in negative sentences have been sporadically noticed in English, but these phenomena have never received an organic treatment. For example, it is well known, at least since the seminal work of Edward Klima (1964), that English, besides the use of SNMs such as *n't* and *not*, has another way of expressing sentential negation. This strategy consists in fronting a negative constituent of various kinds¹⁴, being it an adverbial, a negative quantifier or a negated DP or PP:

- (77) a. **On no account** will I read emails
b. **Nothing** have I seen that could rival the pyramids
c. **No race** could Lewis win
d. **With no job** would Mary be happy

Sentences in (77) (Rochemont 1978, Baker 1989, Haegeman 2000b) can be considered as true negative sentences for their ability to pass several diagnostics taken to reveal sentential negation, as the capacity to host positive tags (see section §4.1.), to have conjuncts introduced by *neither* and to licence PIs:

¹⁴ Minimal value adverbials can also be fronted, triggering SAI:

- a. **Rarely** has so much been done for so many by so few
b. **Scarcely** had the bell rung when John commenced to speak
c. **Seldom** do I see him nowadays

These cases can be treated as involving a non-veridical or DE operator, since they are used to express a low commitment on the truth value of the sentences they introduce.

- (78) a. **Not often** does Jack attend parties, *does* he?
 b. **Not often** does Jack attend parties and *neither* does John
 c. **With no job** would she *ever* be happy

Klima describes those constructions by saying that the initial expansion node of a sentence may optionally include negative constituents, which it is equivalent to say that the CP is a clausal category able to attract negative material¹⁵. Sentences in (77) ultimately indicate that English may also adopt leftward movement as a strategy to widen the scope of negation, in this case from constituent to sentential. Another interesting construction is discussed in Progovac (1994), which provides strong evidence that the topmost CP position might host a negative feature when embedded under a main sentence with an *adversative predicate* as *doubt*. Her argument relies on standard assumptions on PIs licensing (Ladusaw 1979, Linebarger 1980). Consider the following sentences:

- (79)a. I doubt that you saw anybody
 b. I doubt that anybody will come
 c. *I doubt of anybody

In (79a-b) the PI is licensed since it appears within the scope of *doubt*. But this condition also holds in (79c) and nevertheless, the sentence results as being ungrammatical. Progovac explains this puzzling fact by assuming that such a verb cannot directly licence a PI into the same clause, but that it has to select a CP with a negative feature:

- (79a) I doubt [^{ForceP}_[+neg] that [^{IP} you saw anybody

¹⁵ Haegeman (2000b) tries to refine the distribution of fronted negated constituent, proposing that when they convey sentential negation, they can be considered in FocusP.

Progovac’s analysis ultimately provides us with another indication for a negative feature hosted in the English complementizer system¹⁶.

But other languages which express negation in the inflectional system may also present some indication of a negative operator in the left-periphery of the clause. I wish to consider Italian next, where even less attention has been paid in order to assess if expressions of negation can be found in its CP system. In the next section I will present one type of construction which suggests that a negative feature can be hosted in ForceP.

2.1. Italian Left-Edge Licensors

As we have already seen, Italian typically signals negative sentences with the SNM *non*, which has been considered (Belletti 1990) to be an X° element base generated into the inflectional layer in a position between AgrsP and TP.

With regard to its CP layer, no dedicated complementizer for negation can be found and Italian seems to be able to express negative meaning only by means of its inflectional system. But a closer scrutiny reveals that there are indeed some

¹⁶ This possibility was actually the standard way of expressing negation in Old English. If we consider 8th century transcriptions (see van Kemenade 2000), we may find several examples showing the sentential negative marker *nō* in clause-initial position. Take the following two sentences from *Beowulf*⁶:

- i. *Nō hē wiht fram mē flōdyþum feor fleotan meahte, hraþor on holme;*
 Not he thing from me waves-DAT.PL far swim could, quicker in water;
 “In no way could he swim far from me on the waves of the flood, more quickly on the sea”
- ii. *nō ic fram him wolde.*
 not I from him wanted
 “I would not consent to leave him”

This couple shows that the sentential negative marker *nō* appears to the left of the subject, in a position that it is best analyzed as being inside the CP (Christensen, 2004). Notice that *nō* appears in the left-periphery of the clause, but the verb stays lower in the structure, excluding the possibility that *nō* has moved there together with the finite verb.

elements¹⁷, equipped with a negative feature (or at least with a DE operator), which appear in a position above the IP.

Let us first consider the shape of the left edge of the clause in Italian. This language marks its higher structural position with the finite complementizer *che* (Rizzi 1997), which precedes all the remaining clausal material. In the example below we may see that both topicalized and focused constituents must obligatorily follow *che*:

- (80) Credo [che^{ForceP} Gianni^{Top} LA PARTITA^{Foc} ieri^{Top} abbia visto]
 believe-1ps [that Gianni the match yesterday has seen
 “I believe that Giovanni, THE MATCH, yesterday, saw

Under these assumptions, we expect that the finite complementizer *che* can never be preceded by any other element. But this is not completely true, since members of a given class of words may indeed precede the complementizers. Among these elements, some of them such as *mai* ‘never’, *prima* ‘before’, *senza* ‘without’, and the negative marker *non* itself trigger downward entailing contexts. Consider the examples given below:

- (81) a. *Prima* che tu riesca a vedere Gianni
 before that you manage.subj to see G.
 “before you manage to see Gianni”
 b. *Prima* che mi vedesse *nessuno*
 before that me see.subj anybody
 “before anybody saw me”

¹⁷ There are other words, however, that, though having an intuitive negative polarity flavour, are unable to licence NPIs themselves and obligatorily require the presence of the SNM to be grammatical:

- i. *No* che non ho visto *nessuno*
- ii. *Tranne* che non arrivi *nessuno*, staccherò presto al lavoro
- iii. *A meno* che non venga *nessuno*, staccherò presto dal lavoro

- c. *Prima* che *nessuno* riuscisse a fermare Gianni
before that anybody manage.subj to stop G
“before anybody manage to stop Gianni”
- (82) a. *Senza* che tu riesca a fermare Gianni
without that you manage.subj to stop G.
“without you managing to stop Gianni”
- b. *Senza* che ci vedesse *nessuno*
without that us see.subj anybody
“without anybody seeing us”
- c. *Senza* che *nessuno* riuscisse a fermare Gianni
without that anybody manage.subj to stop G.
“without anybody managing to stop Gianni”
- (83) a. *Mai* che tu riesca a fermare Gianni
never that you manage.subj to stop G.
“you never manage to stop Gianni”
- b. *Mai* che ci vedesse *nessuno*
never that us see.subj anybody
“Nobody ever sees us”
- c. *Mai* che *nessuno* riesca a fermare Gianni
never that anybody manage.subj to stop G.
“Nobody ever manages to stop Gianni”
- (84) a. *non* che tu riesca a fermare Gianni
not that you manage.subj to stop G.
“Not that you manage to stop Gianni”
- b. *non* che io abbia visto *nessuno*
not that I Aux.subj seen anybody
“Not that I saw anybody”
- c. *non* che *nessuno* riesca a fermare Gianni
not that anybody manage.subj to stop G.
“Not that anybody manages to stop Gianni”

The a. examples show that all those particles may precede the finite complementizer *che* at the left edge of the sentence. With regard to their semantic status, instead, they seem to express a certain negative meaning, since they might licence N-words in their scope¹⁸.

It is interesting to notice that one of the distinguishing features of Italian is that it can be considered as a Non-strict Negative Concord language, which allows N-words, interpreted as existential quantifiers, only in post-verbal contexts. This general assumption is disconfirmed by the c. examples, as it is shown in the glosses.

For their ability to appear outside what has been considered the clause-edge and to licence polarity item, I will descriptively label those elements as Left-Edge Licensors (LEL). Given that they precede *che* in linear order, I consider LELs to be situated in the specifier of ForceP¹⁹. An alternative will be to assume instead that it is first merged in a lower NegP, and successively raised in ForceP.

¹⁸ The status of *niente* and *nessuno* has always been controversial (see Zanuttini 1991, Longobardi 1991, Acquaviva 1999, Haegeman 1995, among others). The issue will be considered in section §5.3.3. For the moment, it will be sufficient to notice that even if we consider those elements as negative quantifiers, they always show a dependency from some preverbal negative operator. In all the examples from (81) to (84), such a dependency is satisfied by the complementizer's particles under examination.

¹⁹ When we embed a clause with *senza* and *prima* under a governing matrix, these elements can be preceded and followed by the finite complementizer *che*:

i. Io credo che prima che tu veda Gianni, dovresti parlare con Ada
 I believe that before that you see Gianni, should-2s talk with Ada
 'I believe that, before you see Gianni, you should talk to Ada'

ii. Io credo che senza che Gianni se ne accorga, tu potresti rubare la collana
 I believe that without that Gianni himself of-it notice you could steal the necklace
 'I believe that, without Gianni noticing, you could steal the necklace'

However the clauses in i. and ii. introduced by a LEL element have a parenthetical intonation. This suggests that *prima* and *sempre* really mark the left-edge of the clause. Sentence i, for example, can be represented as follows:

i'. Io credo che [^{ForceP}prima che tu veda Gianni], dovresti parlare con Ada

Conclusions

This chapter has been dedicated to the scrutiny of the complementizer system of several languages, in order to establish if the syntax of negation has to be considered as a prerogative of the inflectional layer alone. From the data examined, this conclusion doesn't seem to be tenable, given that a whole range of negative complementizers can be found. Moreover, such particles are by no means confined to some special discourse-related contexts, and cannot be reduced to expression of *metalinguistic* or *presuppositional* negation (Horn 1989). A language like Irish, for example, expresses negative meanings only by means of its complementizer system, a fact that invites us to reconsider our initial hypothesis about the target position of Negative Raising as proposed in Chapter 1.

We saw that also in English there are some constructions as Negative Inversion and PIs licensing under adversative predicates which argue for a negative feature in the CP. Given that we found no empirical evidence which forces us to constrain NR within the IP, but that we have instead found reasons to consider the CP as a possible site for expressing negation as well, in the next chapter I will propose an account for wide scope readings by means of an agreement process involving the complementizer layer.

Chapter 3. Valuation of typing features

In order to deal with the scopal ambiguities generated by negation, in particular with the inverse scope data presented in the previous chapter, a mechanism able to render a negative operator interpretable in more than one fixed structural position seems to be necessary. Such an operation will be proposed, capitalizing on the notion of clausal typing proposed by Cheng (1991), and this move will differentiate the current proposal from previous ones since the role of the complementizer system will be emphasized to the detriment of the lower inflectional system. In particular, negative wide scope phenomena suggest that NegP is only responsible for providing a suitable insertion site for a sentential negative marker, but this position is not to be considered as the only one in which a negative operator might be passed over to the semantic component. A mechanism such as NR, able to create negative chains, will allow us not to constrain the scope of a negative operator to the parameterized position of NegP. I consider this a step toward the unification of the scope properties of semantic operators across languages. In this chapter I will attempt to unify the findings of the previous two chapters into a single syntactic operation.

Remember that NR was characterized as an operation able to raise an interpretable negative feature, and that this operation could in principle be divided into an optional (\diamond -NR) and obligatory raising (\square -NR), where the optional one is only possible when the presence of another scopal element motivates it:

(9) Optional Negation Raising is possible when:

α c-command β at PF but β scopes over α .

where: α is a logic operator and

β is the logic operator ‘ \neg ’

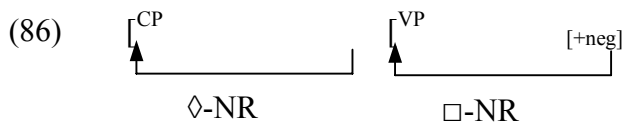
This will allow us to account for the different readings of a sentence such as (16), reported in (85) below:

(85) ... dass Hans niemand sehen must

- a. ... it is not required that Hans sees anybody $\neg > \square$
- b. ... it is required that Hans doesn't see anybody $\square > \neg \square$

With respect to the higher position that this operation may trigger, we saw in Chapter 2 that it would also be possible to consider CP internal positions as suitable candidates, and I will consider here the consequences for the stronger assumption that \diamond -NR directly triggers the CP. This is a strong claim, but I believe it is nevertheless tenable under certain assumptions.

Let me illustrate again the two kinds of NR. We have said that NR is obligatory when a negative feature must convey sentential scope, if this feature is inserted in the complement of the verb. To this first movement, a second one may follow, in order to further widen the scope of negation:



I will argue here that a mechanism able to move the negative feature in CP already exists in syntax, and that this mechanism will be crucially related to Clause Typing Hypothesis.

This chapter is organized as follows: in section §3.2. I will consider what the form of the complementizer layer is, and how some of its projections, such as ForceP or FinP may signal the illocutionary status of the sentence by hosting an appropriate feature. This function can be absolved by obeying a typing condition which can be satisfied by a range of features, including the negative one.

In sections §3.2.2. I will consider in detail how the typing condition can be met when a typing feature is not present in CP. I will propose that the typing requirement can be

satisfied through a feature-copying mechanism, that will be recast in section §3.3. in the framework proposed in Pesetsky and Torrego (2004). This re-conceptualization will ultimately allow us to account for the two readings permitted by ambiguous sentences such as (85).

3.1. Clausal Typing

Since a broad constellation of languages shows complementizer particles that can be considered as the overt manifestation of negation, it is licit to ask if this situation can also be generalized to languages which do not exhibit overt negative elements in Comp. The case of Italian LEL constructions points toward this direction, and in this section I will attempt a more precise formalization of the relation entertained between NegP and some related projection in the left-periphery.

Consider in general what role is played by the complementizer in the clause. It seems that it is not limited to playing only a single role, given that besides its connective function, the complementizer is on one hand the locus where syntax expresses its link to the discourse, through categories as Topic and Focus, and on the other the realization of the speaker's attitude toward the proposition as a whole. It is actually for its polyvalence that a single projection was considered to be a crate too restrictive to include all the different aspects of complementation.

Among its different functions, the possibility of conveying some information about the clause type will be central to the present discussion. This information, expressed at the left-edge of the clause, is syntactically relevant in many respects, but the one of special interest for us is the function it absolves when clause-selection dependencies must be resolved. It is well known, for example, that matrix predicates are selective with regard to the clause they introduce:

- (87) a. Mary believes *that* he will come
b. *Mary believes *if* he will come

- (88) a. Mary wonders *if* he will come
 b. * Mary wonders *that* he will come

In (87) and (88) different complementizers are chosen in the embedded clause, in accordance with the selection requirements of the matrix verb. This can be expressed by saying that verbal forms such as *say* and *wonder* respectively select for a complementizer carrying the feature [+question] and [+declarative]:

- (89) a. say →^{CP} [+decl]
 b. wonder →^{CP} [+Q]

In order to fulfil the requirements expressed in (89), the right feature must be chosen on the complementizer, and this will explain the complementary distribution of *if* and *that* illustrated in (87) and (88). In this respect, [+decl] and [+Q] are to be considered as *typing features*. Of course not every kind of feature can be the object of clausal selection, and no predicate, for example, may select ϕ -features as number and gender agreement. But in the case of negation there are good reasons to believe that [+neg] is indeed a typing feature that may (and sometimes must) appear in the specifier of Force. We already saw that the verb *doubt* selects a complementizer with a negative feature, demonstrated by the possibility to licence PIs. Consider again example (79b) repeated here as (90) and its representation (90’):

(90) I doubt that anybody will come

(90’) I doubt^{Force}[that_[+neg]^{IP}[anybody will come

We saw in section §2.2. that *doubt* cannot directly licence object PIs, but it must first select a clausal complement: in this case the licenser for PIs will not be the matrix verb itself, but instead the complementizer of the embedded equipped with a negative feature. Notice that the argument in support of negative complementizers is indirect in the case of English, since *that* is insensitive to the distinction [+/- negative], but

there are languages such as Basque which overtly mark this distinction through the use of two different forms. I will again report the examples (68a-b) repeated here as (91):

- (91) a. ^{CP}[Galapagoak muskerrez beterik daudela] diote
 Galapagos lizards-of full are-**that** say-they
 ‘They say that the Galapagos are full of lizards’
- b. Amaiak ^{CP}[inork gorrotoa dionik] ukatu du
 Amaia anyone hated has-**thatN** denied has
 ‘Amaia denied that anybody hated her’

In (91a) the verb *diote* ‘they say’ selects for a declarative embedded clause, while in (91b) *ukatu* selects instead for a negative one, a state of affairs that is overtly expressed by the choice of two different complementizers, *enik* [+neg] and *ela*[-neg]. I believe that such examples make it safe to assume that [+neg] is actually a typing feature that can be hosted in the topmost position of the clause.

Cheng (1991) claims that the presence of a typing feature is a requirement in force on every clause, an assumption that she stated through the following general requirement:

(92) Clause Typing Hypothesis

Every clause needs to be typed.

The hypothesis is aimed at capturing the intuition that syntax possesses formal means for indicating the type of clause, it being a question, a declarative, an imperative, a negative sentence and so on. This idea results as less controversial, but has actually never been wholly developed for negative clauses, and I believe that this chapter can be intended as a small contribution in this direction.

Now consider the general definition given in (92). It only says that typing is a necessary requirement, which in Cheng’s system can be met with an appropriate feature in the topmost clausal projection. I wish to maintain here this simple intuition

and reconsider it to the light of a Split CP model. In such a layered structure, ForceP is the projection devoted to signal the type of the clause, and (92) can be recast in more precise terms in order to have a first working hypothesis:

(93) Clause Typing Hypothesis

ForceP must host an appropriate typing feature

Assuming that a negative feature can be a typing feature, an interesting quest will focus on the means available to syntax in order to provide ForceP with a negative value.

3.1.1. Lexical Insertion

One way to comply the requirement stated in (93) is through the direct insertion of a typing feature by a lexical element. We already saw that certain complementizers are equipped with different typing features, as in the case of English *if*_[+Q] or Basque *enik*_[+neg], and actually all the cases considered in Chapter 2 can be considered as examples of a lexical insertion of a negative feature in Comp. At this purpose it may be worth pointing out that the choice of the complementizer is not always determined by selection requirements, and negative complementizers may introduce a negative clause for independent reasons. I will again report here the Irish examples (57), repeated as (94):

(94) a. Creidim *go* **g**cuirfidh sí isteach air.
 I-believe c put [fut] she in on it
 ‘I believe that she'll apply for it.’

b. Creidim *nach* **g**cuirfidh sí isteach air.
 I-believe neg c put [fut] she in on it
 ‘I believe that she won't apply for it.’

In (94b) *nach* is embedded under a psych verb, which doesn't express any particular preference with respect to the polarity of the embedded clause, as is confirmed by the

fact that the non-negative form of the complementizer *go* is also possible in (94a). A negative feature might then surface in the CP of the embedded for reasons different from selection. A tentative hypothesis is that a negative feature might appear in the CP in order to satisfy the clause typing principle by direct lexical insertion on the complementizer. This idea is not new, and has been already proposed for interrogative sentences, where an overt particle might type a matrix clause appearing in left-peripheral position (see Cheng 1991, Koster 2003). This situation is also replicated in Irish negative matrix sentences, typed through the lexical insertion of a negative element in Comp:

- (95) *nìor (char) ól tú a gcuid uisce.* (McCloskey 2001)
 neg-past drank you their portion water
 ‘You didn’t drink their water.’

Moreover, a negative feature can also be inserted in ForceP in languages which lack negative complementizers, such as in Italian LELs constructions²⁰:

- (96) *Mai che ci vedesse nessuno*
 never that us see.subj anybody
 ‘Nobody ever sees us’
- ForceP[*mai che* IP[*ci vedesse* IP[*nessuno*

In (96) *mai* appears on the left of the complementizer *che*, which is considered to sit in the topmost projection. From this position, it takes scope over all the remaining

²⁰ Of course there are other possibilities. *Mai* can be adjuncted on top of ForceP or a higher projection Σ P can be present on the top of ForceP. The first option is disfavoured by the unclear status that adjunction has in the minimalistic framework. The second, instead, seems to be a real possibility, since positive elements can also appear on the left of *che*:

- i. *Sì che Gianni verrà*
 ‘Yes/Sure that Gianni will come’
- ii. *Certo che Gianni verrà*
 ‘of course that Gianni will come’

sentential material, including the subject position. This is confirmed by the fact that a polarity item interpretation for *nessuno* is forced (section §5.3.).

Summarizing the discussion held so far, it is clear that a first strategy to obey (93) is to merge an element directly in ForceP. This element must carry an appropriate typing feature, which in the case of a negative sentence must be [+neg]. In some cases, this feature seems to be interpretable, conveying a negative meaning on its own, as in the case of Irish negative complementizers and Italian LELs, which are able to licence polarity items and do not need any other negative element. In other cases, as Basque, it is not clear if such a feature has a negative meaning on its own, since it is selected by a higher negative element. I would like to leave this issue open for the moment and to move on, considering another possible way to satisfy the condition (93).

3.1.2. Typing through Agree

It is clear that if typing is a general requirement imposed by syntax, lexical insertion of overt material doesn't suffice to cover all the possible cases. Many languages, in fact, lack negative complementizers and do not show any morphological manifestation of a negative feature in Comp. Should we assume that the CTH stated in (93) doesn't apply in those cases? I believe that we are not forced to this conclusion if we assume that a relation at the distance between ForceP and a lower negative feature can be created. There are actually good reasons to think that a requirement such as Clause Typing might take advantage of Agree (Chomsky 1995, 1998, 2001) when a suitable typing feature lacks in ForceP. Leaving aside for now the specific case of negation, we may turn our attention to interrogative sentences, where Force is typed by a [+Q] feature. Looking at those relatively better understood cases, we may find support for Agree between Force and a question feature.

The first examples that comes to mind might be languages with in-situ WH. However, the situation is not as clear as it may seem, since phonetically null copies of lower WH elements could reach the specifier of ForceP through covert movement.

But apart from in-situ WH languages, which offer themselves to different theoretical explanations, it also seems that those languages with WH movement provide us with interesting data supporting typing at the distance. The biggest piece of evidence comes from the fact that it is not always the case that WH movement triggers the topmost projection available in the clause. In Italian as well in English, for example, a fronted WH constituent can be preceded by another element:

(97) a. *il film, chi l'ha visto?*
 'the movie, who has seen it?'

b. *Ieri, a Mario, cosa gli hanno detto?*
 'yesterday, to Mario, what did they say?'

(98) a. *A book like this, to whom would you give?* (Delahunty 1983)

b. *To Terry, what did you give?* (Coulcover 1996)

These sentences can be accounted for assuming an articulated CP structure, in which the WH constituent ends up in ForceP. A sentence such as (98b) thus has the following representation:

(98b) ${}^{\text{ForceP}}[{}^{\text{TopP}}[\text{To Terry}_{\text{b}}, {}^{\text{FocP}}[\text{what}_{\text{a}} \text{ did } {}^{\text{AgrS}}[\text{you give } {}^{\text{vP}}[\text{t}_{\text{a}} [\text{t}_{\text{b}}]]]]]]]]$

The linear order of (98b) is obtained by moving the WH constituent in the specifier of FocusP and the other constituent in a Topic position. The same explanation applies to all the examples in (97) and (98). What is important to notice is that here the [+WH] feature ends up in a position lower than ForceP.

Additional evidence that a typing feature doesn't occupy the topmost projection also comes from Italian indirect questions. Consider the following sentences:

(99) a. *Non so, [{}^{\text{TopP}}\text{a Gianni}], se [{}^{\text{TopP}}\text{quel regalo}] glielo dovremmo davvero dare*
 'I don't know, to Gianni, if that present we should really give'

- b. *Mi domando se* [^{FocP}NIXON] *sia davvero colpevole (non Berlusconi)*
 ‘I wonder if NIXON is really guilty, not Berlusconi’

Sentence (99a) shows that the complementizer *se*, used to introduce an indirect question, can be sandwiched between two topic phrases. Tentatively we could assume that *se* is in FocP. This move doesn’t seem justified, however, since *se* may appear together with a focused constituent, as (99b) shows. Given that it is not possible to have more than one element in FocusP, the position of *se* should be differently analyzed. Following Rizzi (2001) I will assume that *se* occupies a projection IntP between Force and Focus.

From these considerations, it appears that a [+question] feature could land in at least three different positions inside the CP:

$$(100) \text{Force}^{[+Q]} > \text{Int}^{[+Q]} > \text{FocP}^{[+Wh]} > \text{Fin}$$

Moreover, even if FinP doesn’t seem able to host a question feature, we have to consider the possibility that this projection could also be available for a typing feature of a different kind. At this point it is conceivable that typing could also be satisfied in left peripheral positions other than ForceP. We can express this reformulating (93):

(101) Clause Typing Hypothesis II

ForceP OR IntP OR FocP OR FinP must host an appropriate typing feature.

This alternative way of understanding Cheng’s original typing Hypothesis will dispense us with a different kind of mechanism based on Agree. However, this is not the direction I want to pursue, since this account has at least one important drawback. Consider again (98) and (99b):

- (98) a. A book like this, to whom would you give?
 b. To Terry, what did you give?

- (99b) *Mi domando se* [^{FocP}NIXON] *sia davvero colpevole (non Berlusconi)*
 ‘I wonder if NIXON is really guilty, not Berlusconi’

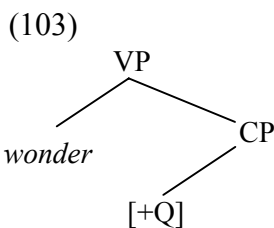
In all these examples, the features [+wh] or [+Q] are in different, lower projections from ForceP. At this point it is not clear why we need to project the whole structure up to ForceP, since the clausal typing hypothesis presented in (101) leads to the conclusion that a sentence can be closed by any CP category.

There are reasons²¹, though, to doubt that this conclusion is on the right track. Spanish, for example, presents an interrogative complementizer provided with the feature [+Q] similar to Italian *se*. This element is situated in a position lower than ForceP and it presents an appropriate typing feature. Thus there is no need to project the whole structure up to ForceP. Nevertheless, it can appear in combination with the higher complementizer *che*:

- (102) *Maria decia que si no debiéramos dejarlas en paz* (Plann 1982)
 ‘Maria was saying that if we shouldn’t leave them in peace’

This case shows that ForceP is projected even if the clause can be already typed in IntP. This is a non-economical derivation that must be motivated by some principle of grammar, and the typing condition presented in (101) cannot be such a principle.

Another argument against (101) comes from selection of embedded clause. Consider again the case of indirect questions. In this case a matrix verb selects an embedded clause of a certain type, expressing some semantic/syntactic constraints on its complement. This selection seems to be best express through a head-comp relation inside the VP:



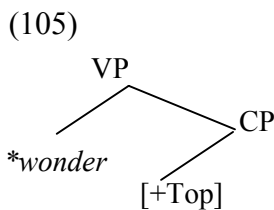
²¹ Rizzi 1997.

This relation expresses the fact that the highest projection of the CP system must be equipped with a typing feature consistent with the selection requirements of the main verb. But given the assumption in (101), a sentence as (104) becomes problematic:

(104) Mi domando, nel caso Watergate, se Nixon sia davvero colpevole.
 ‘I wonder, in the Watergate scandal, if Nixon was really guilty’

(104’) Mi domando [^{TopP}nel caso Watergate, [^{IntP}se Nixon sia davvero colpevole

If there is no principle that forces the projection of the whole clausal structure, (104) could receive the structural description in (104’). But in this case the verb *domandarsi*, ‘to wonder’, is in head-comp relation with a [+Topic] clause, violating its selection requirements, selecting a Topic sentence instead of an interrogative one:



Thus TopP doesn't seem to be a good candidate for the closing of the clausal structure and a similar argument can be replicated for FocusP. Likewise, since IntP can be optionally preceded by a Topic, it will freely allow the configuration in (105): an undesired result, as we saw. In short, since no verb selects for Topic or Focus sentence, we exclude those categories and the one that optionally allows them, namely IntP, from being the root of the clause.

Following this reasoning, FinP should also be excluded, if it may be dominated by Topics and Focuses. This is indeed the case for the non-finite complementizer *di* in Italian, but not of English *for*:

(106) a. Penso, a Gianni, *di* dovergli parlare
I-think to Gianni, of must-him speak
'I believe that I must speak with Gianni'

b. *I would very much prefer, this book, *for* you to read immediately

Italian *di* permits the presence of a Topic phrase to its left and, in this respect, it faces all the arguments that disfavour its presence in the topmost clausal position. On the contrary, *for* is not allowed to be preceded by any material, and can thus be considered at the Root of the clauses, in the specifier of FinP. This position could then be the last projection available for sentence (106b) and we cannot exclude that clausal typing occurs in such a position. To account for this last possibility, we can formulate (101) in more restrictive terms, allowing typing to occur obligatorily in ForceP in finite clauses and optionally in FinP in non finite ones:

(107) Clause Typing Hypothesis III

Root must host an appropriate typing feature

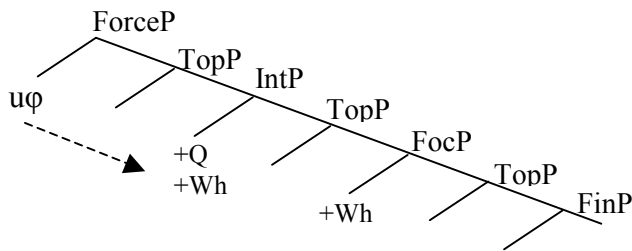
where Root can be ForceP or FinP

Stated in these terms, the Clause Typing Hypothesis assures that the whole structure is projected up to ForceP in finite clauses.

At this point the problem of how to type a sentence with a manifest typing feature in a position lower than ForceP (for example [+Q] or [+Wh] in Int or Foc) remains. We need a way to type clauses in (98) and (99) in accordance with the CTH in (107).

One way of doing so is to permit ForceP (or FinP) to probe its search domain looking for a typing feature:

(108)



This mechanism will allow typing for the sentences in (97) and (98). Consider (97b), repeated here as (109):

(109) To Terry, what did you give?

(109') ForceP [$_{wh}$ [TopP [to Terry [FocP what $_{wh}$ did you give?]]]]

But notice that the situation presented in (109) closely recalls the operation of feature copying proposed in Chomsky (1995, 1998) and adopted in Watanabe (2000, 2004):

(110) feature Copying

- a. H [... [XP ... F ...] ...]
- b. [(XP) H+F [... [XP ... F ...] ...]]

Given a configuration such as (110a), feature H originates a probe which looks for a goal and copies his value where the probe originates, resulting in (110b). Notice that now we have two instances of the same feature, possibly both interpretable (Watanabe, 2004). This operation needs to be carefully considered, since it generates a redundancy in the representation, with two copies of the same feature. This issue will be considered in detail in the next section, when the system will be integrated with Pesetsky and Torrego 2004 insight on the internal typology of features.

3.2. Valuation of Typing Features

In this paragraph I will present an alternative to feature copying, in order to achieve a system which allows for the handling of typing and inverse scope, avoiding the generation of systematic redundancy in the syntactic representation.

This kind of redundancy, given by the presence of the reduplication of some (interpretable) feature, translates into ambiguous representations which are delivered to the semantic component. If we are comfortable with the idea that ambiguity is solved at LF after spell-out, the feature-coping mechanism doesn't raise any problem for syntax. This position was the one adopted in Aoun and Li (1993) and in May (1985), where QR was described as a Logic Form operation with a certain degree of optionality. This view will ultimately dispense syntax to account for the ambiguous readings generated by multiple interpretable occurrences of the same feature. This means that the syntactic interface is not required to provide the semantic component with unambiguous representations. Of course this is not desirable, especially if we adhere to Chomsky's vision of syntax as an optimal interface.

Choosing to accept the challenge of resolving ambiguity in syntax, we must clean the syntactic output from duplication of interpretable features and every syntactic operation which assumes duplication must be equipped with an inverse operation which deletes the doublets, as in the case of the copy theory of movement in Chomsky (1998), or quantifier raising in Hornstein (1995)

Given those considerations, we at least need the following elements to account for clausal typing and inverse scope of negation in a syntactical model that is ambiguity-free:

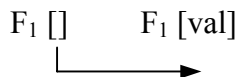
1. An unvalued-uninterpretable feature in ForceP in order to probe.
2. a feature copy mechanism to account for inverse wide scope readings
3. an arbitrary deletion process to clean up redundancy.

Elements 2 and 3 are the two faces of the same coin: admitting copying, we are forced to admit deletion too. This is not the only solution, however, and another

treatment seems viable. In order to avoid deletion, we could modify the copying process in such a way that it will not be able to deliver more than one interpretable copy at the interface. The price to pay is to add another kind of feature to the system, following the proposal of Pesetsky and Torrego (2004) (P&T). The system they propose integrates the standard typology of features with two new members, not contemplated in the framework of Chomsky (2001): uninterpretable/valued and interpretable/unvalued features.

Chomsky suggests that syntax has no access to the interpretability of a given feature, interpretability being a notion relevant only for the semantic component. But in order to deliver only the appropriate information to this component, syntax needs a way to discern between features that must be passed over and features that must delete. In order to accomplish this task, interpretable features also carry a value, and the notion of valuation alone is visible in syntax. Deprived of the opposition interpretable/uninterpretable, the operation Agree is blind with regards to interpretability, and is only triggered by a feature with an empty value:

(112) Agree



P&T assume the same scenario, with a modification. They suggest that there is no need to couple interpretability, a purely semantic notion, with valuation²²: nothing forces us to consider an uninterpretable feature as also being unvalued. Thus a dissociation between Interpretability and Valuation will admit the presence in the lexicon of features [+valued, -int] and [-valued, +int] and a feature F could then be realized in the lexicon in four variants:

²² Interpretability is not visible in Syntax. This means that deletion is an operation that has to be done at the semantic interface. This can be avoided assuming the view of a feature like an object formed by a set of instances.

(113) Typology of feature (occurrences)

- a. $F_1 i[]$
- b. $F_1 i[val]$
- c. $F_1 u[]$
- d. $F_1 u[val]$

At this point, let us again consider the Agree operation. P&T share with Chomsky the idea that only valuation is visible in syntax. This means that only features like (113a) and (113c) can generate a probe in order to be valued by another valued occurrence of the same feature. Thus the reason for being in Agree is ultimately to establish a relation between the following pairs²³ :

(114) Agree between occurrences:

- a. $F_1 i[] \longrightarrow F_2 i[val]$
- b. $F_1 u[] \longrightarrow F_2 u[val]$
- c. $F_1 i[] \longrightarrow F_2 u[val]$
- d. $F_1 u[] \longrightarrow F_2 i[val]$

One question is what the Agree operation returns. Pesetsky and Torrego propose a *feature sharing version* of Agree (Brody 1997, Frampton and Gutmann 2000), where two features do not only share the same value, but actually they become two instances of the same feature:

(115) results of Agree

- a. $F_1 i[val] \longleftarrow F_1 i[val]$
- b. $F_1 u[val] \longleftarrow F_1 u[val]$
- c. $F_1 i[val] \longleftarrow F_1 u[val]$
- d. $F_1 u[val] \longleftarrow F_1 i[val]$

²³ These relations can involve intermediate steps, and Agree can also trigger unvalued occurrence of a feature: $\{ F_1 [] \dots F_1 [] \dots F_1 [val] \}$

These configurations are all well formed in the syntax, since no unvalued feature is left and the output can be passed to the semantic component. Admitting that deletion of uninterpretable feature waits until LF, configuration c. and d. poses no problem, since they have only one interpretable and valued feature.

On the other hand, (115a) and (115b) are problematic at the semantic interface, since (115a) is ambiguous and (115b) vacuous²⁴.

In the case of (115b), syntax is passing a feature that is superfluous to the semantic, since it cannot receive any interpretation in any syntactic location. To rule this out, P&T adopt a suggestion proposed by Brody (1997):

(116) *Thesis of Radical Interpretability (Brody 1997)*

Each feature must receive a semantic interpretation in some syntactic location.

We are then left with the case (115a). At this point we are back to our original question, since (115a) is exactly the problematic case created by an operation as Feature Copying. But we are now in a better position to avoid ambiguous representations. I believe that the *Thesis of Radical Interpretability* is open to two interpretations. It only says that a feature must receive a semantic interpretation, a statement which P&T interpret as "at least one semantic interpretation", admitting that a feature could have more than one interpretable occurrence. It seems to me that there is no reason to make this move.

Consider (116). Optimally a feature fulfils it by entering into the derivation in a syntactic location where the semantic component can interpret its value. This is the case of an interpretable and valued feature, which triggers no other syntactic operation: a feature $i[val]$ is a complete object that requires nothing from syntax(117a). I assume that the ultimate goal of syntax is to assemble a valued and

²⁴ 395b is vacuous if there is no intermediate feature [+interpretable]:

$F_1 u[] \quad F_1 i[] \quad F_1 u[val]$

This case can be reduced to a successive application of Agree to the non-problematic configuration (114c) and (114d).

interpretable feature when such a combination is not available in the lexicon, creating a complete object through Agree, as in (117b).

(117) Complete Object

- a. $F_1 = \{i[val]\}$
- b. $F_1 = \{i[], u[val]\}$

Thus a feature chain can ultimately be considered as a single syntactic object that needs to have two requirements: interpretability and value. These two requirements are minimally satisfied by (117a), and (117b), and Agree can be considered as a last resort option. Since Agree has the goal of connecting an interpretable instance with a valued one, and since no other element is required, no other element should be allowed.

This means that only a single interpretable instance of a feature F_1 is necessary, and the presence of more than one needs to be motivated:

(118) $*F_1 = \{ *i[], i[val] \}$

In order to clarify this point, I will briefly consider how the proposal works. Consider that we need the feature F_1 and that language A has a lexical item with such a feature, interpretable and valued. Then, language A can simply insert the right lexical item and delete F_1 from the numeration:

$$F_1 = \{ \cancel{i[val]} \}$$

But this solution is not always viable, and a language B, lacking a lexical item with the appropriate interpretable and valued feature, must resort to a different strategy. It must resort to Agree to build up a full-fledged F_1 . We are then in the case described in (117b). First an element satisfying valuation can be inserted into the derivation and

deleted from the numeration; second, since F_1 cannot yet be interpretable, it is also necessary to tap into its interpretable occurrence:

i. $F_1 = \{ i[], u[val] \}$

ii. $F_1 = \{ i[], u[val] \}$

At this point the principle of Radical Interpretability is satisfied and F_1 is deleted from the numeration. The presence of more than one interpretable feature in the chain is thus blocked, excluding (115a). In this way we can prevent the syntax from building up chains with a possibly unlimited degree of ambiguity:

(119) $*\{ i[] \dots i[] \dots i[] \dots i[val] \}$

At this point, it seems that the presence of uninterpretable and unevaluated features is superfluous. But let us consider 405b. The syntactic operation Agree is responsible for building a feature interpretable and valued 'merging' together two instances of a single feature F_1 . We must not forget, however, that Agree has to obey all the requirements imposed by syntax. One example is locality. Following Chomsky 1998, Agree must finish to assemble an $i[val]$ feature within the boundary of a phase. I would suggest that $u[]$ features, called expletive features by P&T, can be used in order to conform to specific constraint imposed by syntax. For example, in the case of cyclic Wh-movement, a $u[]$ provides an indispensable 'escape hatch' in order to build an $i[wh]$ across different phases. Clausal typing can also be considered as a requisite imposed by syntax, necessary to warrant that the whole functional structure will be built²⁵. Thus the presence of $u[]$ features is ultimately needed to comply to syntactic requirements. To account for these considerations, the definition of the syntactic object given in (117) can be stated as follows:

²⁵ Cyclicity and Typing both predict for the insertion of a $u[]$ feature in phase-edge position.

(120) Object-feature

- a. $F_1 = \{ *u[], i[val] \}$
- b. $F_1 = \{ *u[], i[], *u[], u[val] \}$

This new definition preserves the assumption that only one interpretable feature is needed and thus only one is allowed. The thesis of radical interpretability needs to be slightly changed in order to be explicit regarding this issue:

(121) *Thesis of Radical Interpretability Revisited*

Each feature must receive *exactly* one semantic interpretation in some syntactic location.

This reformulation allow us to exclude both (115a) and (115b) as possible configurations created by Agree. At the end we are only left²⁶ with (115c) and (115d) repeated here:

- (122) c. $F_1 i[val] \longleftarrow F_1 u[val]$
- d. $F_1 u[val] \longleftarrow F_1 i[val]$

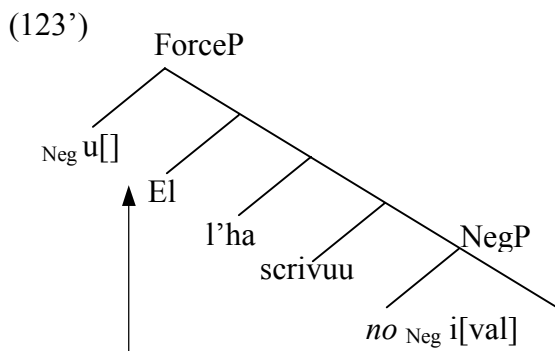
At this point, the syntactic representation is not ambiguous, and is fully consistent at the semantic interface. Even if deletion is delayed until after spell-out, it becomes a trivial operation, and there is actually no need for it, since we may think that semantic is only sensible to $i[val]$ features.

We can now look at how this mechanism could be concretely implemented in the case of interest for us. I will choose Milanese to illustrate the point, since it is an SVO language with no object shift and it presents an SNM in a low IP position. Consider again example (26e) repeated here as (123):

²⁶ Intermediate steps can admit the connection between expletive features $\{u[] \dots u[]\}$

- (123) El l'ha scrivuu *no* (Milanese)
 s.cl. s.cl written neg
 'he hasn't written'

Here a negative feature is inserted in IP through the SNM *no* and can be safely interpreted in such a position, since it is already in clausal-scope position. But the CTH stated in (107) nevertheless needs to be satisfied. This syntactic requirement might be fulfilled by inserting a $u[]$ feature in ForceP. This feature sends a probe in its search domain in order to be valued and once it encounters the sentential negative marker *no*, which I assume to be equipped with an $i[val]negative$ feature, it becomes valued and the requirement in (107) is ultimately satisfied:

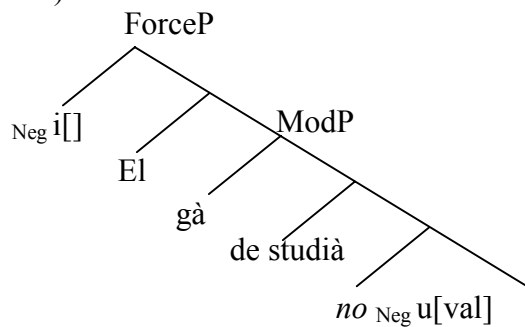


Consider now sentence (33) repeated as (124), where negation is optionally interpretable with wide scope over modality:

- (124) El gà de studià *no*
 s.cl must of to-study neg
 a. he is not required to study $\neg \boxtimes \square$
 b. he is required not to study $\square > \neg \square$

The wide scope reading can be accounted assuming that an $i[]$ feature is inserted in ForceP, probing for a valuation:

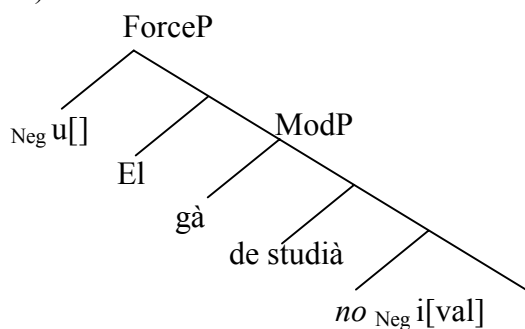
(124a')



The difference between (124') and (123') is that the probing feature inserted in clause typing position is now interpretable, and it is passed to the semantic component contributing to the interpretation of the sentence. This change is semantic in nature, and ultimately corresponds to \diamond -NR. We may then consider \diamond -NR as a switch able to widen the scope of negation allowing the feature in ForceP to be interpretable.

Conversely, the narrow scope reading in (124b) is obtained when such a switch doesn't turn on, as in the case where no other scope bearing element is present in the sentence:

(124b')



We might now formulate a final version of the Clausal Typing Hypothesis, in a way that it will permit the creation of a link between a negative feature appearing in the IP system and the clause typing position ForceP. Since syntax is only sensitive to valuation, no statement about interpretability needs to be done, with this choice ultimately motivated for interpretive reasons:

(125) Clause Typing Hypothesis (final)

Root must host an appropriate valued typing feature

where Root can be ForceP or FinP

Conclusions

In this chapter I have attempted to implement the idea that wide scope readings of negation can be derived using a general mechanism already present in syntax for different reasons. In fact, the requirement proposed by Cheng (1991) that every clause must be specified in relation to its type, already requires the movement of a typing feature in the topmost position of the clause. Movement of negative features can be motivated in this way, and formulated in terms of Pesetsky & Torrego framework in section §3.2. In such a system, the engine of the derivation is Brody's (1997) principle of radical interpretability, whose slightly modified version was given in (121):

(121) *Thesis of Radical Interpretability Revisited*

Each feature must receive *exactly* one semantic interpretation in some syntactic location.

Notice that such a principle does not specify where the interpretable feature must be inserted. Thus the distribution of interpretable features results as being syntactically independent and can be motivated by the same interpretive reasons which trigger optional QR.

Chapter 4. Negative quantifiers in No-concord languages

Sentential negation markers cannot be considered the only lexical items able to endow the derivation with a negative feature and also other constituents, like verbal arguments, for example, are likely to possess a feature of a similar sort. In the previous chapter I attempted to refine the notion of clausal typing in light of the typology of features proposed by Pesetsky & Torrego (2004), given in (107) and repeated here:

(126) Clause Typing Hypothesis

Root must host an appropriate valued typing feature
where Root can be ForceP or FinP

This definition only demands a valued negative feature to appear in Force or FinP, irrespective of the lexical element carrying it. Thus, quantificational and indefinite elements which show morphological variants in negative clauses, such as polarity items, negative quantifiers and N-words must be carefully considered in order to establish if they might help to satisfy the clause-typing requirement. I will focus here only on the relatively less-problematic case of No-Concord languages.

These languages stand out for they respect a principle of semantic compositionality with regard to negative elements, providing us at least two tests²⁷ to distinguish negative items from polarity ones: the first is the capacity to convey negation alone, while the second is the possibility to generate a double negation reading in combination with another negative element. In accordance with these diagnostics, No-Concord languages such as English present a set of quantifiers which are considered with less controversy as bearing a negative feature, given that they express negative meanings on their own (127) and that they sum their negative sense to the one of the sentential negation marker:

²⁷ Diagnostics of various kinds have been proposed. See Giannakidou and Valld. But as Watanabe 2004 noted, they aim to reveal the quantificational force instead of the negative status.

(127) a. I saw nobody

b. Ich habe niemand gesehen (German)
I have n-person seen
'I have seen nobody'

c. Jan ziet niets (St. Dutch, Zeijlstra 2004)
J. sees n-thing
'Jan sees nothing'

d. Jeg har [ingen bøger] læst (Norwegian, Christensen 2005)
I have no books read
'I read no book'

(128) a. John doesn't see nothing

b. Hans sieht nicht Nichts (German, Zeijlstra 2004)
Hans sees neg n-thing
'Hans doesn't see nothing'

c. ... dat Jan *niet niemand* ziet (St. Dutch, Zeijlstra 2004)
... that Jan neg nobody sees
'... that Jan doesn't see nobody'

d. Ole sier *ikke ingenting* (Norwegian, Zeijlstra 2004)
Ole says neg n-thing
'Ole doesn't say nothing'

If negative quantifiers in No-Concord languages unambiguously reveal their negative valence, polarity items also manifest their status of non-negative indefinites, licensed in a number of contexts much wider than negative ones. Consider the following English sentences, taken from Hoeksema (2000):

(129) a. Do you think I could ever trust you?

b. If you think I could ever trust you, you're wrong.

c. I love you more than I could ever say.

d. Fred is too smart to ever admit he wrote the pamphlet.

- e. Few people ever admit they're wrong.
- f. Fred was the first to ever swim across the Adriatic.
- g. All I could ever do was gnash my teeth and obey.
- h. Only Fred has ever swum across the Adriatic.
- i. Fred denied ever having had an affair with Edna.
- j. Who would ever trust Fred?
- k. Like I would ever trust Fred! Yeah right.

None of them can be considered negative and this constitutes conclusive evidence for the fact that PIs do not carry a negative feature on their own, even if they are prototypically licensed in negative clauses.

In the first part of this chapter I will consider how the negative feature carried by negative items enters in relation with a general principle of syntax as Clause Typing. I will first consider English negative quantifiers (section §4.1) focusing the attention on certain interesting asymmetries between preverbal and postverbal positions. The discussion will be extended to other No-Concord languages, in particular to Norwegian and to the properties of its negative determiner *ingen*.

Before considering the complex case of Concord languages I wish to also address here the issue of PIs, that will close the chapter. Since the case of Concord deserves special attention, I will postpone this discussion until the next chapter.

4.1. English and no-concord languages.

Negative Quantifiers

Standard English²⁸ belongs to the group of no-concord languages, for it strictly respects the principle of compositionality in sentences with two or more negative elements, as testified by the examples given in (127a) and (128a) and reported here again as (130) for our convenience:

²⁸ Non standard varieties of English allow negative concord (Ladusaw 2001).

- (130) a. Nobody came
b. Nobody didn't came

It is evident that every single element carries a negative feature on its own, and a double negation reading arises whenever more than one negative item is present in the sentence. At first sight it seems that every negative feature is able to survive until it is interpreted at the semantic interface.

I would like to address two questions here, concerning the relation which can be established between the negative quantifier and a negative typing feature in ForceP and the conditions which must be met in order to enter in an Agree relation with such a feature in the CP. The first question can be immediately answered for negative quantifiers appearing in preverbal position, adopting a well-known diagnostic to reveal the Force of a clause with respect to its polarity. I'm referring here to the tag-question test originally proposed by Klima (1964). English tag-questions behave like polarity reversing expressions, sensitive to the positive/negative force of the sentence they are referring to. Consider the following pair:

- (131) a. John likes mushrooms, doesn't he? / *does he?
b. John doesn't like mushrooms, does he? / *doesn't he?

A positive sentence such as (131a) only allows a negative tag²⁹, while a positive tag is instead required when the sentence has a negative force, such as in (131b). If we consider the tag question referred to a sentence α like a whole sentence β with VP ellipsis, we can assume the following rule:

²⁹ Liliane Haegeman (p.c.) pointed that a positive sentence could, in certain special cases, admit a positive tag. For example in certain echoic contexts when the speaker challenges what the interlocutor has just said, like in the following sentence:

- i. John likes exercises, does he? (Well, I'll show him what exercising means)

Notice however that such contexts are of a special sort, and can not be treated as normal tag questions.

(132) If Force α [+Neg] then Force β [-neg]

Such a rule also applies when no sentential negation marker is present, the negative quantifier being the only negative element:

(133) Nobody came, did he/ *didn't he?

From (133) it is clear that negative quantifiers behave exactly like the sentential negative marker with regards to their ability to type a clause as negative.

At this point we can turn our attention directly to the second question, namely the range of interpretability-valuation possibilities allowed for negative quantifiers. In analogy with sentential negative markers, we could admit that a quantifier can also receive an uninterpretable negative feature, in order to create a link with a higher interpretable site, where this site could be as high as ForceP. Both the representations below are in principle possible for a sentence such as (133):

(133) a. $\text{ForceP}_{[i[]]} \text{AgrP}[\text{Nobody}_{u[\text{val}]} \text{came}]$, did he?

b. $\text{ForceP}_{[u[]]} \text{AgrP}[\text{Nobody}_{i[\text{val}]} \text{came}]$, did he?

We will see that there are actually good reasons to believe that a negative quantifier might bear a $u[\text{val}]$ feature, as long as a connection with an interpretable position can be created. On the other hand, there is less doubt that the negative feature of *nobody* must be [+valued], given that this is the pre-requisite to constituting a suitable goal of creating a connection with ForceP.

Pre-post verbal asymmetries

We have said that negative quantifiers may participate in clause-typing, but not all the quantifiers are equal, and the difference is related to the position they occupy in the

clause. At this point, I would like to consider some interesting differences that can be found in English between pre-verbal and post-verbal positions. With respect to Klima's tests for sentential negation, consider the following sentences:

(134) a. Nobody saw John, did they?

b. *Nobody saw John, didn't they?

(135) a. In no clothes does Kim look good, does he?

b. *In no clothes does Kim look good, doesn't he?

(136) a. Mary doesn't like mushrooms, does she?

b. *Mary doesn't like mushrooms, doesn't she?

All these sentences admit only positive tags, a fact that I take as an indication that a negative feature appears on ForceP.

So far we have seen no particular constraint on the agreement operation, but we know that Agree is actually constrained in several respects, for it must obey syntactic conditions as locality. Let us try an experiment and consider what happens if we increase the distance between the negative quantifier and the location where the typing-probe is generated:

(137) a. John saw nobody, didn't he?

b. It solves nothing, does it

(138) a. Kim looks good in no clothes, doesn't he?

b. Kim looks good in no clothes, does he?

Sentences in (137) also admit a negative tag: example (137a) was originally provided in Ross (1973), who pointed out that Klima's diagnostics give contrasting results, with a negative quantifier in object position not allowing a positive tag. Probably this can be

considered as the preferred option among the speakers, but it also seems that positive tags are allowed, since example (137b) is taken to be grammatical by Huddleston 1984³⁰. The same thing happens in the examples (138)³¹, a variation of the classic examples of Jackendoff (1972) found in Svenonius (2002).

At this point is clear that in post-verbal position something happens, since negative tags are also admitted (and actually they seem to be preferred), indicating that Force has received is default positive value and that the probe has failed to bring a negative value in Force. Since this phenomenon is found only vP internally, the difference can be reduced to vP internal/external positions, and we may recur to the notion of Phase and to the Phase Impenetrability Condition proposed in Chomsky (1998) in order to look for an explanation:

(139) *Phase Impenetrability Condition (PIC)*

In a phase α with a head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations.

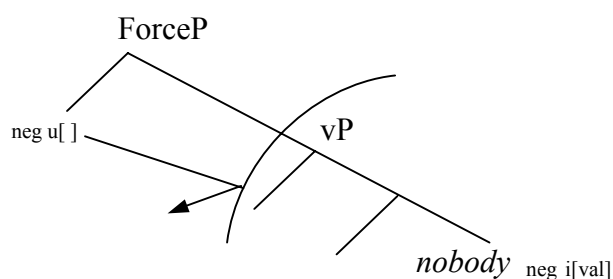
Given $HP = [\alpha [H \beta]]$, where β is the domain of H and α its edge, being $H = v/C$

This condition expresses the fact that the vP is not accessible to the probe generated at the edge of the upper phase, and it allows us to account for constituent negation readings in (137a) and (138a) if combined with the possibility for negative quantifiers to carry a $i[val]$ negative feature. We saw that a feature $i[val]$ can be considered as a complete syntactic object, and when the phase closes, there is no need to carry it over in the rest of the derivation. After spell-out it remains invisible for the probe generated in ForceP, as the PIC warrants:

³⁰ Reported in Haegeman (1995).

³¹ My informants actually reject (138b).

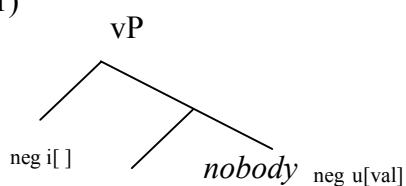
(140)



In this situation the probe fails to encounter a valued negative feature and the clause will receive the default declarative value, justifying the presence of a negative tag.

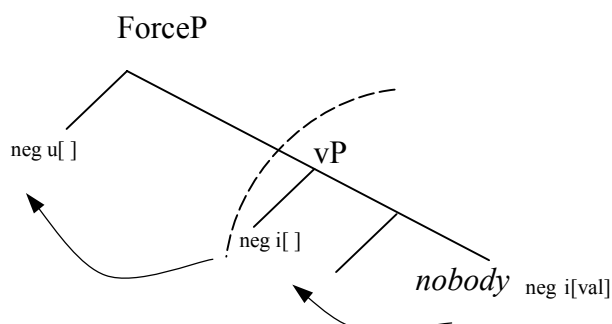
We are left with examples (137b) and (138b), where a post-verbal constituent apparently conveys sentential negation. This in turn means that it is able to take wide scope on the predicate. This situation is uncommon (Svenonius 2002) and in English also it seems to be marked. We could nevertheless account for it analogously to other kinds of wide scope readings, invoking the usual mechanism of NR (a \square -NR, this time)and admitting the movement of the negative element into the specifier of a NegP, as proposed by Haegeman and Zanuttini. But in our machinery we may do without NegP, allowing a negative feature to appear at the edge of every phase, including vP:

(141)



In (141) a negative feature (an interpretable one) appears at the phase-edge, a position visible also in the successive phase. Agreement with the probe generated in ForceP is then possible and a negative tag surfaces to certify this relation:

(142)



On the basis of the evidence furnished by tag-questions, it seems that English is also sensitive to vP internal/external position, a fact that is quite interesting, given that English has been considered as a No-concord language perfectly symmetrical with respect to the syntax of negation. In particular, it results that post-verbal negative elements do not always convey sentential negation, while this faith is almost unavoidable³² in preverbal position.

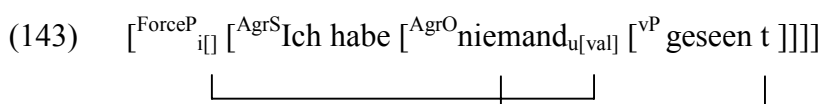
4.2. Other No-concord languages

The analysis outlined for vP-internal constituent negation in English can be extended to other no-concord languages as well, although the difference between vP-internal and vP-external positions can be concealed in independent syntactic factors which require vP constituents to escape from the lower phase. In the case of SOV languages, for example, the superficial order can be obtained through movement of vP internal material to a position on its left through object shift. Although different theories have been proposed to give a precise account of SOV languages and object-shift (Koster 1994, 2000; Zwart 1993, 1997b, 2001; Hinterhölzl 1997, Pearson 1998, 1999, Haegeman 1998a, 1998d, 2000), all of them have a minimal common denominator in assuming leftward movement outside the vP, either by direct movement of object and other constituent in

³² Topicalized negative elements might fail to express sentential negation (Haegeman 2000b and references therein).

one step, or by two successive applications of movement (see Haegeman 2001 for a complete review for West Germanic languages).

If we consider German, a negative quantifier such as *niemand* is always moved outside the vP, and its negative feature can be either interpretable or not, since it is able to meet the probe sent by a $i[]$ feature in ForceP:



There are cases, however, when the quantifier may stay inside the vP³³, but here sentential negation is not possible and the vP internal/external asymmetry emerges once again. Consider the following sentences:

- (144) a. ... weil Peter *auf niemanden/nichts* stolz ist (German, Hamann 1993)
 because P. of nobody/nothing proud is
 ‘... because Peter isn’t proud of anybody/anything’
- b. ...weil Peter stolz *auf niemanden/nichts* ist
 because P. proud of nobody/nothing is
 ‘...because Peter is proud of nobody/nothing’

According to Hamann, (144a) shows the unmarked order of constituents, with the negative quantifier preceding the adjective. This is accounted for if we assume that the negative element moves leftwards, escaping from the VP. Example (144b) shows, instead, a situation where the negative quantifier fails to move. In this case the interpretation varies and (144b) can be interpreted only as constituent negation.

This asymmetry follows if we adopt the analysis proposed for English, with the only difference that that no negative feature is admitted at the lower phase-edge. From this follows that in-situ negative constituents cannot agree with an interpretable feature in clausal-scope position. The only way to respect the principle of radical interpretability is

³³ Those cases always represent marked options. One tentative proposal will be to consider them in vP internal discourse-relate projections, in the spirit of Belletti (2002, 2003)

for negative constituent to carry a feature interpretable and valued, which doesn't need to enter in relation with anything else. But this option will force negation to take narrow scope only on the constituent itself, as in (144b).

This seems to reflect a general situation, common to most Germanic and Scandinavian languages. A good example is given by Norwegian, as recently pointed out by Svenonius (2002) with respect to the negative determiner *ingen*. This element is able to convey sentential negation only when the DP is moved out of the vP and we won't expect negative sentences when movement is blocked, as in those cases where Holmberg's generalization holds. In fact Svenonius argues that 'neg-shift' must obey to the condition in (145):

(145) *Holmberg's generalization.* Holmberg (1999)

Object Shift cannot apply across a phonologically visible category asymmetrically c-commanding the object position except adjuncts.

In this way we may account for the contrast between (146a) and (146b³⁴,c,d):

(146) a. Vi vant ingen konkurranse.

we won no competition
'We didn't win any competition'

b. *Vi kunne ingen konkurranse vinne.
we could no competition won

c. * Vi vant ingen konkurranse i.
we won no competition in

d. *...at vi ingen konkurranse vant
that we no competition won

The pattern in (146) is immediately explained since in (146a) the verbs moves, leaving behind a phonologically null copy, which do not block the movement of *ingen*

³⁴ Examples (146b-d) are attested in literary style.

konkurranse. In (146 b,c,d), instead, the verb stays in a lower position, and negative constituents cannot move across it. Unlike the case with object-shift, however, non-movement leads to ungrammaticality:

(147) a. * Vi kunne vinne ingen konkurranse.
 we could win no competition

b. * Vi vant i ingen konkurranse.
 we won in no competition

c. * ...at vi vant ingen konkurranse.
 that we won no competition

The only way for a negative constituent to stay in its base position is to be interpreted with narrow scope as constituent negation (148a) or as a minimal quantity expression (for which Svenonius used the term ‘trifling negation’) (148b):

(148) a. Vesna ser fin ut i ingen klær.
 Vesna looks fine out in no clothes
 ‘Vesna looks good naked’

b. Han flirer av ingenting.
 he laughs of nothing
 ‘He is laughing at nothing’ (‘for no reason’)

The picture changes when we apply some transformation to sentences such as (148a) moving *ingen* outside the VP, in a way that sentential interpretation may be recovered. This is demonstrated by positive tags and PIs licensing:

(149) a. *I ingen klær* ser Kim fin ut, gjør han vel?
 in no clothes looks Kim nice out does he well
 ‘In no clothes does Kim look good, does he?’

b. *I ingen klær* ser Kim fin ut i det hele tatt
 in no clothes looks Kim nice out in the whole taken
 ‘In no clothes does Kim look good at all’

The pattern which emerges from Svenonious' argumentation is very clear, and we again have a contrast between vP internal/external position. Norwegian ultimately allows sentential negation only outside the vP, by means of the SNM *ikke*, situated between I and V (Nielsen 1997) or a by moved constituent in subject or topic position:

- (150) a. Vi vant *ikke* konkurransen.
 we won not the.competition
 'We didn't win the competition'
- b. Uheldigvis fikk *ingen* norske artister delta i år.
 unfortunately got no Norwegian artist participate in year
 'Unfortunately no Norwegian artist was able to participate this year'
- c. *Ingen* grupiser ble han hengende lenge med.
 no groupies remained he hanging long with
 'He wasn't with any groupies for long'

In other Scandinavian languages where Holmberg's generalization is not attested, negative movement is always allowed and sentential negation is possible. But Norwegian clearly shows that when a negative feature stays in the lower phase (as in the German example (143)), sentential negation is banned. English is an exception in this respect and I assume that no interpretable feature is generally allowed at the edge of the vP, and that the situation illustrated in (140) usually holds.

This contrast between vP internal and vP external constituents is reminiscent of the well-known asymmetry found in non-strict concord Romance varieties, such as Italian or Spanish, where the relevant generalization³⁵ is the one proposed by Ladusaw (2001):

(151) Ladusaw (2001):

In a NC language, it is impossible to express the negation only in the VP

³⁵ Zanuttini (1991) proposed a similar account for the distribution of negative elements, but she assumed Tense as the relevant category:

Zanuttini (1991): Constraint on the assignment of sentential scope to negation:

Negation can take sentential scope only if at s-structure it is in a position from which it c-commands both the Tense Phrase and the Agreement Phrase.

Coupling this observation with pre/post verbal asymmetry in No-Concord languages, we may think that the vP boundary always affects the syntax of negation.

4.2.1. Split scope readings

As we saw in Chapter 1, languages as German and Dutch permit *split scope readings* which result problematic for an analysis along the lines of quantifier raising. We may go back to them now since they can receive a straightforward explanation.

We saw that *niemand* 'nobody' and *nichts* 'nothing' might carry an u[val] negative feature which can be interpreted at the edge of the CP phase and the same applies also to non-pronominal item such as the determiners *kein* in German and *geen* in Dutch, which can be considered to host a u[val]feature. Consider again sentence (23) repeated below as (152) and sentence (153) from De Swart (2000):

- | | | |
|-------|---|-----------------------------|
| (152) | Ze mogen geen eenhoorn zoeken
they are allowed no unicorn seek | (Dutch) |
| | a. they are not allowed to seek a unicorn | $\neg > \text{allowed} > Q$ |
| | b. there is no unicorn that they are allowed to seek | $\neg > Q > \text{allowed}$ |
| | c. they are allowed to seek no unicorn | $\text{allowed} > \neg > Q$ |
| (153) | Alle Ärzte haben kein Auto
all doctors have no car | (German) |
| | a. Not every doctor has a car | $\neg > \text{all} > Q$ |
| | b. there is no car x, such as all the doctors have x | $\neg > Q > \text{all}$ |
| | c. for all doctors x, it is the case that x has no car | $\text{all} > \neg > Q$ |

Here scope ambiguities are expected since quantificational NPs interacts with an intentional operator (152) or with another quantifier (153). In those cases QR has been considered to be responsible for the wide scope readings of *kein* and *geen*.

The problem is that the readings (152a)-(153a) cannot be derived under QR. Consider for example (152a), this reading is actually the preferred one for (152) since the truth conditions of (152b-c) are rather weak: (152b) already becomes true in circumstances in which no unicorns exist, whether or not they have permission to seek unicorns, while (152c) expresses the fact that it is permissible to seek no unicorn but there is no obligation to search for it. The split scope reading (152a), instead, is the more meaningful, since it becomes true if they do not have permission to seek a unicorn. The modal operator is interpreted between the negation and the existential quantifier, and this reading can be easily derived if *geen eenhoorn* moves outside the vP phrase, for whatever reason triggers object shift. The negative feature carried by *geen* may be probed by an interpretable instance situated in a position higher than the modal and, after valuation, this becomes the position where negation is interpreted at the semantic interface, resulting in the desired *split scope* interpretation.

4.3. Polarity

4.3.1. The problem with Subject PIs

Polarity items do not possess any negative feature on their own, but their distribution is in some respects correlated to negative environments. Since Ladusaw (1979) it is less controversial that they are licit only within the scope of an operator of a certain semantic kind, usually assumed to be a superset of negation. The proper semantic characterization of such a class of operators is still, however, subject to much debate (Zwart 1995, Giannakidou 1997, von Stechow 1999), but for the moment it will be enough to point out the basic property of PIs, namely the fact that they are illicit without an appropriate operator (154a), or if the operator fails to scope over it (154b):

(154) a. *I saw anybody

b. *Anybody didn't come

Notice that the ungrammaticality of (154b) crucially depends on two assumptions: the first is the traditional one, according to which the interpretation of negation is linked to a specific projection NegP; the second is that such a projection is situated, in English, below AgrS.

At this point we may suspect that the current proposal, which doesn't share the belief that a negative operator *must* be interpreted in NegP, might have problems in facing cases such as (154b). Actually (154b) doesn't raise a real problem, since \diamond -NR is allowed only when the presence of another scopal element requires the generation of different meanings. But since in (154b) there is no other semantic operator (except the PI which is allowed uniquely with narrow scope), \diamond -NR is not expected to occur.

But things are not so straightforward. We may easily imagine a case where an element other than the PI forces the operation of NR. The modal verb *need*, for example, forces negation to rise and to take wide scope over it:

(155) John need not come

If we assume that ForceP is the landing site for the negative operator, the representation of (155) is the following:

(155') [^{ForceP}_{i[val]} [^{AgrP} John [^{ModP} need [^{NegP} not_{u[val]} [^{VP} come

Here the subject position ultimately falls within the scope of the negative operator, a conclusion that should allow subject PIs, at least in cases similar to (154). But this prediction is not borne out, since subject PIs are still not grammatical:

(156) *Anybody need not come

If sentences like (155) are problematic for other theories of negation which do not contemplate NR, on the other hand, sentence (156) poses a real problem for this

operation. Evidently NR as stated seems to be too permissive and should be limited in some ways, in order to rule out (156).


The traditional account for the ungrammaticality of (154b) and (156), first proposed by Klima (1964), was stated in terms of c-command. In this early view, s-structure c-command maps directly into LF scope. But this assumption is too strong and cannot be maintained, given that inverse wide scope readings in general militates against the correspondence between LF and PF scope. In order to preserve the descriptive power of Klima's original proposal, we may recast it into a disjunctive formulation:


(157) Licensing:

An PI is licit if:

- a. it is within the scope of an appropriate operator α at LF
- b. it is overtly c-commanded by such operator at PF

where the second condition clearly appears as a syntactic representational constraint. This can be thought of either as a derivational constrain operative on PIs movement across an overt copy of its licenser (158) or as operative on operator movement across on overt copy of the Pis (159):

(158) PI OP <PI>


(159) <OP> PI OP <PI>


In principle, both options could be viable, and both possibilities follow from certain general assumptions about the semantic of polarity items that I will illustrate in the next paragraph. For the moment, let us again consider sentence (156). It can be thought of as presenting a situation similar to the abstract case in (159), given that the Polarity Item ends up between two links of the same negative chain:

(156') [^{ForceP}_{i[val]} [^{AgrP} anybody [^{ModP} need [^{NegP} not_{u[val]} [^{VP} come

I see at least two problems that an explanation along these lines needs to face.

The first is that intervention effects are inherently syntactic, and it is not uncontroversial that PI licensing is a syntactic phenomenon. The second is that, even if syntax plays a role, we should ask why a PI that intervenes between two negative features has a blocking effect, given that it doesn't have a negative feature on its own. Let me address these two issues in turn.

Regarding the first question, even if PIs licensing seems to be related to semantic interactions between a licensee and its licensor, certain phenomena seem to show the limit of a purely semantic account. Consider the case of *attraction of negative*, presented at the beginning of the first chapter and reported below:

- (160) a. I don't think that he has come
 b. I think that he hasn't come

Sentence (640a) might be considered as having the same logical representation of (160b), suggesting that the negative operator is interpreted not in the matrix clause but instead in the embedded. If this is always the case with a verb of belief, (161a) should also have a semantic representation similar to (161b):

- (161) a. I don't think that anybody came
 b. *I think that anybody didn't come

But if the relation between the PIs and its licensor is computed uniquely at the semantics, we won't expect *anybody* in the subject position of the embedded in (161a), exactly as we don't expect it in (161b).

Another argument in favour of a partially syntactic treatment of PIs comes from sentences such as (162), taken from Chierchia (2004):

- (162) a. it is not true that there aren't any potatoes
b. There are potatoes

Sentence (162a) is essentially equivalent in its base meaning to (162b), confirming that at LF two negative operators cancel each other out:

$$(162a) \neg \neg \exists x [\text{potatoes}(x)] \Rightarrow (162b) \exists x [\text{potatoes}(x)]$$

If this reasoning is on the right track, once the global meaning of (162a) is computed, the PIs results unlicensed. This suggests that the licensing requirement is met as soon as a first negative operator is encountered, and that this relation becomes impermeable to successive semantic operations.

I take these considerations as sufficient for the attempt of a syntactic account for a sentence such as (156). At this point we are left with the second question, namely why a PIs, lacking a negative feature on its own, gives raise to intervention effects. Before attempting to answer this question directly, let me briefly outline the theory of PIs.

4.3.2. Domain widening operators in DE contexts

In order to systematically deal with the complex problem of PIs licensing, I will follow Ladusaw (1996), decomposing it into three sub-problems: [i] the semantics of the polar items, [ii] the semantic status of the licensor and [iii] the relation which holds between the PI and its licensor.

Semantics of the PIs.

Regarding the quantificational force of PIs, this is probably the less controversial issue, being assumed, since Ladusaw (1979), that PIs are best characterized as indefinites with existential meaning, a vision shared by all successive works (Progovac 1994, Linebarger 1981, Kadmon & Landman 1993, Chierchia 2004, Giannakidou 1997, among others).

But it is clear that they cannot simply be considered as plain indefinites. Between the various proposals, the idea of Kadmon and Landman (1993) seems to be particularly interesting, since it has the merit of connecting PI *any* with free-choice *any*, deriving their distribution from their ability to widen the domain of interpretation. Let me illustrate this point and consider the following exchange, taken from K&L:

(163)a. Speaker A. Will there be French fries tonight ?

Speaker B. No, I don't have potatoes.

b. Speaker A. Maybe you have just a couple of potatoes that I could take and fry in my room?

Speaker B. Sorry, I don't have ANY potatoes.

In (163a) the first speaker asks for some potatoes, where the context makes relevant only a sufficiently large quantity of potatoes. His interlocutor takes this quantity of potatoes as being the one contextually relevant, defining in this way the domain (D) of the quantifier:

D = large quantity of potatoes

In the continuation of the exchange (163b), the speaker A enlarges the defining domain in order to also include small quantities:

D' = small \wedge large quantity of potatoes

In answering this second request, the speaker B now finds it more appropriate to use "any potatoes" instead of the plain indefinite "potatoes". Why is this so? According to K&L, *any* absolves the function of enlarging the defining domain of the quantifier, in order to include the wider domain D'. They call this operation *widening*:

(164) WIDENING

In a NP of the form *any* CN, *any* widens the interpretation of the common noun phrase (CN) along the contextual dimension.

Building on this original intuition, Chierchia proposes to capture widening through a function g able to increase the size of D :

(165) DOMAIN WIDENING

Let g be an increasing function from sets into sets (i.e. for any set D , $g(D) \supseteq D$).

Then: $\exists_D x [\phi] \sqsupset \text{entails } \exists_{g(D)} x [\phi]$

where D is a quantificational domain and ϕ is the plain meaning of the sentence without conversational implicatures.

According to Chierchia, this domain expansion function $g(D)$ must be universally closed at some point in the derivation by an operator $\forall g \in \Delta$, where Δ is the possible excursion for $g(D)$. At this point we have a very detailed characterization of the semantic properties of *any*. To summarize, *any* is an indefinite that must be existentially bound, but its special characteristic is that it forces the application of a domain widening function $g(D)$ which applies on the domain of the existential quantifier, which requires universal closure. Given this analysis, widening could be always allowed in principle, but we know that this operation triggered by *any* is licit only in certain semantic contexts. We must ask now what is so special about these contexts.

The semantic status of the licensor.

Many attempts have been made in order to capture the semantic properties of polarity licensing contexts, and much debate on their proper semantic characterization still exists. According to a trend started by Ladusaw (1979), Downward Entailingness is the appropriate notion to capture PIs distribution. Another influential proposal, due to Zwart

(1995) and further developed by Giannakidou (1997), instead assumes the concept of anti-veridicality as the relevant one. It is not easy to empirically decide which notion is more appropriate, but given the assumptions on the semantic status of PIs previously made, DE offers a principled way to account for the dependency between the licensee and its licensor. Consider the following licensing condition from Ladusaw (1979):

(166) *Licensing condition for PIs:*

α is a trigger for negative polarity items in its scope if α is downward entailing

where a DE function can be defined as follows:

(167) DE function

A function f is downward entailing if for all arbitrary elements X, Y
it holds that $X \subseteq Y \Rightarrow f(Y) \subseteq f(X)$

This function basically allows inferences from set to subset. In these contexts, expression denoting sets can be substituted for expression denoting subsets *salva veritate*. In order to illustrate this point, consider (168) and (169):

(168) Lucy does not like ice cream

$\| \text{ice cream} \| \subseteq \| \text{Italian ice cream} \| \Rightarrow \square$

(169) Lucy doesn't like Italian Ice cream

In (168) we can substitute to the set ice cream the subset of Italian ice cream, in a way that (168) entails (169). The inverse situation holds instead in UE functions.

(170) UE functions

A function f is upward entailing if for all arbitrary elements X, Y
it holds that $X \subseteq Y \Rightarrow f(X) \subseteq f(Y)$

Here, inferences go in the opposite direction, from subsets to sets, and (171) entails (172):

(171) Lucy likes Italian ice cream

$\| \text{ice cream} \| \subseteq \| \text{Italian ice cream} \| \Rightarrow \square$

(172) Lucy likes ice cream

Now that the semantic properties of the trigger α are clearer, we have a way to explain why domain widening functions are restricted only to DE contexts. We are ready to consider the last piece of the puzzle.

The relation which holds between the PI and its licenser

According to Chierchia, the domain widening function has to be ultimately related to a universal operator $\forall g$. The question, then, concerns the reasons why this operator is licit only in DE environments.

A way to answer this involves the "informativeness" or the "informational strength" of the sentence, where *strength* has to be related to more restrictive truth conditions: if α and β are two propositions, α is stronger than β if α asymmetrically entails β . In the case of DE contexts, where the entailment goes from set to subset, a larger set is more informative (stronger) than a smaller one. At this point, it is clear that a domain widening function $g(D)$ which enlarges the set of reference of a quantifier introduces a stronger statement than the one conveyed by a plain existential. Thus, domain widening coincides with strength only in DE domain. The distribution of *any* can be ruled by the following condition proposed by K&L:

(173) STRENGTHENING

Any is licensed only if the widening it introduces creates a stronger statement

To made this claim fully consistent with his proposal about the universal closure on domain extending function, Chierchia subordinates universal closure $\forall g$ to (173) by means of a mapping condition which pairs the insertion of the universal operator $\forall g$ with the DE one³⁶.

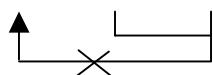
4.3.3. Minimality effects restrict domain widening.

At this point, the semantic relation between PI and their trigger should be clear enough to allows us to consider sentences (154) from a better perspective.

- (154) a. *Anybody didn't come
 b. *Anybody need not come

We have said that one of the requirements for PIs licensing is that their domain-widening function must be universally closed by a universal quantifier, allowed only in presence of a DE operator. Assuming the internal subject hypothesis, *anybody* originates inside the vP, and as soon as the negative element *n't* is introduced, the universal closure of $g(D)$ is possible. At this point, after closure, *any* cannot move across the operator $\forall g$ binding its variable $g(D)$:

- (174) $\text{Any}_{g(D)} \quad \forall g \quad \text{Any}_{g(D)}$



We could explain why subject PIs are not allowed, in the spirit of the general proposal (158), through a constraint operative on the movement of *any*.

Before ending this section, I would also like to briefly explore another alternative, instead involving a syntactic constraint on operator movement. Remember *Attraction of*

³⁶ Chierchia adopts a mapping condition reminiscent of the one proposed in Diesing 1992 for nuclear scope and vP. I believe that one important difference resides in the fact that a mapping condition, in the case of DE operators, must be understood dynamically, in the sense that DE operators occupy different structural positions.

negative phenomena described in (161a) and the licensing of PIs when DE implicatures are removed as in (166a), repeated here as (175) and (176):

(175) I don't think that anybody came

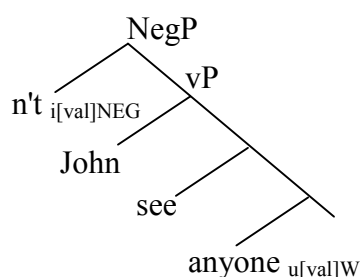
(176) It is not true that there aren't any potatoes

Let me focus on (176). Here the PI result unlicensed, given that two negative operators cancel each other at LF. This fact, according to Chierchia, suggests that some kind of feature checking relation holds between the PI and the first DE operator. We may think of the link between the PI and its licenser as semantically motivated, but syntactically sanctioned. This can be formally expressed by saying that *any* carries a widening feature [+W] that must be checked against a similar feature carried by the operator \forall g. In our framework this means that \forall g has an interpretable but unvalued instance of [+W], while *any* has a valued but uninterpretable instance of the same feature. Consider a sentence such as:

(177) John didn't see anyone

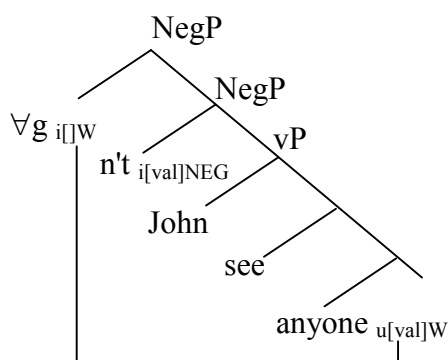
The derivation proceeds as follows: first, arguments are merged into the VP, and a DE operator is inserted in NegP by means of the sentential negative marker which carries an interpretable and valued feature:

(177ⁱ)



The presence of a neg [val] feature (remember that interpretability is not visible in syntax) allows $\forall g$ to be inserted, entering in relation with the domain expanding function variable:

(177ⁱⁱ)



Once this relation is satisfied, the PIs is ultimately licensed. This will account for those sentences in which two negative operators seem to cancel each other out at the semantic representation. In our example (176), after the insertion of the first negative operator, the licensing requirements for the PI are satisfied, even if in the continuation of the derivation another negative operator reverses again the entailing context.

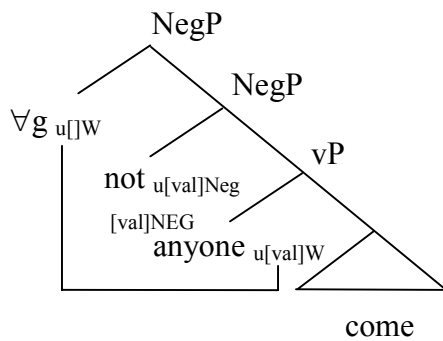
At this point, we might go back to NR, when another scopal element forces the interpretation of a DE operator in an higher position, as in our problematic cases in (154), repeated here once again:

- (178) a. *Anybody didn't come
 b. *Anybody need not come

In (178) we should consider the possibility that the operator $\forall g$ also raises in order to pair its scope with that of the negative operator. Is there any principled way to prevent QR for $\forall g$? I believe that, under our current assumptions, minimality will do the job for us. Let me illustrate a possible derivation for (178b). As soon as the negative marker is

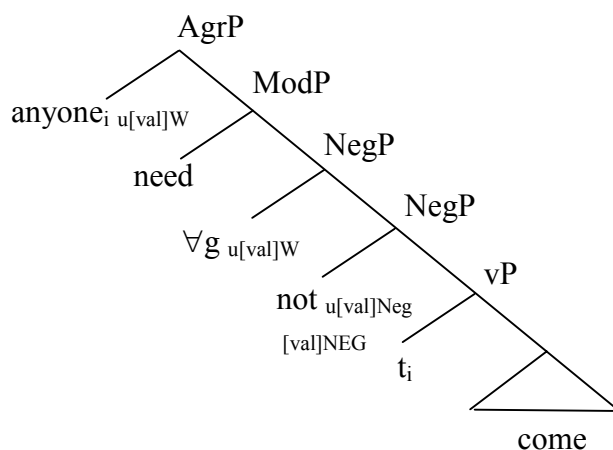
merged in the structure, the universal closure operator $\forall g$ on domain widening function is inserted as well, and enters in relation with the [+W] feature of *any*.

(178ⁱ)



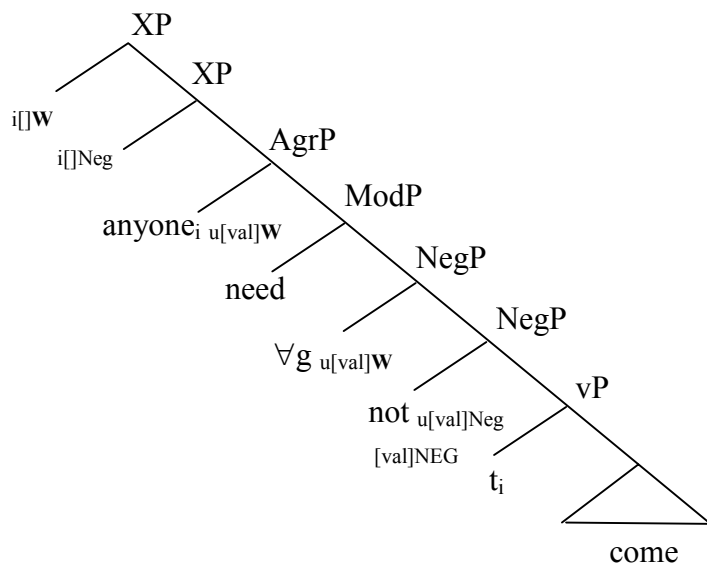
Since the modal *need* requires negation to take wide scope over it, the negative operator needs to be interpreted in a higher position by virtue of a link with an interpretable instance of the negative feature. By hypothesis, I assume that $\forall g$ might also then share the same sort, and be linked to a higher interpretable feature by virtue of the same mechanism. In the continuation of the derivation, the modal is inserted and the PI moves in the subject position:

(178ⁱⁱ)



At this point the last step will be to enlarge the scope of both the negative operator and the universal operator by the insertion of two interpretable but unvalued features which will probe for a value:

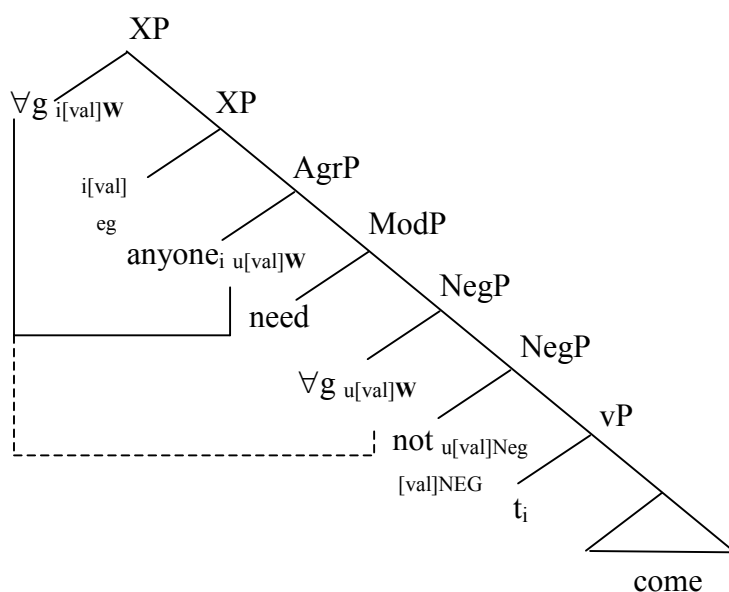
(178ⁱⁱⁱ)



With regards to the negative feature, the interpretable feature inserted will probe its domain, entering in an agreement relation with the valued feature in NegP. The chain is completed, the principle of radical interpretability is satisfied and the wide scope at LF on the polarity modal *need* is obtained.

The result is instead different for the [+W] feature. Once the interpretable instance is inserted, it will also look in its domain for a value. But since the PI is moved in a position between the two links of the chain, a minimality effect will block agreement between the two instances of the universal operator.

(178^{iv})



The lower ∇g will then fail to raise, appearing at LF in a position where it fails to bind its variable, resulting in a violation of the constraint on *vacuous quantification*.

Conclusions

In this chapter, we have extended the analysis given for SNMs to nominal elements which also present a negative feature. The interesting pattern which has emerged from this discussion has shed some light on the mechanism of NR itself, as it was formulated in terms of Agree, revealing interesting subject-object asymmetries which can be accounted for in a framework such as the one proposed in Chomsky (1998).

The existence of such asymmetries in English has been relatively unnoticed in the case of sentential negation, but it seems that the difference between vP internal/external position is a robust one, which is attested in other no-concord languages as well. One documented case is the negative determiner *ingen* in Norwegian, as discussed in Svenonius (2002).

A useful characteristic of no-concord languages is the fact that they clearly reveal which elements endow the sentence with a negative operator and which ones are instead dependent on it (PIs). This was the occasion to discuss the issue of subject PIs, which

constitute a potential problem for the analysis outlined here. Troubles can be avoided, however, by adopting an analysis of PIs in the spirit of Kadmon and Landman (1993) as developed in Chierchia (2004). The impossibility of subject PIs in negative matrix sentences follows from certain assumptions with regard to their semantics, or, alternatively, from more general principles of syntax, such as Relativized Minimality (Rizzi 1991).

In the next chapter, I will consider concord languages, with special attention to Asymmetric Concord varieties, whose subject-object asymmetry seems to reveal once again that vP internal/external sensitivity is a general property of sentential negation.

Chapter 5. Negative Concord

We have seen that No-Concord languages clearly distinguish between two classes of pronouns, negative quantifiers and polarity items, which straightforwardly reveal the presence or the absence of a negative feature. The matter is unfortunately complicated when the scrutiny involves the group of Negative Concord Languages, which includes, but it is not limited to, most Slavic and Romance varieties.

These languages are problematic for they present a set of items which shows a mixed behaviour, swinging in interpretation between negation and polarity. In order to label them in a way that would be as neutral as possible, Laka (1990) proposed the term N-word, referring to the morphological prefix *n-* which accompanies them in several languages. I believe that the fact that after more than one decade the label N-word is still used is an indication that no clear semantic characterization of those items has been reached. Aside from the complex problem posed by N-words, a further complication resides in the fact that Concord languages do not form a homogeneous class, given that in some varieties it is possible to generate double negation (DN) readings as well concord ones. In order to exemplify the difference between Strict and Non-Strict concord languages, consider the following examples, taken from Italian and Russian:

- (179) a. *Non ho visto nessuno* (NC)
Neg aux seen N-body
'I haven't seen anybody'
- b. *Nessuno non ha chiamato* (DN)
N-body Neg Aux called
'Nobody didn't call'
- (180) a. *Ja ne videl ni-kogo.* (NC)
I neg saw N-body
'I saw nobody.'
- b. *Ni-kto ne zvonil.* (NC)
N-body NEG called
'No one called.'

In the Russian example (180) there is no difference in the interpretation of the N-word, if it appears either in pre-verbal (180a) or in post-verbal position (180b). In Italian, instead, the N-word doesn't lose its negative force when it precedes the verb (179b), originating a double negation reading. The Italian examples in (179) illustrate a situation common to many Non-Strict varieties, which is clearly reminiscent of the vP-internal/external asymmetry found in No-Concord languages (No-CL). In order to stress this characteristic, I will recast the distinction between Strict and Non-Strict Concord in structural terms as a distinction between Symmetric and Asymmetric Concord Languages, where the point of symmetry is given by the edge of the vP. My main interest here is with Asymmetric Concord Languages (ACLs) such as Italian, since they can now be integrated into the more general framework outlined in the previous chapter with respect to No-Concord Languages.

This chapter can be intended as being divided into two parts. In the first, I will present the properties of Symmetrical Concord Languages (SCLs) and the different analyses which have been proposed to understand their set of N-words. This will permit us to systematically consider the distinguishing features of N-words. The second part will instead be devoted to ACLs, and I will show that their negative nominal elements can be analyzed in accordance with the basic distinction between negative quantifiers and polarity items found in No-CLs.

5.1. Symmetric Concord Languages

The class of Symmetric Concord languages includes languages belonging to different families: Russian, Serbo-Croatian, Japanese, Greek and Romanian are well known examples (see Brown 1999, for Russian; Progovac 1994, for Serbo-Croatian; Watanabe 2004, for Japanese; Giannakidou 1998, for Greek; Martins 2000, for Romanian).

These languages usually present a paradigm of N-words formed by an indefinite plus some sort of negative morphology. For example, Japanese and Russian form N-words by adding, respectively, the particle *-mo* and *-ni* to an interrogative pronoun. With regard to their distribution, N-words are licit in every position, as long as the sentential negative marker is present within the clause:

- (181) a. John-wa *nani-mo* tabe-(*nak*)*-atta. (Japanese, Watanabe 2004)
 John-TOP what-MO eat-NEG-PAST
 'John didn't eat anything.'
- c. *Dare-mo* monku-o iwa-(*nak*)*-atta.
 who-MO complaint-ACC say-NEG-PAST
 'Nobody complained.'
- (182) a. (*Dhen*)* ipe o Pavlos *TIPOTA*. (Greek, Giannakidou 1997, 2002)
 not said.3sg the Paul n-thing
 'Paul said nothing. '
- b. *KANENAS* (*dhen*)* idha
 n-person not saw.3sg
 'I saw nobody. '
- (183) a. Ja (*ne*)* videl *ni-kogo*. (Russian, Brown 1999)
 I NEG saw N-body
 'I saw no one.'
- b. *Ni-kto* (*ne*)* zvonil.
 N-body NEG called
 'No one called.'
- (184) a. Milan (*ne*)* vidi *nista*. (Serbo-Croatian, Progovac 1994)
 Milan not see.3sg n-thing
 'Milan cannot see anything.'
- b. *Ni(t)ko* (*ne*)* vidi Mario.
 n-person not see.3sg Mario
 'Nobody can see Mario.'

In the case of languages such as Japanese and Greek, the contrast between vP-internal and vP-external positions can be obscured by leftward movement of the object, and they could also be considered as asymmetric varieties with obligatory movement outside the vP. But this argument won't apply for Serbo-Croatian and Russian, since they are considered to be SVO languages without object-shift effects. Since I share here the standard assumption that the object is left inside the vP, it seems that, at least in those varieties, no vP asymmetry can be found.

For this reason, I propose here the term Symmetric Concord Languages. Once this premise is made, we can turn our attention to the semantic characteristic of N-words, illustrating what makes them ambiguous between PIs and a Negative quantifiers. Let us first consider their main analogy with PIs: N-words are not grammatical without the presence of the sentential negative marker, as was shown in examples (181)-(184). But this is not the only analogy. Remember the two tests proposed in the previous chapter to individuate negative quantifiers. The first was the capacity to express negative meanings alone, while the second was the possibility to originate DN: N-words fail both tests. Take the Russian *ni*-series, for example, and consider again (183b):

(183b) *Ni-kto* *(*ne*) *zvonil*.
N-body NEG called
'No one called.'

Here the N-word *Ni-kto* fails to express negation alone, and it needs the sentential negative marker *ne* to be grammatical.

But Russian N-words also fail the second strong test, since the sum of multiple N-words doesn't express multiple negations, as the following sentence shows:

(185) *Nikto nikogda nigde ni s kemkem *(ne) tancuet* (Brown 1999)
NI-who NI-when NI-where NI-with-who not dances
'nobody dances with anybody at anytime anywhere'

This situation also extends to N-words in the other SCLs and, since their behaviour looks more similar to PIs than to negative quantifiers, for this reason they can be considered to be subject to some licensing requirement. But even if there are reasons to believe that N-words could not possess a negative feature on their own, there are also reasons to keep them distinct from PIs like the English *any* series. Those reservations concern both the nature of the licensor and its link with N-words; in this section I will systematically compare the main characteristics of PIs with N-words in SCLs, showing that important differences exist.

5.1.1. Different strengths of PIs.

There are many reasons to believe that N-words deserve a different treatment from PIs, and one of them is the fact that N-words are more selective with regards to their licensing contexts. Remember that, in the case of PIs, the class of DE operators is sufficient to meet the requirements imposed by the semantics. But N-words are not licensed in all DE contexts. For example, they are not licensed in questions. Compare (186) with (187):

(186) Did you see anybody?

(187) a. *Da li Milan voli nitkoga? (Serbian/Croatian, Progovac 1994)
that Q Milan love.3sg n-person

b. *Nikto zvonil? (Russian, Brown 1999)
n-person called.3sg

c. *Idhes KANENAN? (Greek, Giannakidou 2002)
saw.2sg n-person

This contrast between (186) and (187) indicates that N-words cannot be treated on par with *any*, and many authors (Brown 1999, Watanabe 2004) have proposed to reduce the problem of N-words licensing to a matter of syntactic feature checking, where N-words are essentially quantifiers, plus a syntactic uninterpretable feature which must be deleted against an interpretable one carried by the SNM.

Such a solution is not the only one, however, and it is possible to save the PIs analysis if we assume, together with Zwart (1993) Kas (1993) and van der Wouden (1997), that PIs may vary in their strength. N-words might be, in fact, considered as strong PIs sensitive to the narrower class of antimorphic operators. According to Zwart and van der Wouden, antimorphic operators respect the following conditions:

(188) a function f is antimorphic if:

- a. $f(X \text{ or } Y) \rightarrow f(X) \text{ and } f(Y)$
- b. $f(X \text{ or } Y) \leftarrow f(X) \text{ and } f(Y)$
- c. $f(X \text{ and } Y) \leftarrow f(X) \text{ or } f(Y)$
- d. $f(X \text{ and } Y) \rightarrow f(X) \text{ or } f(Y)$

A negative operator actually introduces an antimorphic function, since it respects the conditions stated in (188). This can be verified considering the sentences in (189):

- (189) a. Max doesn't sing or dance.
- b. Max doesn't sing and Max doesn't dance.
- c. Max shouldn't drink and drive.
- d. Max shouldn't drink or Max shouldn't drive.

Sentences (189a) and (189b) entail each other, and the same holds for (189c) and (189d). This confirms that negative operators have something more than DE operators³⁷ and this difference in strength might translate to PIs sensitivity: weak PIs will be sensitive to the DE contexts, as in the case of *any*-PIs, while strong PIs, such as N-words, will be sensitive only to antimorphic contexts. This distinction actually finds broad empirical support, and it is also found language internally. English itself shows PIs of different strengths. Van der Wouden (1992b) gives the following examples:

- (190) a. Chomsky didn't talk about *any* of these facts
- b. Chomsky wasn't *a bit* happy about these facts
- c. Chomsky didn't talk about these facts *yet*

- (191) a. At most three linguists have talked about *any* of these facts
- b. *At most three linguists were *a bit* happy about these facts
- c. *At most three linguists have talked about these facts *yet*

³⁷ Zwarts (1995) demonstrated that antimorphic operators are a subset of DE operators.

Sentential negation in (190) creates a strong antimorphic context, which licences PIs as *any*, *yet* and a *bit*. In (191), instead, *at most* is not an antimorphic operator and only weak PIs are allowed: from this follows the ungrammaticality of *yet* and a *bit*, which must be considered as strong PIs³⁸. A situation similar to the one exemplified by the English sentences in (190) and (191) can be found in many languages³⁹, including Italian:

- (192) a. Non ho guadagnato *niente*
not have-1s earned n-thing
‘I didn’t earn anything’
- b. Non ho guadagnato *un bel niente*
not have-1s earned a nice n-thing
‘I didn’t earned a damn thing’
- c. Non ho guadagnato *un fico secco*
not have-1s earned a fig dried
‘I didn’t earn a red cent’
- (193) a. Hai guadagnato *niente*?
have-2s earned n-thing
‘Did you earn anything?’
- b. *Hai guadagnato *un bel niente*?
have-2s earned a nice n-thing
- c. *Hai guadagnato *un fico secco*?
have-2s earned a fig dried

In Italian the existence of PIs of different strengths goes passed unnoticed, but the contrast between the b. and c. examples shows that the *niente*, when modified with *bel* (literally ‘nice’) becomes an idiomatic expression which requires an antimorphic context

³⁸ Also punctual *until* can be considered as a strong PI. See Pereltsvaig (2004).

³⁹ See for example the opposition *cong lai/ren he*, in Chinese (Progovac 1988).

(193b). The same holds for the minimizer *un fico secco*, roughly translatable as ‘a red cent’ (193c).

On the basis of this documented distinction between strong and weak PIs, N-words can still be considered as polarity expressions lacking a negative feature. But, nevertheless, they cannot be treated as English *any* with regard to the licensing operator, and this constitutes a first important difference.

5.1.2. pre-post verbal asymmetries

We have extensively discussed in the previous chapter (§4.3.) the impossibility for a PI to c-command its licenser at PF. In the case of N-words, no such constraint seems to be in force, and they are allowed to appear to the left of the sentential negative marker:

(194) *anybody didn’t came

(195)a. *Ni-kto ne zvonil.* (Russian)
 N-body NEG called
 ‘No one called.’

b. *Ni(t)ko ne vidi Mario.* (Serbo-Croatian)
 n-person not see.3sg Mario
 ‘Nobody can see Mario.’

c. *KANENAS (dhen)* idha* (Greek)
 n-person not saw.3sg
 ‘I saw nobody.’

From the contrast between (194) and (195), it is evident than N-words are not subject to whatever constraint blocks pre-verbal PIs in English negative matrix clauses. I will not try to account for the asymmetry here, but remember from section §4.3.2. that English PIs were required to be bound by a universal operator which closes the widening function $g(D)$. In the case of N-words, instead, it is not obvious that N-words trigger the same domain-widening function. This means that they might not require to be ‘roofed’ by any universal operator, being free to move in pre-verbal positions.

5.1.3. Long distance licensing

Another difference between *any*-PIs and N-words regards the distance that might intervene between the licensor and the licensee. In the case of English PIs, they can be licensed in an embedded clause by an operator situated in the governing matrix, resulting in a long distance relation, while this possibility is forbidden to N-words:

(196) John does not claim that Mary knows anybody

(197) a. *Milan ne tvrdi [da Marija poznaje ni(t)koga (Serbo-Croatian)
 Milan not claim.3sg that Maria know.3sg n-person
 'Milan does not claim that Mary knows anybody.'

b. *I Ariadhni dhen ipe oti idhe TIPOTA. (Greek)
 the Ariadne not said.3sg that saw.3sg n-thing
 'Ariadne didn't say that she saw anything.'

The contrast between (196) and (197) has usually been considered as a difference relative to the intrinsic properties of the two sets of polarity items.

I wish to make a little digression here, pointing out that the ungrammaticality of (197) could originate from other syntactic differences related to the different degree of opacity created by embedded clauses in Greek and Serbo-Croatian. Consider, for example, the following sentences from Italian:

(198) a. Non credo che tu abbia ottenuto un fico secco
 not believe that you have-subj-2s received a fig dried
 'I don't think that you got a red cent'

b. *Non dico che tu abbia ottenuto un fico secco
 not say that you have-subj-2s received a fig dried
 'I'm not saying that you got a red cent'

In (198a) the strong PI *un fico secco* is licensed by a negative operator in the governing matrix, resulting in a long-distance licensing. But notice that (198a) and (198b) constitute a minimal pair, where the only difference is given by a different verb in the matrix. Thus, the contrast in (198) depends on more general properties of the matrix verb

and, eventually, of the CP it selects. It is then possible to account for the impossibility of long-distance relations in two ways. One is the degree of opacity between the matrix and the embedded clause. The other relies instead on the properties of the PI. In absence of more detailed data, I will nevertheless consider the contrast between (196) and (197) as related to different properties of PIs and N-words.

5.1.4. Fragments

The last well-known difference was originally pointed out by Zanuttini (1991), and it concerns the possibility of using an N-word as an elliptical (or fragment) answer. As illustrated by the following minimal pair, this possibility is forbidden for English PIs:

(199) Q: Who did you see?

A: *anybody

(200) Q: Ti idhes?

what saw-2s

'What have you seen?'

A: TIPOTA

'nothing'

In these examples, N-words seem to convey a meaning similar to negative quantifiers, and this argument has usually been taken to indicate their intrinsic negativity.

However, fragment answers do not constitute conclusive evidence on the negative status of N-words, since they can be considered to be only pieces of a larger sentence with an elided part, as Giannakidou (1998) has proposed. She claims that in (198) we also need to consider the shape of the elided part, since this will be the place where the negative sentence marker will appear, providing a licenser for the N-word. The whole structure of the answer in (198) would then be the following:

(201) Q: Ti idhes?

TIPOTA [~~dhen~~_[+neg] idha]

N-thing not saw-1s

In accordance with this analysis, the difference between PIs and N-words in fragment answers is then reduced to the generalization according to which PIs are banned in the preverbal position of declarative matrix clauses, since (200) would have the following complete representation:

(202) Q: Who did you see?

*anybody [~~I didn't see~~]

In this case, a PI appears in preverbal position in what seems to be a declarative matrix clause, a possibility banned for *any*-PIs. This analysis provides a simple account for the contrast in (199)-(200), treating fragment answers on a par with normal declarative sentences. But despite its simplicity, this analysis does not seem to be devoid of problems, especially when a more careful consideration of ellipsis resolution mechanisms is made. I will discuss this problem in more detail in section §5.3.1.1, but let me briefly sketch it as originally formulated by Watanabe (2004). If we adopt Merchant's (2001) theory of ellipsis resolution, a constituent must respect two conditions in order to be elided. The first is that the elided expression must have a salient antecedent in the discourse and the second is that such an expression also needs to be semantically isomorphic with its antecedent. Let us now consider the structure in (201). The question itself could provide a suitable antecedent for the elided constituent, but since the question is not negative, the condition on semantic isomorphism results as being violated. This problem can be solved, according to Watanabe, by considering N-words as negative, in accordance with Zanuttini's original proposal. In this case, the negative meaning will be conveyed by the N-word, outside the elided constituent:

(203) Q: Ti idhes?

A: TIPOTA_[+NEG] [~~dhen idha~~]

However, anticipating this discussion, it is possible to rescue Giannakidou's proposal if we allow for a mechanism such as Negation Raising, which is able to bring the

interpretable negative feature outside the ellipsis. In this way the ellipsis problem ceases to constitute a counter argument against the polarity item status of N-words.

5.1.5. Summary

The picture is now complete, and it should be clear that both an approach which considers N-words as negative quantifiers and one which treats them like PIs, as they stand, are a blanket too short to cover the whole range of basic properties presented by N-words. On one hand, the possibility of appearing in fragments, combined with all the differences reported in (660) below, seems to indicate that N-words are more similar to negative quantifiers:

(204) a. *weak PIs are licensed in the scope of a non-veridical operator while N-words are licensed only in combination with an anti-veridical operator.*

b. *weak PIs cannot appear in preverbal position in declarative matrix clauses while N-Words can.*

c. *weak PIs can be licensed long distance while N-word licensing is clause-bound*

But if they are really negative, it is not easy to explain why they cannot negate a sentence by themselves, nor originate double negation readings when combined with the SNM. A complete picture of all the contrasting properties shown by N-words is given in the table below, compared with negative quantifiers and weak PIs:

TABLE 4.

Properties	PI	Neg-Q	N-words
1. Negation alone	x	√□	x
2. Double negation	x	√□	x
3. Fragments	x	√□	√□
4. Pre-verbal decl. matrix position	x	√□	√□
5. Restrict to anti-veridical contexts	x	-	√□
6. Clause boundedness	x	-	√□

5.2. Feature checking or semantic dependency?

As we have mentioned in the course of the discussion, there are two main approaches that account for the complex behaviour of N-words showed in table 4. One is to consider them as negative quantifiers, and this will immediately account for the properties 3-4-5 and 6. But something else must be said for the impossibility of conveying negation alone (property 1) and of generating double negation readings (property 2). The other strategy is to instead treat them as PIs, explaining properties 1 and 2, but leaving aside the properties listed from 3 to 6. Summing up all the characteristics presented so far, the following statement will express the possible distribution of N-words in the group of languages under examination:

(205) *a N-word in Symmetric concord language is allowed only if it appears in a negative clause.*

In this section I will consider how the two families of theories explain the descriptive generalization stated in (205).

5.2.1. Syntactic accounts

The first organic approach to the problem of N-words has been that of Zanuttini (1991) and Haegeman & Zanuttini (1991) which has been subject to different minor changes in the first half of the 1990's. According to H&Z, the generalization in (205) becomes trivial, since N-words are considered to be like negative quantifiers⁴⁰, composed by a quantificational part plus a negative operator:

(206) N-words = $\forall x \neg$

Since N-words are also made of a negative operator, which has the possibility of originating sentential negation, it follows their distribution in negative clauses only. What is more difficult to explain is why the sentential negative marker is also needed, and why multiple negations readings are forbidden. In order to answer to the first question, H&Z propose that negation is subject to a syntactic requirement similar to the one proposed by Rizzi (1991) for Wh-questions:

(207) Neg-Criterion

- a. A Neg-operator must be in a Spec-head configuration with an X^0 [Neg].
- b. An X^0 [Neg] must be in a Spec-head configuration with a Neg-operator.

By virtue of the Neg-Criterion, the presence of two negative elements, a negative operator and a semantic head is forced within every negative clause. Under this assumption, Concord languages appear to be the unmarked case, with both elements overtly manifested. In certain cases, however, it is clear that no spec-head relation is created and the solution proposed by H&Z is essentially similar to the NR operation, with a chain formed between different negative operators. As an example, consider the Russian sentences in (181), repeated as (208):

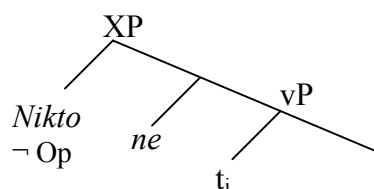
⁴⁰ Both the options that a N-word is a universal or an existential quantifier are possible.

(208) a. *Ja ne videl ni-kogo.*
 I NEG saw N-body
 ‘I saw no one.’

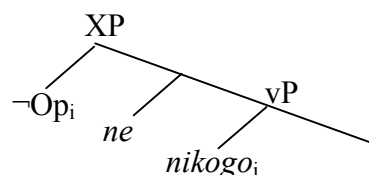
b. *Ni-kto ne zvonil.*
 N-body NEG called
 ‘No one called.’

In (208a) the N-word has moved reaching the specifier of NegP, while in (208b) a null operator is identified by the creation of a chain with the lower N-word:

(208a) *Ni-kto ne zvonil.*



(208b) *Ja ne videl ni-kogo.*



The explanation appears to be quite elegant, but the matter is complicated when we have to face the problem of multiple negations readings. If N-words are negative quantifiers, each one should contribute its own negative meaning, but this is not the case, as (185), repeated here as (209), shows:

(209) *Nikto nikogda nigde ni s kemkem *(ne) tancuet*
 NI-who NI-when NI-where NI-with-who not dances
 ‘nobody dances with anybody, anytime, anywhere’

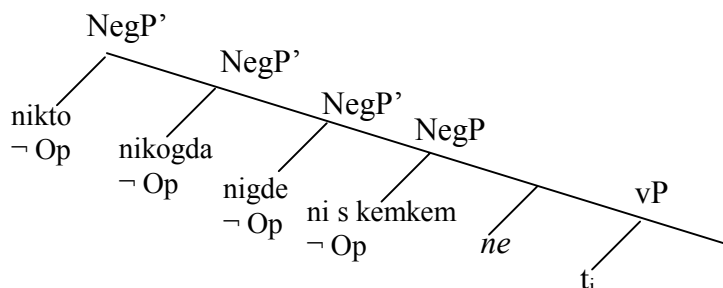
This sentence is interpreted as if only one negative operator is present. To account for this interpretation, H&Z propose a further process, able to conflate two or more negative operators into a single one:

(210) neg-factorization

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

This process takes as input multiple negative features in the Spec of NegP and returns a single value:

(209')



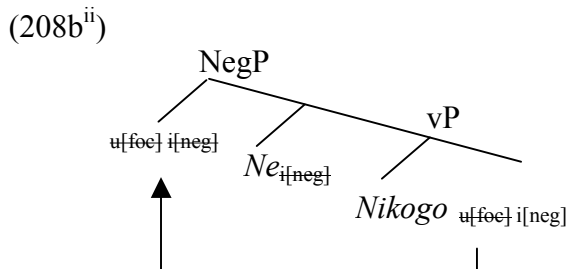
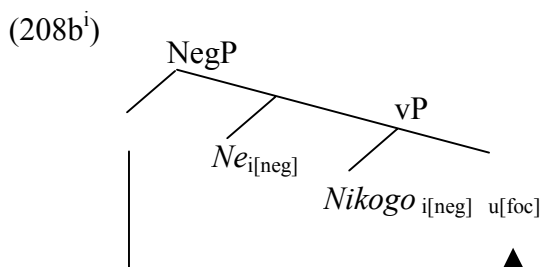
It is evident that there is a considerable price to pay, in order to consider N-words as negative, and the price consists in admitting two different processes, a syntactic and a semantic one. Moreover, a certain number of problems affect this account. One is the proliferation of phonetically null elements forced by the satisfaction of the Neg-Criterion. The second involves instead the Neg-factorization, which seems to be essentially an ad hoc mechanism needed to account for the single negation reading of multiple N-words.

In order to save the broad empirical coverage reached by H&Z account, Watanabe (1999, 2004) tries to recast their proposal into the general mechanism of feature checking as proposed in Chomsky (1998). Watanabe maintains H&Z's original claim that N-words must be considered as negative quantifiers, but he discards the difference between X^0 and X' positions. From this follows that head sentential negative markers can also host an interpretable negative feature, reducing the need of phonetically null elements.

With regard to the link between the SNM and the N-word, Watanabe proposes that such a connection is created by means of a uninterpretable focus feature $u[\text{foc}]$, which actually plays the role of the Neg-Criterion. Let us consider how the system works and which theoretical assumptions lie behind it. The first assumption is that interpretable features may also probe, and from this follows that the negative interpretable feature carried by the sentential negative marker may also look for another negative feature in its search domain. The second assumption is that a goal, in order to be visible, must be activated by an unvalued feature.

The process will be schematically illustrated for the derivation of (208b). The first step consists in an Agreement process between the $i[\text{neg}]$ of the SNM and the $i[\text{neg}]$ of the N-word, activated by a $u[\text{foc}]$ feature. Successively, the feature found on the goal is copied and the negative feature on the probe is deleted. This will result in only one interpretable negative feature, namely the one provided by the N-words. Let us look at the derivation of (208b)

(208b) *Ja ne videl ni-kogo.*



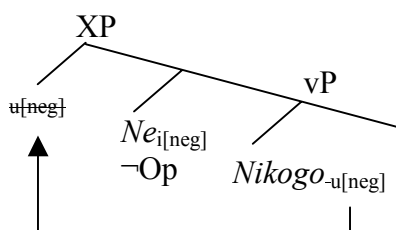
Watanabe's approach has the merit of resolving the problem for fragment answers posed by ellipsis resolution, since the negative marker results as being emptied of its interpretable negative feature, and in the case of multiple occurrences of N-words, a process like the attract-all mechanism (Bošković 1999), or a multiple Agree (Hiraiwa 2005) will account for the data⁴¹.

I wish to conclude this brief overview of the syntactic account for N-word with the proposal of Brown (1999), since I believe that her system is halfway between the previous syntactic accounts already discussed and the polarity one that will be next

⁴¹ But some kind of factorization is needed anyway.

considered. Brown's system is similar to Watanabe's, but with the important difference that N-words are not considered to be semantically negative. Brown assumes that, at least in Russian, N-words present a negative feature, but this feature is actually an uninterpretable one that must be checked against the SNM:

(208) b. *Ja ne videl ni-kogo.*



It is easy to see that, under this account, no multiple negation reading is expected, since the N-word feature is not passed to the semantic interface.

We have dismissed here the idea that N-words are negative quantifiers. They result as being quantificational elements ultimately dependent on negation. The only difference from the account that will be proposed in the next paragraph is that such a dependency is stated here in syntactic terms.

5.2.2. Polarity dependencies

Another solution to the problem of N-words consist in treating them as special kinds of PIs. A proposal in this spirit has been put forward by Anastasia Giannakidou (1998). She has considered the properties of Greek emphatic N-words underlining the two main properties possessed by such elements: their dependence on clausal negation and the clause-boundedness of such a dependence. Those properties are shared by N-words in SCLs and her analysis can be extended to all the other languages presented so far. In order to account for the distribution of Greek emphatics, Giannakidou proposed to treat them as Strong PIs, but this characterization will not explain why they are not licensed by a superordinate negation and why they might appear in subject and focus positions.

The solution to these two problems consist, according to Giannakidou, in considering N-words not as indefinites or existential quantifiers (as usually proposed for *any*), but as

being endowed with universal quantificational force. Consider the following Greek sentence:

(211) *Dhen irthe KANENAS.*
not came.3sg n-person
'Nobody came.'

In this sentence *dhen* is required to licence the strong PI 'KANENAS'. Since emphatics in Greek and N-words in general are PIs, it follows that they require the sentential negative marker and that they cannot originate multiple negation readings. The problem is to explain their distribution in preverbal contexts, since they may appear preceding their licenser:

(212) *KANENAS Dhen idha.*
n-person not saw.1sg
'I saw nobody'

A solution is offered by Giannakidou assuming that N-words are universal quantifiers which obligatorily undergo QR. In the cases, unmarked in Greek, where they appear to follow the sentential negative marker, a covert movement actually raises them above the negative operator, in order to obtain for (211) and (212) a configuration as the following:

(213) $\forall x$ [**person** (x) \rightarrow \neg \square **came/see** (x)]

We have an obligatory movement, as in the case of the Neg-criterion, but this process follows from more general properties of quantifiers.

A problem with this approach is that it is not clear to me what polarity means in these cases. According to all the standard formulations, including Giannakidou's own, a polar element must be *within* the semantic scope of its licenser, but it is easy to see that, if the correct representation for (211) and (212) is the one provided in (213), the universal polarity items must actually *escape* from the scope of its licenser, resulting in a contradiction difficult to solve. Nevertheless, this kind of explanation has the merit of avoiding factorization, reducing N-words to a particular case of polarity licensing.

Remember that in section §4.3. we have accounted for the impossibility of having PIs in subject position, claiming that a universal quantifier $\forall g$ acts as a blockade. But the presence of such an operator has its reason to be only if the PI induces a domain-widening function $g(D)$ and, in the case of N-words, there is no evidence that $\forall g$ is needed. Notice that, lacking such operator, nothing will prevent the N-word from crossing negation. This could account for the fact that they are licit in preverbal position.

5.3. Asymmetric Concord languages

The symmetric concord languages just examined are characterized by the fact that they do not correlate the interpretive properties of their set of N-words with the position where they surface. In other languages, instead, concord readings may be sensitive to different structural positions and this situation is found in several Romance varieties⁴²

⁴² [It has been claimed that WF is a negative concord language. But the main characteristic of NC languages is the requirement imposed by the negative item to be paired with the sentential negative marker:

- i. *(non) ho visto nessuno (Ita. non-strict)
- ii. Ja *nikogo* *(ne) vižu (Russ. strict)

In WF *nie* is instead always optional when paired with a negative quantifier:

- iii. da Valère van niets (nie) ketent (en) was NC
that Valère of nothing (not) satisfied (en) was
that Valère wasn't pleased with anything'.

The question to answer is why *nie*, is optional and why it doesn't originate double negation when preceded by one of them:

- iv. da Valère nie ketent **van niets** was (*NC, OK with DN reading)
- v. da Valère nie ketent was **van niets** DN

One explanation is that *nie* patterns with *mai* in Italian, which can be a sentential negative marker when it is not c-commanded by any other element (they might both licence PIs), but it can be also considered as a NPI:

- vi. Mai ho fatto niente
never have done n-thing
 'I have never done anything'
- vii. Non ho mai fatto questo
 not have ever done this
 'I haven't ever done this'

where concord is possible only when the N-word appears in post-verbal positions. Consider the following examples:

- (214) a. *Non vidi niente* (Italian)
 not saw-1s n-thing
 ‘I did not see anything.’
- b. *Não vi ninguém.* (EU Por, Matos 1999)
 not saw-1sg n-person
 ‘I did not see anyone.’
- c. *No vino nadie.* (Spanish, Laka 1990)
 not came-3sg n-person
 ‘Nobody came.’
- d. *No he dit res.* (Catalan, Valduvì 1994)
 not have-1sg said n-thing
 ‘I didn’t say anything.’
- e. *No’ est vennitu neune* (Sardinian, Jones 1993)
 not is came n-body
 ‘nobody came’

In all the examples in (214), the post-verbal N-word appears together with the sentential negative marker, resulting in an interpretation with single negation, the one expected under concord. But things change when N-words precede the verb: here the negative marker is not required anymore and the N-word alone is able to express a negative meaning on its own:

- (215) a. *Nessuno ha telefonato* (ITA)
 n-person has telephoned
 ‘nobody telephoned’
- b. *Ninguém lhe telefonou.* (EU Por, Matos 1999)
 nobody him called
 ‘Nobody called him.’
-

- c. *Nada* funciona (Spanish, Valduvì 1994)
 n-thing works
 ‘nothing works’
- d. A *NINGÚ* ha vist (Catalan, Valduvì 1994)
 ‘(S)he has seen nobody’
- e. Neune at mai peccatu (Sardinian Jones 1993)
 ‘Nobody has ever sinned’

In pre-verbal contexts, N-words are self-licensed and inherently negative in meaning: two conditions resembling the status of negative quantifiers instead of polarity items. Given this difference between pre and post verbal environments, I will consider them separately, in order to account for the contrast between (214) and (215).

5.3.1. pre-verbal environments

If we check the properties shown by subject N-words in this group of romance languages, we may see that they pattern with Negative quantifiers in almost all the relevant respects. Remember that negative quantifiers were characterized by the possibility to negate sentences on their own, to appear in subject position in declarative matrix clauses, to generate multiple negation and to appear in fragment answers.

The first two properties, namely the possibility to appear preceding the SNM and to convey a negative meaning, were already exemplified in (215). It remains to verify if they are allowed in fragment answers and if they can be used to generate double negation readings.

Regarding the elliptical answers, it is well known that all the languages of this group allow N-words in fragments:

- (216) a. Q: Chi hai visto? (Italian)
 who have-2s seen?
 ‘Who did you see?’
- A: *Nessuno*
 ‘Nobody’

b. Q: Ele telefonou a alguém? (EU Por, matos)
 he phoned to anybody to nobody
 ‘Did he call anybody?’

A: *A ninguém.*
 ‘Nobody’

c. Q: Qui t’ ha vist? (Catalan, Espinal)
 who cl-2s-obj have seen
 ‘Who saw you?’

A: *Ningú*
 ‘Nobody’

d. Q: ¿Desea algo más? (Spanish, Valduví 1994)
 ‘Would you like anything else?’

A: *Nada*
 ‘Nothing’

Double negation readings are instead more difficult to check, since they are always marked. Moreover, in No-Concord languages they can be generated by inserting negative items in every position, while in ACLs we are forced to stack multiple negations only in pre-verbal positions. Nevertheless, Italian shows that when an N-word is in subject position, or is forced to move in the left-periphery of the clause, the double negation is relatively easy to obtain. Consider the following example:

(217) *Nessuno non ha capito il problema*
 n-person not has understood the problem
 ‘nobody didn’t understand the problem’

Here the N-word appears in pre-verbal subject position together with the SNM *non*. This sentence, pronounced with a plan intonation, is more naturally interpreted as a double negation. The same effect holds when *nessuno* appears in FocusP, either expressing new information or a contrastive reading:

(218) *Dicono che, alla festa di Gianni, non siano venuti tutti gli invitati*
 ‘they say that, to Gianni’s party, not all the guests came’

Macchè! NESSUNO non è venuto! DN
 ‘On the contrary! NOBODY didn’t come!’

(219) Chi non è venuto alla festa?
 ‘who didn’t come to the party?’

NESSUNO non è venuto alla festa DN
 ‘NOBODY, didn’t come to the party’

Sentences (218) and (219) show that when an appropriate context is given, double negation readings also arise in presence of a focused constituent. A similar behaviour is also found in other ACLs, with the only exception of Catalan. In Spanish, the combination of a subject N-word with the Negative marker *no* is interpreted like in Italian, if we follow the judgement reported in Ladusaw (1992) in (220). The same is also found in Logodurese Sardinian:

(220) *Nadie no* ha venido. DN (Spanish)
 n-body not has come
 ‘Nobody hasn’t come.’

(221) *Neune no*’at mai peccatu DN (Sardinian)
 ‘Nobody has never sinned’

Portuguese is more problematic for the paucity of the data, since double negation effects are poorly discussed in the literature. Martins (2000) and Matos (1999) report the following sentences with an asterisk:

(222) a. *Ninguém não* disse tal coisa. (Eu Portuguese, Martins 2000)
 nobody not said such a thing
 ‘nobody didn’t say that’

b. *Nunca não* dissemos tal coisa! (Matos 1999)
 never not said. 1pl such a thing
 ‘We never said that!’

I suspect that the asterisk was meant to merely indicate that the SNM is not allowed in the case that the intended reading is a concord one. Since both Martins and Matos are

focusing only on a single negation, the Double Negation reading was not taken into consideration. This seems to be confirmed by the fact that two N-words in pre-verbal position are not ungrammatical in Portuguese, resulting in a marked but possible double negative sentence:

- (223) a. ??*Ninguém nada* leu. DN (Matos 1999)
 nobody nothing read
- b. ??*Nada, ninguém* leu. DN (Matos 1999)
 nothing nobody read

Catalan is the only language among the asymmetric groups which does not allow a double negation reading when a preverbal N-word is combined with the negative marker:

- (224) A *NINGÚ* no ha vist (Catalan, Espinal)
 ‘(S)he has seen nobody’
- b. *Ningú* no ens ha donat *una* explicació
 ‘Nobody gave an explanation to us’

This is the only asymmetric language that also seems to be Strict Negative Concord. It will be interesting to see, however, if double negation is possible when more than one N-word appears to the left of the inflected verb.

At this point we can look at the whole picture, noting that pre-verbal N-words behave like Negative quantifiers in all the relevant respects, with the only exception being Catalan for the double negation readings.

TABLE 5. Pre-verbal N-words.

Properties of Neg-Q	Ita	Spa	Port	Cat	Sard
1. Negation alone	✓	✓	✓	✓	✓□
2. Double negation	✓	✓	✓□	x	✓□
3. Fragments	✓	✓	✓	✓	✓□

I assume, then, that preverbal N-words, in all the asymmetric varieties, are Negative quantifiers on a par with the English *no*-series. Of course it still to be explained what happens in post-verbal position, and it is clear that something else needs to be said. But before, I will stop for a while in order to consider again the case of fragment answers by looking at Italian.

5.3.1.1. Ellipsis resolution and the missing reading

The properties illustrated in Table 5 suggest that pre-verbal N-words in ACLs can receive the same characterization as negative quantifiers in No-Concord languages. This means that we may consider them as equipped with an unevaluated negative feature which may receive its interpretation in a higher structural position. I assume here that the Italian *n*-series is equipped with a negative feature of this sort:

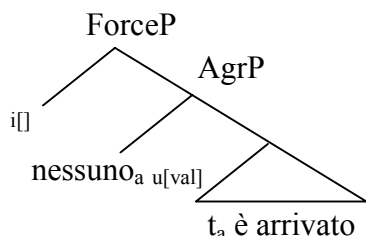
(225) nessuno = u[val]

Given its negative value, it follows that such an element can convey a negative meaning on its own whenever a link with an interpretable instance is created. Since we are dealing here only with pre-verbal contexts, it is easy to see that no phase-edge intervenes to block such a link with ForceP. Consider for example the sentences in (226):

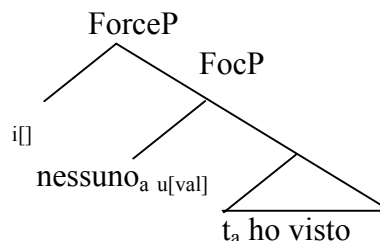
- (226) a. *Nessuno* ha telefonato (ITA)
 n-person has telephoned
 ‘nobody telephoned’
- b. NESSUNO, ho visto
 n-person have-1s seen
 ‘NOBODY, I have seen’

Here the N-word is forced to escape from the lower vP phase in order to check a subject or a criterial feature:

(226a) nessuno ha telefonato



(226b) NESSUNO ho visto



In (226 a-b) the negative quantifier *nessuno* is first forced to move outside the lower phase in order to be able to check φ -features or Focus features and the clause typing principle then creates a connection with a possibly interpreted feature in ForceP.

This mechanism will predict that negation will be interpreted in the topmost position of the clause. But this cannot be the whole story, since this derivation will only predict wide scope. Consider again scope ambiguities when another scope-bearing element is inserted in the clause:

(227) Non devi continuare a correre
not must-2s keep on-inf to run

a. 'it is not required that you keep on running'

$\neg > \square \square$

b. 'it is required that you do not keep on running'

$\square \square > \neg$

(228) Nessuno/NESSUNO deve continuare a correre
n-person must-3s to keep on-inf to run

a. 'it is not required that anybody keeps on running'

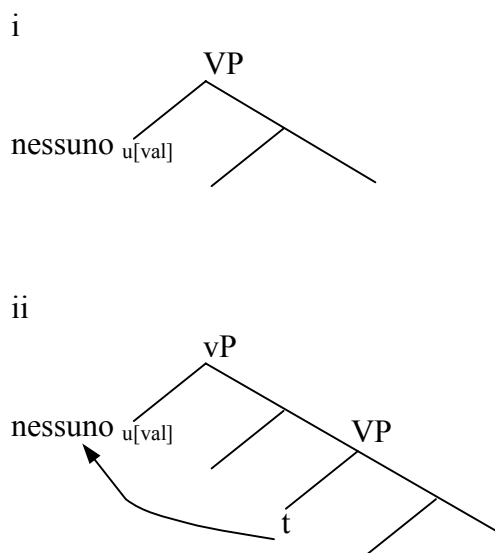
$\neg > \square \square$

b. 'it is required that there isn't anybody who keeps on running'

$\square \square > \neg$

In (228) it is possible to see that negative quantifiers also give rise to both a wide and a narrow scope reading of negation with respect to the modal verb, which I take to be situated in a high IP position. To account for narrow scope, we should allow an interpretable intermediate link, below modals, between ModP and the edge of the vP. One option to account for (228b) can be to admit LF reconstruction in this position. But

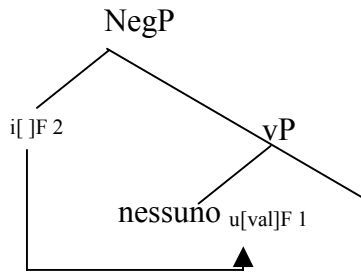
I believe that one of the main advantages of Pesetsky and Torrego's system is that it might be able to account for reconstruction effects in syntax, through the insertion of interpretable feature in lower links of the chain. If we consider its derivation, it seems possible to derive (228b) without recurring to reconstruction: first [i] *nessuno* is inserted in the VP as the external argument of the verb. It carries both a $u[\text{val}]$ negative feature and $i[\text{val}] \phi$ -features which must move in subject position (I will omit ϕ -features in order to not complicate the representation). After that, [ii] it must move to the phase edge in order to escape the PIC:



At this point an interpretable negative feature F is merged and another projection is created. Let us call it NegP. At this point we need to consider what the consequences are of such a move. According to P&T, the operation of Agree will transform two features into a single co-indexed⁴³ one, and thus as soon as the probe sent by the $i[]$ feature in NegP meets the goal, probe and goal become the same feature with the value of the goal [iii]:

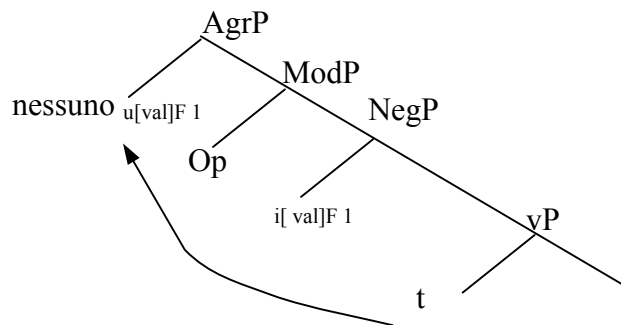
⁴³ I adopt indices for expressing the fact that the particular occurrences of the same feature are instances of the same syntactic object.

iii



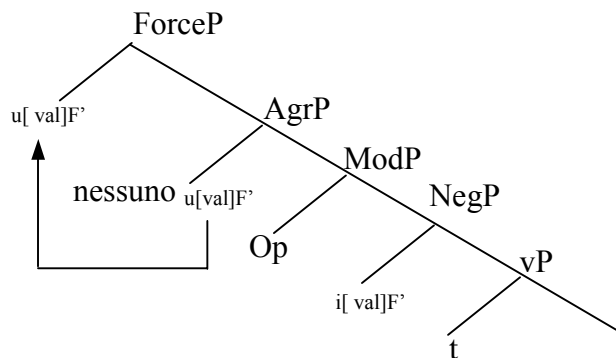
A modal is then inserted above the NegP and the negative quantifiers move in AgrP [iv]:

iv



Finally the clause is typed as negative by the insertion of a u[]negative feature in ForceP [v]:

v



A complex object, the negative feature F^1 is created, and its interpretive link is delivered at LF in a structural position below the modal operator, deriving the narrow scope reading.

At this point the mechanism should be explicit enough to also consider the matter of fragment answers. In the following discussion I will not take the ellipsis problem posed by Watanabe as a confirmation that N-words in fragments are to be considered as negative. I assume that this point, at least in asymmetric concord languages, is already supported from the tests considered in the previous section. The aim here is to show that whatever analysis we choose to adopt for N-words in fragments, the mechanism of ‘negative raising’ nullifies the ellipsis problem.

In section §5.1.4. we showed that N-words can appear in fragment answers. Consider now the example (216), taken from the asymmetric concord language of Italian, and reported here again as (229):

- (229) a. Q: Chi hai visto? (Italian)
 who have-2s seen?
 ‘Who did you see?’

 A: *Nessuno*
 ‘Nobody’

These kinds of answers pose a difficult problem to solve with regard to their best representation. For some scholars they are considered to be only a projection of the phrase itself (230a) (Ginzburg and Sag 2000) while for others they are to be considered as declarative sentences with an unpronounced part (230b) (Hankamer 1979, Morgan 1973):

- (230) Chi hai visto?
 a. [^{DP}Nessuno
 b. [^{CP}~~Non ho visto~~ nessuno

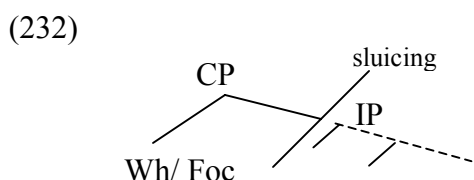
Merchant (2004) correctly points out that if we assume a representation such as (230a) we are forced to believe that the meaning of a whole proposition arises from a simple DP. The problem for (230) is, instead, that phonological deletion affects a non-constituent portion of the sentence⁴⁴. In order to overcome these problems, he proposed

⁴⁴ This problem seems to also be common to the system proposed in Belletti (2002).

to consider fragments as special cases of *sluicing*, a process originally investigated in Ross (1969) to account for sentences such as (231), where the sentential portion of a constituent question is elided, leaving only the Wh-element:

(231) Jack bought something, but I don't know what ~~Jack bought~~

If we extend the analysis proposed for sluicing in Merchant (2001) to fragment answers, we can consider 'sluicing' as involving movement of a WH-phrase out of the IP followed by successive deletion of it:



The same fate can also be shared by fragment answers, if we assume that N-words move to ForceP. This analysis allows us to respect constituency, and at the same time we can continue to assume that sentential meaning is linked to a whole sentential structure. Thus the representation for the answer in (229) will be the following⁴⁵:

(233) [^{ForceP} [^{FocP} NESSUNO [^{IP} ... ~~ho visto~~ [^{IP}

According to this analysis, the elided IP is a constituent E(lided) which must respect the notion of e-GIVENESS proposed by Merchant (2001). Remember that the condition of e-GIVENESS is satisfied if the antecedent A (the question, in our case) entails E and E entails A (modulo \exists -type shifting, see Merchant 2001). Thus a condition of semantic isomorphism must be respected between E and A.

Let us now consider again sentence (228) and its possible interpretations:

⁴⁵ I assume a simplification here. I take a unique Focal position in the left-periphery to serve both contrastive and new information Focus. But this move is not uncontroversial, at least for Italian (Belletti 2002, 2003)

(228) NESSUNO deve continuare a correre
 n-person must-3s to keep on-inf to run

- a. ‘it is not required that anybody keeps on running’ $\neg > \square \square$
 b. ‘it is required that there isn’t anybody who keeps on running’ $\square \square > \neg$

Where the representation for (228a) and (228b) are given below:

(228a) ‘it is not required that anybody keeps on running’
 $[\text{ForceP}_{i[\text{val}]_{\text{neg}}} [\text{FocP} \text{ NESSUNO} [\text{ModP} \text{ deve} [\text{vP} \text{ continuare a correre}]]]] \neg > \square \square$

(228b) ‘it is required that there isn’t anybody who keep on running’
 $[\text{ForceP} [\text{FocP} \text{ NESSUNO} [\text{ModP} \text{ deve} [\text{NegP}_{i[\text{val}]_{\text{neg}}} [\text{vP} \text{ continuare a correre}]]]]] \square \square > \neg$

Consider this last interpretation (228b), where negation is interpreted within the IP. This has interesting consequences on ellipsis resolution, given that if sluicing will affect the IP of (228b), it will require the presence of a negative antecedent. When this requirement is not satisfied, we then expect that only a wide scope reading would be available. This is exactly what happens if we create a suitable context for IP ellipsis. Consider the following question and its answer:

(234) Q: Chi deve continuare a correre?
 Who must-3s keep on to run
 ‘Who must keep on running?’

A. NESSUNO [~~deve continuare a correre~~]
 ‘Nobody’ must-3s keep on to run

- a. it is not required that anybody keeps on running * $\neg > \square \square$
 b. it is not required that there isn’t anybody who keeps on running $\square \square > \neg$

The complete structure of the fragment answer is equivalent to (228). But in this case, only one interpretation is available, namely the wide scope reading. This fact immediately follows from the condition on semantic isomorphism. Given that the

narrow scope is usually obtained through the presence of a negative operator in the IP, the IP can be sluiced only if the question furnishes a negative antecedent. This is not the case in (234), and negation is then forced to be interpreted outside the IP. Merchant's analysis is then confirmed by the lack of this narrow scope reading. The question now is if this is really a conclusive argument on the negative status of N-words, as proposed by Watanabe (2004) for symmetric negative concord languages. Consider again example (200), repeated here as (235):

(235) Q: Ti idhes?
 what saw-2s
 'What have you seen?'

A: TIPOTA
 'nothing'

Since Greek N-words always require the sentential negative marker to be grammatical, both Watanabe and Giannakidou assume the following form for the elided IP:

(236) Q: Ti idhes?
 TIPOTA ^{IP}{~~dhen idha~~}
 N-thing not saw-1s

Watanabe further assumes that negation must be interpreted where it surfaces (or, in this case, where it would have surfaced):

(237)Q: Ti idhes?
 TIPOTA ^{IP}{dhen_[neg]idha}
 N-thing not saw-1s

But I have provided many arguments against a strict correspondence between superficial representation and semantic interpretation of the negative operator. If the only structural position for the negative operator would have been inside the IP, then the Ellipsis Problem would have forced the assumption of a negative status for the N-word itself. But given that the negative operator has the possibility of being dislocated through the creation of a chain, a different representation for (237) is possible:

(238) [^{ForceP}_{i[val]} [^{FocP} TIPOTA IP [~~chen~~ -idha]

The representation in (238) is alternative to the one proposed by Watanabe. After the link in ForceP is created, no semantically visible negative feature appears within the IP. At this point the semantic isomorphism condition is respected, also if we believe that N-words are PIs without a negative force of their own.

5.3.2. Post-verbal N-words and PIs in asymmetric negative concord

In order to present the complex scenario given by N-words in different languages, all we are doing is the job of a taxonomist, grouping those items in accordance first to the language class and, when necessary, as in this case, also in accordance with the syntactic/semantic environment where they occur. For this reason I consider it preferable to keep the pre-verbal environments just considered separate from the others, believing that the exposition of the properties of N-words will gain in clarity.

Before entering in consideration on the status of post-verbal N-words, it is worth noticing that N-words, negative quantifiers and polarity items can be morphologically distinct in different paradigms (see Haspelmat 1997). In English, for example, negative quantifiers and polarity items are distinct in two series:

TABLE 6. English *no* and *any* series

Neg-Q (No-series)	PI (any-series)
Nobody	Anybody
Nothing	Anything
Nowhere	Anywhere
Never	-

But this morphological distinction may be even more fine grained, as in Russian⁴⁶, where different paradigms of indefinites coexist. Consider the following table, taken from Pereltsvaig (2004):

TABLE 7. Russian Indefinites

meaning	Interr.pronouns	<i>ni</i> -items	<i>-libo</i> items
Person	kto	nikto	Kto-libo
Thing	čto	ničto	Čto-libo
Place	gde	nigde	Gde-libo
Direction	kuda	nikuda	Kuda-libo
Direction ₂	otkuda	niotkuda	Otkuda-libo
Time	kogda	nikogda	Kogda-libo
Manner	kak	nikak	Kak-libo
Amount	skol'ko	niskol'ko	skol'ko-libo
Determiner	čej	ničej	čej-libo
adjective	kakoj	nikakoj	kakoj-libo

In the second column the basic series of pronouns is reported, from which N-words and weak PIs are derived through the insertion of the particles *ni-* and *-libo*.

We have already encountered the NI-series, used to present many of the properties of N-words. Regarding instead *-libo* indefinites, these show a distribution very similar to *any*-PIs, as it is possible to see by looking at some of the possible contexts of occurrence:

(739) a. SUPERORDINATE NEGATION

Ja ne dumaju, čto Adam čital **kakoj-libo** žurnal.
 I not think that Adam readPST which-*libo* journal
 “I don’t think that Adam read any journal.”

b. CONDITIONAL

Esli vy **kogo-libo** vstretite, pozvonite mne.
 if you whom-*libo* meet call me
 “If you meet anyone, call me.”

⁴⁶ But Greek, Serbo-Croatian and Japanese also have multiple paradigms of indefinites sensitive to negation or polarity (see Giannakidou 1998, Progovac 1994, Watanabe 2004).

c. SCOPE OF *ONLY*

Tol'ko Adam čital **kakoj-libo** žurnal.
only Adam read_{PST} which-*libo* journal
“Only Adam has read any journal.”

d. SCOPE OF *FEW*

Nemnogie studenty čitali **kakoj-libo** žurnal.
few students read_{PST} which-*libo* journal
“Few students read any journal.”

e. QUESTIONS

Vy čitali **kakoj-libo** žurnal?
you read_{PST} which-*libo* journal
“Have you read any journal?”

f. RELATIVE CLAUSES HEADED BY ‘Every’

Každyj, kto čital **kakoj-libo** žurnal, uže znaet èto.
everybody who read_{PST} which-*libo* journal already knows that
“Everybody who reads any journal already knows that.”

g. COMPLEMENT OF *DOUBT*

Ja somnevajus', čto **kto-libo** prijdët.
I doubt that who-*libo* will-come
“I doubt that anybody will come.”

The *-libo* series is then admitted in all these non-veridical or DE sentences where NI-items are banned. The two series are in complementary distribution⁴⁷, and *-libo* indefinites cannot appear in negative clauses, probably because of the *elsewhere principle*. This digression was meant to show that morphology might differentiate between indefinites to a variable degree, given that morphologically distinct paradigms might be realized in certain languages but not in others. This could be actually the situation found in ACLs, where no morphological distinction between negative quantifiers and PIs is observable. Consider Italian: in written language it may

⁴⁷ Pereltswaig (2004) addresses the issue as the ‘Bagel’ problem. Given that *ni*-items are licensed in a subset of DE-contexts where *-libo* items are forbidden, these contexts represent a ‘hole’ in their distribution.

differentiate between two sets of negative indefinites, the *n*-series and the *al*- series, allowed only in polarity contexts:

TABLE 8. Italian *n*- and *al*- series

meaning	<i>n</i> -series	<i>al</i> - series
person	Nessuno	Alcuno
thing	Niente	Alcunchè

However, the usage of the *al*-series has almost disappeared from the spoken language, and it is difficult to find speakers who have clear intuitions about its distribution in contexts other than negative environments. In the spoken languages the only really productive series of negative indefinites is the *n*-series, which swings in interpretation between negative quantifiers, N-words (strong PIs) and weak PIs. We may now look at the distribution of *n*-items in Italian. Consider the group of sentences below, acceptable for many speakers:

(240) a. QUESTIONS

È venuto nessuno?
 has.3sg came n-person
 'Has anyone come?'

b. INDIRECT QUESTIONS

Romeo si domanda se Giulietta ami nessun'altro.
 R. cl.3s wonders if G. loves-subj n-person else
 'Romeo wonders if Giulietta loves anybody else'

c. BEFORE

Sparirono prima che Gianni potesse dir niente.
 disappear-3p before that G. may-subj say n-thing
 'they disappeared before Gianni might have said anything'

d. ADVERSATIVE PREDICATES

Dubito che James possa spifferare niente ai Russi. E' la miglior spia che abbiamo.
 doubt-1s that J. could-subj reveal-thing to-the Russians. 'He is our best spy'
 'I doubt that James could reveal anything to the Russians. He is our best spy'

e. COMPARATIVES

La facciata è venuta meglio di quanto si aspettasse nessuno
 the façade is come-out better of what cl-3s expect-subj n-person
 'the façade has come out better than anybody would have expected'

f. SUPERLATIVES

E' l'idea più stupida che sia venuta in mente a nessuno
 is.3sg the idea more stupid that have.subj.3sg ever had n-person
 'It's the dumbest idea that anybody has ever had'

g. PROTASYS OF CONDITIONALS

Se dovesse venir nessuno, digli di ripassare dopo
 if may-subj come n-person tell-to-him to come back later
 'If anybody comes, tell him to come back later'

h. TOO

Quel vecchio leone è troppo stanco per infastidire nessuno.
 that old lion is too tired to bother n-person
 'that old lion is too old to bother anybody'

In (240) I have only given examples with post-verbal *n*-items, since in the preverbal position they can be self licensed and do not depend on any operator.

There is a certain grade of variation, however, in the acceptability of the examples (240b-h) among speakers. I consider these examples to be grammatical, but see Acquaviva (1999) for different judgments. It is not clear if the acceptability of these examples has a geographical correlation, but it seems to me that Northern Italian speakers tend to find examples (240b-h) less acceptable. At any rate, the possibility of having N-words in question is uncontroversial, and all the speakers accept sentences such as (240a).

5.3.3. The unavoidable lexical ambiguity of ACLs

We now have a complete picture of the distribution of the Italian *n*-series and we may try to determine the meaning of items such as *nessuno* and *niente* using the context of occurrence as a test to reveal their semantics. We know that in preverbal position *nessuno* is able to convey sentential negation without the presence of any other negative

element. The only way to account for that is to assume that *nessuno* is a negative quantifier.

In post-verbal position, instead, *n*-items are dependent on a licensing operator, but here a simple DE operator will do the job, as sentence (240) shows:

(240) È venuto nessuno?
 has.3sg came n-person
 'Has anyone come?'

This question doesn't have any negative flavour, and the hypothesis that *nessuno* is a negative quantifier is clearly not tenable. In order to cope with these basic facts, an ambiguous lexical entry for the member of the Italian *n*-series cannot be avoided:

(241) **Lexical entry for *n*-items:**

<i>n</i> -items	
NegQ	weak PI

Such a lexical entry has been more or less implicitly assumed by every account for the ACLs. The same also holds for other ACLs such as Catalan (242) or Spanish (243)⁴⁸, as shown by the following DE contexts:

(242) a. QUESTIONS

Que t'han dit *res*? (Catalan, Espinal 1999)
 'Have they told you *anything*?'

b. INDIRECT QUESTIONS

Si trobes *cap* paraigua com aquest, compra-me'l (Catalan, Espinal 1999)
 'If you find *any* umbrella like this one, buy it for me'

⁴⁸ In Portuguese the PIs seems to be a strong one, as shown by the ungrammaticality of the following example taken from Matos (1999):

i. *Telefonou *ninguém*?
 called.3sg nobody
 'Did nobody call?'

c. PROTASYS OF CONDITIONALS

Si vol res ningù, aviseu-me (Catalan, Valduvi,1994)
 If 3s-want nothing noone, 2p-imp-warn.me
 ‘If anyone wants anything, let me know’

(243) a. INDIRECT QUESTIONS ⁴⁹

me preguntaron si nadie sabía la respuesta (Spanish, Laka 1990)
 me 3p-past-ask if n-word 3s-impf-know the answer
 ‘they asked me whether I knew the answer’

c. EVERY

Todo aquel que tenga nada que decir... (Spanish,Laka 1990)
 all who that have.3sg n-thing that say
 ‘Everyone who has anything to say....’

d. ADVERSATIVE PREDICATES

(Spanish,Laka 1990)

Dudo que venga nadie
 doubt that come n-person
 ‘I doubt that anybody comes’

From those examples it is evident that Catalan and Spanish also conflate different meanings within a single paradigm and (241) can also be generalized to those languages. At this point the lexical entry in (241) will be sufficient to account for the facts of ACLs, if combined with the general mechanism of NR and the notion of Phase. We may now dispense our syntax with the Neg-Criterion and its variants as obligatory focus checking (Watanabe 2004), together with Factorization processes. The advantage is that NR is needed independently from the particular grammar of ACLs and the same holds for the phase edge at the vP.

5.3.3. Asymmetry at phase edge

The lexical entry (241) generates two different sets of items⁵⁰, one with negative quantificational force and one with polarity dependence:

⁴⁹ Valduvi found a similar variation as the one found in Italian. Not all speakers accept this construction.

(244) L.Entry 1: *nessuno*_{PI}

(245) L.Entry 2: *nessuno*_{u[neg]}

We expect that the distribution of *nessuno*_{PI} and *nessuno*_{u[neg]} will be governed in accordance with the same general rules which govern the distribution of negative quantifiers and PIs. With regard to the Lexical Entry 1, then, we expect that whenever the conditions of PIs licensing are met, the reading associated with a polar indefinite should be possible. We expect to find polarity readings in the same environments where weak PIs are found, namely within the scope of a DE operator, proviso the ban on the crossing of the universal operator binding their domain-widening function. From this consideration follows that the impossibility of polarity readings in pre-verbal positions is not absolute. This predicts, in analogy to English PIs, that polarity readings should be allowed in a number of other contexts. For example, in subject position in an embedded clause governed by a negative matrix, like in the English example below:

(246) I don't believe that anybody will come

This possibility has been believed to be banned in Italian, on the basis of examples like the following one, taken from Rizzi (1982)⁵¹:

(247) Non pretendo che nessuno ti arresti
 not demand that n-person you arrests

- | | |
|---|----|
| a. I do not require that nobody arrests you | DN |
| b. *I do not require that anybody arrests you | NC |

⁵⁰ DePrez 2000 considers pre and post-verbal N-words to belong to the same set. She considers the differences as originating by different DP internal derivations, resulting in two different DP objects. My proposal is not in contrast with her claim. I consider N-words in symmetric concord languages as belonging to two different sets, but those sets can well originate from different internal representations created through derivational mechanisms.

⁵¹ Based on similar judgments from French (Kayne 1981a).

Rizzi correctly claims that the polarity item reading in (247b) is not allowed, and only a double negation reading is possible (247a). Things are not so straightforward, however, and it is possible to see that a polar interpretation for *nessuno* in subject position is indeed acceptable, if we use a verb⁵² which actually allows PIs licensing within the embedded:

- (248) Non voglio che nessuno mi disturbi
not want that n-person me annoys
- a. # I do not want nobody to annoy me DN
b. I do not want anybody to annoy me NC

In (248) the judgment reverses, and actually the preferred reading is the polarity item interpretation. The contrast thus seems to be best related to the degree of opacity created by the matrix verb, as suggested by Valentina Bianchi (p.c.) and as already pointed out in section §5.1.3.

The possibility for the L.E.1 of *nessuno* in subject position also seems to be confirmed by other kinds of contexts. In English, PIs are also licit in the scope of *before*, comparatives, adversative predicates and indirect questions. The same is also possible in Italian:

- (249) a. BEFORE
scappammo prima che nessuno se ne accorgesse
'we ran away before anybody noticed'
- b. COMPARATIVES
Quel libro era più interessante di quanto nessuno si aspettasse
'that book was more interesting than anybody would expect'

⁵² The existence of such sentences seems to be attested also in Spanish. Rizzi (p.c.) quoted Jaegli for a similar observation.

c. ADVERSATIVE PREDICATES

dubito che nessuno di loro possa fare la spia
'I doubt that any one of them might reveal our secrets'

d. INDIRECT QUESTIONS

la povertà di quel pittore mi induce a chiedermi se nessun l'abbia davvero
compreso
'the poverty of that painter makes me wonder if anybody has really appreciated him'

All the sentences in (249) allow for a polarity reading, at least for those Italian speakers allowing the sentences in (240). At this point, it seems possible to conclude that the L.E.1 for Italian N-words exactly corresponds to weak polarity items, since their distribution looks very similar⁵³. Thus Asymmetric Concord languages are not asymmetric with regards to the licensing of their set of polarity items. I believe that the asymmetry concerns only negative quantifiers, since its distribution manifests the same vP asymmetry found in some No-Concord languages. Compare the example (250a) with the Norwegian (147a) and reported here as (250b):

(250) a. *possiamo vincere niente
can-1p win n-thing
'we can win nothing'

b. * Vi kunne vinne ingen konkurranse.
'we could win no competition'

In (250a) the polarity reading is unavailable, since there is no DE operator. But a negative quantifier is also not allowed, probably for the very same reason which blocks *ingen* to appear vP-internally. Remember that Norwegian might marginally allow sentences similar to (250b), but only with very narrow scope constituent readings, as in the case of what Svenonius calls 'trifling' negation:

⁵³ at least in one variety of Italian.

- (251) Han flirer av ingenting.
 he laughs of nothing
 ‘He is laughing at nothing’ (‘for no reason’)

Again, the Italian facts reveal similar, and Italian also allows post-verbal negative quantifiers interpreted as ‘trifling’ negation:

- (252) a. Gianni ride per niente
 G. laugh-3s for n-thing
 ‘Gianni laughs at nothing’
- b. Gianni si accontenta di niente
 G. cl.3s satisfy of n-thing
 ‘Gianni is satisfied with nothing’

Thus sentence (250) can be banned, since there is no position inside the vP where an interpretable but unevaluated feature might be inserted. ACLs could be considered like No-Concord languages such as Norwegian and German, not allowing a negative feature on every phase edge. This will minimally differentiate English from this last group of languages.

The constraints on the distribution of the lexical entry of Italian N-words will then derive the whole range of interpretations⁵⁴ allowed:

⁵⁴ A potential problem could arrive with PI adverbials such as *mai*. This item can be interpreted either as ‘ever’ or as ‘never’:

- i. *Non ho mai fatto ciò*
 ‘I have never done that’
- ii. *Mai farò ciò*
 ‘Never I’ll do that’
- iii. * *ho mai fatto ciò*

If *mai* may also carry a u[*val*] feature, we will expect that it could enter in relation with the interpretable one in ForceP. Sentence iii. should then result as grammatical, contrary to facts. But consider that *mai* is not a nominal element but an adverbial, and adverbials enter into the derivation in different locations, in accordance with a hierarchical organization of functional projections as proposed by Cinque (1999). Thus sentences ii. and iii. refer to two different adverbials, where the lower *mai* doesn’t carry a negative feature.

- (253) a. *ho visto nessuno *_{u[neg]/ *PI}
 have-1s seen *nobody/*anybody
 * 'I saw anybody'
 * 'I saw nobody'
- b. Non ho visto nessuno *_{u[neg]/ PI}
 not have-1s seen *nobody/anybody
 'I didn't see anybody'
 * 'I didn't see nobody'
- c. Nessuno_{u[neg]/ *PI} è venuto
 nobody/*anybody is come
 'nobody came'
 * 'anybody came'
- d. Non voglio che nessuno _{u[neg]/ PI} mi disturbi
 not want that nobody/anybody me annoys
 'I don't want nobody annoys me'
 'I don't want anybody annoys me'

Moreover, there is also another set of sentences that can be easily explained if we consider pre-verbal *n*-items as negative and post-verbal as polarity items: I'm referring to the so-called Negative spread. This label, originally proposed by Den Besten (1986), indicates sentences with more N-words, without any other licensing element:

- (254) a. *Nessuno* ha letto *niente*. Italian
 n-person has read n-thing
 'Nobody read anything.'
- b. *Nadie* dijo *nada*. Spanish
 n-person said-3sg n-thing
 'Nobody said anything.'
- c. *Ningú* va dir *res*. Catalan
 n-person aux-3sg say n-thing
 'Nobody said anything.'
- d. *Ninguem* viu *nada*. Portuguese
 n-person saw-3sg n-thing
 'Nobody saw anything.'

Notice that negative spread is possible only if at least one N-word is in preverbal position. Compare (254a) with (255):

(254a) *Nessuno* ha letto *niente*.
 n-person have-3sg read n-thing
 ‘Nobody read anything’

(255) **Gianni* ha letto *niente a nessuno*
 G. have-3sg read n-thing to n-person
 ‘Gianni didn’t read anything to anybody’

In (255) both N-words are in post-verbal position. Given the absence of a negative interpretable feature inside the vP, the negative quantifier interpretation is banned and the condition on PIs licensing is not met either. Thus the sentence results as ungrammatical. Things change when a N-words appears outside the vP. In this case (254a) it may receive a negative quantifier interpretation, furnishing a suitable licenser for PIs in its scope domain.

5.4. Clustering of N-words

With the ACLs considered in this chapter, we now have a complete picture of pronominal items which show morphological variants in DE and antimorphic contexts. Haspelmat (1997) groups them under the label “Negative Indefinites” (NIs), but it should be clear that not all of them are indefinite, and that not all of them are negative either. If we want to find a common characteristic to this group of items, the only one is that they appear in DE semantic contexts, showing some morphological variation with respect to the basic form of indefinite pronoun found in declarative contexts. I will nevertheless use the term Negative Indefinite in this paragraph, in absence of a better one.

In this and in the previous chapter, we have considered a whole range of NIs, showing that they do not form a homogeneous class and a more refined typology is needed. In order to conclude, I wish to review here some of their characteristics as they have

emerged in the course of the discussion, hoping to furnish a small contribution toward a reliable topology of NIs.

To face the challenge of their proper cross-linguistic characterization, I believe that the matter can be decomposed in at least three parts, concerning the negative status, the quantificational force and eventually the sensitivity to polar dependencies. Let me briefly consider these issues in turn.

With regard to the negative force, it is relatively uncontroversial that, if a NIs may convey a negative meaning without the help of any other negative element, it has to be considered as negative in nature. I believe that this is the only really reliable diagnostic, and in order to respect its verdict, we should consider [+negative] only those elements which pass this test.

The issue regarding the quantificational force of NIs results more problematic, since it is very hard to classify them as existential or universal quantifiers, given that it is unclear what different empirical predictions will stem from the choice of one or the other of the two different possibilities, given that $\forall x \neg$ and $\neg \exists x$ are two truth-conditionally equivalent representations. Some authors, such as Giannakidou and Valduvi, have proposed different tests, but we will see that they show a certain inconsistency, at least for Asymmetric Concord Languages such as Italian.

But, even if it is very difficult to decide between $\forall x \neg$ or $\neg \exists x$, it seems at least possible to distinguish between +/- quantificational force. In fact, one of the properties assumed for quantifiers in general is that they are clause bound, while this restriction doesn't hold for Heimian indefinites.

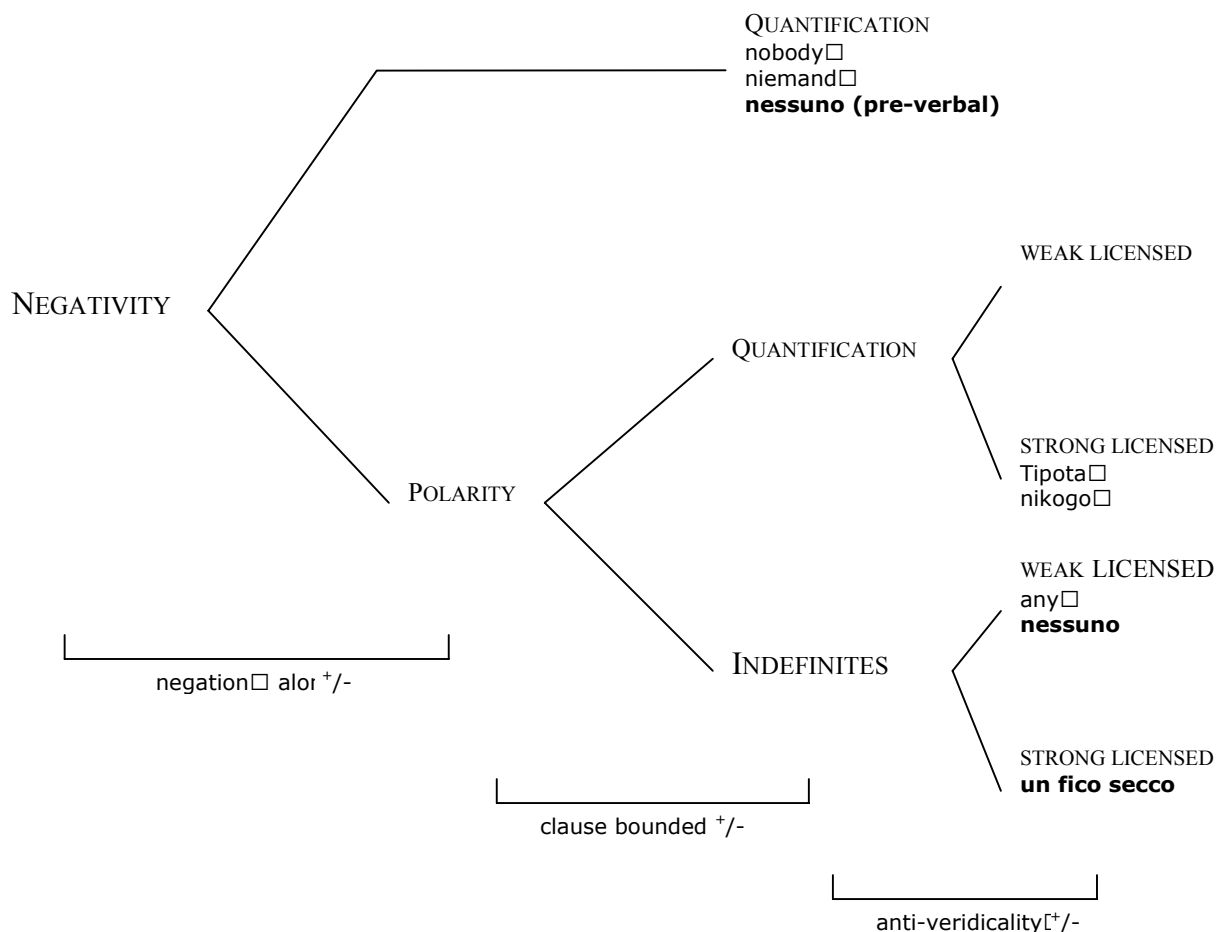
The last issue regards the licensing relation entertained between non-negative N-words and their licensor. I assume that intrinsic negativity and polarity are complementary: if a lexical item is inherently negative, it doesn't depend on a different operator. Thus, every time that a NI fails the first test, i.e. cannot convey a negative meaning alone, it has to be considered as a polarity item.

The kind of relation between the licensor and the licensee constitutes, then, the last dimension of variation, with regard to the semantic of the licensor. Also here the issue is complex, and a fine grained taxonomy along the lines suggested by Zwart and Van der Volder seems to be necessary. But as a first approximation, we can distinguish between

DE and anti-morphic contexts. Or alternatively, following Giannakidou's (1998) proposal, between non-veridical and anti-veridical contexts. The relevant test to settle the issue of their sensitivity is the possibility of having polarity items in questions, which belong to the set of DE but not to that of antimorphic operators.

At this point we have at least three dimensions available to differentiate between different kinds of NIs, and for every one, a reliable test is available. Applying all the criteria illustrated, we can give a first organization to the blurred picture of the N-word's family, reported graphically below:

(256) Cluster analysis of NIs



In Figure (256), NIs are grouped together in accordance with the presence or absence of a given property. The first branch divides between those elements able to convey a

negative meaning alone. To this group clearly belong all negative quantifiers in No-concord languages, plus the pre-verbal negative quantifiers in Asymmetric Concord languages. These elements are clause bounded, and thus they seem to also possess quantificational force.

If a NI is instead dependent on another element, we may ask if it has to be considered as an indefinite or a quantifier. This question may be answered by considering the possibility of having long-distance dependencies. In the case of Symmetric Concord language, we may follow Giannakidou's proposal (see section §5.2.2. for some problems) and consider emphatics in Greek or the *ni*-series Russian as quantificational in nature.

Finally, some PIs can be licensed only in antimorphic contexts. In this case we may consider them as strong PIs. Minimizers like the Italian *un bel niente* or *un fico secco* belong to this group. Instead, when polarity indefinites are also licensed in environments other than antimorphic ones, like questions, they are weak PIs. The English *any*-series and the Italian *n*-series are members of this last class.

5.5. Previous accounts for Asymmetric Concord Languages

In this section I wish to compare my proposal relative to Asymmetric Concord Languages with the other analyses already outlined in section §5.2.

I have claimed that the pre/ post-verbal asymmetries stem from the necessity for negative quantifiers to raise outside the vP phase, in analogy with some No-Concord languages. English will be minimally different for the possibility of having a negative feature at the edge of each Phase. One of the conceptual advantages of this idea is that it respects the principle of compositionality, in a way that we can dispense our grammar with processes of Factorization. The only price to pay is to admit lexical ambiguity between two different interpretations for the same elements, but this price is unavoidable, given that in many Asymmetric Concord Languages PIs are also allowed in non-negative contexts. Finally, this proposal results in an empirical coverage broader than other theories, allowing to explain for the following facts:

(257) PRE-POST VERBAL ASYMMETRIES

a. *ho visto *nessuno* *_{u[neg]}/*PI
have-1s seen *nobody/*anybody

b. Non vidi *niente*
not saw-1s n-thing
'I did not see anyone.'

c. *Nessuno* ha telefonato
n-person has telephoned
'nobody telephoned'

(258) NEGATIVE SPREAD

Nessuno ha letto *niente*.
n-person have-3sg read n-thing
'Nobody read anything'

(259) NON-VERIDICAL CONTEXTS

È venuto *nessuno*?
have.3sg come n-person
'Has anyone come?'

(260) SUBJECT PIS

Non voglio che *nessuno* _{u[neg]/PI} mi disturbi
not want that nobody/anybody me annoys
'I don't want anybody to annoy me'
'I don't want nobody to annoys me'

Now that both the mechanism and the empirical base it has to account for is explicit, I want to conclude the survey on ACLs with a comparison between my proposal and other theories, namely with those of Haegeman & Zanuttini (1991), Watanabe (2004) and Giannakidou (1998).

5.5.1 The Neg-Criterion approach.

This approach has been already described in section §5.2.1, with respect to Symmetric Concord Languages. I wish to discuss in detail here how the system proposed by Zanuttini (1991), and subsequently developed by Zanuttini and Haegeman (1991, 1996),

accounts for the sentences from (257) to (260). I make reference here to the system proposed in Haegeman (1995). I share with H&Z the idea that a chain between the surface position of N-words and its interpretive position can be created. But, even if both systems rely on the notion of chain, a first difference resides in the fact that in my proposal the NegP play a less crucial role, being just one (where the sentential negative marker is merged in the derivation) of the possible interpretive positions for negation.

There are at least two reasons for such a departure from the H&Z proposal, and these concern essentially some considerations with regard to the scope of the negative operator. The first is that NegP is realized in different positions across languages. For this reason I believe it is not desirable to tie the morphological realization of negation too closely with its interpretation, unless there will be evidence indicating a co-variation between the scope of negation and the realization of NegP. The second reason is that, even language-internally, the scope of negation is variable, as it is possible to see by looking at the interaction between negation and modality. Moreover, the system proposed by H&Z, based on the spec-head relation formulated as the Neg-criterion, faces several problems in order to deal with the sample of sentences presented in (257)-(260). Let's first consider the contrast illustrated in (257). In (257c) a negative quantifier appears in pre-verbal position:

(257c) *Nessuno* ha telefonato
n-person has telephoned
'nobody telephoned'

In this sentence there is no overt head, and the Neg-criterion can be satisfied only by virtue of a null head in NegP:

(257c') [^{Agrs} Nessuno_i [^{NegP} Op_i Ø [_S è venuto

The operator, instead, is *nessuno* itself or, if we assume that *nessuno* moves higher to check its EPP subject-features, an expletive operator is identified through co-indexing. The same mechanism also works when *nessuno* appears in post verbal position:

(257b). Non vidi *niente*
 not saw-1s n-thing
 'I did not see anyone.'

(257b') [^{Agrs} *pro* [^{NegP} Op_i Non [ho visto [^{vP} nessuno_i

The only difference is that, in this case, the head is the overt SNM *non*. But at this point it is necessary an extra mechanism to rule out (257a), given that Neg-criterion could be satisfied by the same null-head which rescues the structure in (257c'):

(257a) *ho visto nessuno *_{u[neg]/ *PI}
 have-1s seen *nobody/*anybody

(257a') [^{Agrs} *pro* [^{NegP} Op_i Ø [ho visto [^{vP} nessuno_i

Thus, a further constraint is needed to rule out (257a). Haegeman proposes that this mechanism could be the identification requirement as stated in Ouhalla 1993:

(261) Identification requirement:

Grammatical features must be identified

This condition can be satisfied in two ways, either by phonological realization or by the presence of an overt c-commanding element equipped with the same feature. Sentence (257a) can be ruled out by virtue of (261) given that the phonetically null negative operator is left unidentified. But at this point another problem arises, since English sentences with post-verbal quantifiers violate the identification principle in (261). Consider (262):

(262) I've seen nobody

Haegeman proposed that the Neg-criterion is weak in English, but this will not rescue the violation of the general principle of identification she assumes. Furthermore, we

should consider what prevents the presence of both a negative quantifier in pre-verbal position and an overt negative head:

- (263) * Nessuno non ha visto Gianni NC
 n-person not has seen G.
 ‘nobody didn’t see Gianni’

In order to account for the ungrammaticality of (263) Haegeman appeals to an economy principle, saying that if a null head can be identified by the c-commanding quantifier, it must be preferred since this is the more 'economical' option. But from the account I proposed, the mutual exclusivity between the negative quantifier and the sentential negative marker follows straightforwardly, since negative quantifier in preverbal position is already enough to convey negation and no other requirement such as the Neg-Criterion needs to be satisfied. In this case there is no null-head to be inserted, and no head is even more economical than a phonologically null one.

There is also another drawback for this approach. Consider the negative spread illustrated in (258):

- (258) Nessuno ha letto niente.
 n-person have-3sg read n-thing
 ‘Nobody read anything’

On the basis of what we have said so far, a double negation reading should be possible, through the creation of two chains with two operators in [Spec, NegP]:

- (258') [^{Agrs} Nessuno_i [^{NegP} Op_j Op_i Ø [ha visto [^{vP} niente_j DN

This is not the case, and only a single negative reading is allowed. To rule out the double negation reading, a process of neg-factorization is required, similar to the absorption process proposed for multiple WH-constituents.

This process will violate the principle of compositionality which in substance will insure that operators present at surface structure will be present also at LF. With regard to this

general principle, absorption and Neg-factorization doesn't seem to show the same behaviour. Consider the following sentence:

(264) Chi ha fatto cosa?
'who made what?'

Two WH-elements are present, but only one of them moves in order to satisfy some criterion at the left periphery of the clause. Notice that once this criterion is satisfied, the second WH-element is required to stay in situ. But here the two question operators are still somehow visible at LF, since the answer to (264) is still requiring two elements, like 'John' and 'went to the beach'. In this sense, the semantic principle of compositionality is respected, while the same reasoning doesn't apply in the case of neg-factorization. In this case the two or more negative operators will always be represented as a single operator at LF, violating the principle of semantic compositionality.

I believe that there is also one last empirical problem, represented by sentence (260):

(260) Non voglio che nessuno_{u[neg]/PI} mi disturbi
not want that nobody/anybody me annoys
'I don't want anybody to annoy me'
'I don't want nobody to annoy me'

In this case, a double negation reading is expected, since no factorization is allowed between the subordinate and the negative matrix clause. But we have seen that, in those cases, the concord reading is actually the preferred one. H&Z cannot account for such sentences, while in my system the distribution of *nessuno* is constrained by the same rule governing PIs licensing. From this the concord interpretation for (260a) follows.

I have discussed this approach at length, since many of the ideas proposed by H&Z have been assumed in several successive accounts. One of the last in chronological order is Watanabe's, which I will consider next.

- (259) a. È venuto nessuno?
 have.3sg come n-person
 'Has anyone come?'

The existence of positive questions such as (259) with N-words does not follow from the scenario presented in Watanabe (2004). Another problem worth mentioning is that the distribution of u[foc] feature, when facultative, is not clear. Actually, no mechanism will account for the post-verbal obligatory concord readings, and a double negation reading for sentences where we instead found Negative Spread is expected, contrary to facts:

- (258) Nessuno ha letto niente. (NC)
 n-person have-3sg read n-thing
 'Nobody read anything'

In (258) nothing prevents a N-word without a u[foc] feature to be inserted in post-verbal position.

5.5.3. Polarity Universal Quantifiers

I wish to conclude considering some issues raised in Giannakidou (1998, 2000, 2002) concerning the quantificational status of N-words. Asymmetric Concord Languages are mentioned throughout her work, but since her main interest is focused on the functioning of concord in Strict-Negative Concord languages, no precise account is given for languages such as Italian. She simply invokes “an additional syntactic condition”:

[Giannakidou 2002]: *if the NC rule cancels out multiple negations in postverbal positions, why doesn't it apply in the case of preverbal ones? [...]The best we can come up with is to stipulate an additional syntactic condition that negation must be expressed at the topmost level of the sentence, and that this can be done either by SN itself, or by an n-word.*

As we have seen, I propose to identify the syntactic condition mentioned by Giannakidou with the notion of syntactic Phase, as proposed by Chomsky (1998). I will not try to apply Giannakidou's system to ACLs, but I wish to consider instead the results that her diagnostics for quantificational strength give for Italian. Anticipating the outcome, it seems to me that those tests behave with a certain inconsistency, which may be a confirmation that at least some of them should be discarded as being not truly reliable to reveal quantificational force.

The first test concerns the issue of locality. Giannakidou considers clause-boundedness as an indication for existential quantificational force. We can see below that Greek emphatics cannot be licensed in indicative complements of negated matrix verbs, like Italian N-words. This contrasts with English polarity items:

(269) LONG DISTANCE – INDICATIVE

- a. John didn't say that Mary saw anything

- b. *I Ariadhni dhen ipe oti idhe TIPOTA.
the Ariadne not said.3sg that saw.3sg n-thing
'Ariadne didn't say that she saw anything.'

- c. *Gianni non ha detto che Paolo ha visto niente
G. not has said that P. has seen n-thing
'Gianni didn't say that Paolo has seen anything'

Remember that mood distinctions are crucial here, and if we substitute subjunctive with indicative, the long-distance relation becomes possible, both in Greek and in Italian.

(270) LONG DISTANCE – SUBJUNCTIVE AND RESTRUCTURING VERBS

- a. I Ariadhni dhen theli na dhi {kanenan/KANENAN}.
the Ariadne not want.3sg subj see.3sg n-person
'Ariadne doesn't want to see anybody.'

- b. Gianni non pensa che Carlo voglia vedere nessuno
G. not believes that C. want-subj see n-person
'Gianni doesn't believe that Carlo wants to see anybody'

- c. Gianni non vuole vedere nessuno
 G. not wants to see n-person
 'Gianni doesn't want to see anybody'
- d. ?Non credo che tu hai fatto niente per me (Southern Dialects)
 not believe-1s that you have done n-thing for me
 'I don't believe that you have done anything for me'

Sentences (270b-c) show that subjunctive or *restructuring contexts* allow an N-word in the embedded clause dependent from a negative matrix. The same happens in Greek when the embedded clause is introduced by *na*, which marks subjunctive mood. At this purpose, consider (270d). For some Southern Italian speakers, an N-word is also possible in indicative embedded clauses, given that in some dialectal varieties the use of the subjunctive is being replaced by the indicative. This case, in my opinion, indicates that the differences shown by the long-distance licensing of N-words could be related not with the differences between the quantificational status of the N-words themselves, but instead with differences found in the different realization of the embedded CP.

Another group of tests concerns the modification of the N-words by elements like 'almost' or the Dutch 'ook maar', with the former revealing existential force and the first universal force. I have less to say on the reliability of those tests (see Horn and Lee 1995, Depréz 1997 for a criticism and Giannakidou 2000 for a response), but in any case, Italian patterns like Greek:

(271) MODIFICATION BY *Almost* (Universal quantification)

- a. Dhen idha sxedhon KANENAN.
 not saw.1sg almost n-person
 'I saw almost nobody.'
- b. Non ho visto quasi nessuno
 not have-1s seen almost n-person
 'I saw almost nobody.'
- c. * Electra was willing to accept {absolutely/almost} something.

(272) MODIFICATION BY *ook maar, ke, anche solo* (Existential quantification)

- a. *Dhen ipe ke TIPOTA spudheo.
not said.3sg and n-thing important
'He didn't see anything important.'
- b. *Non ho visto anche solo nessuno
not have-1s *anche solo* n-person
- c. Wil jij {ook maar iemand/ *iedereen} zien?
want.2sg too prt somebody / everybody see
'Do you want to see anybody?'

The last test, aimed to show the universal force of N-words⁵⁵, regards Donkey anaphora. According to Giannakidou (1997, 1998), universal quantifiers do not constitute a suitable antecedent for a co-indexed pronoun. Italian, contrary to the results of the other tests, seems to contrast with Greek, allowing a co-indexing:

(273) DONKEY ANAPHORA.

- a. * I fitites pu dhen exun TIPOTA_i na pun, as (min) to_i pun tora.
'The students that have nothing_i to say, let them (not) say it_i now'
- b. Se dovesse venire nessuno_i, digli_i di ripassare più tardi
if must-subj come n-person tell-to-him to come back later
'If anybody comes, tell him to come back later'

Thus Italian *n*-items seems to conform to only two out of three of the tests proposed by Giannakidou. It seems, then, that those elements behave sometimes as universals and other times like existentials. This behaviour casts some doubt on the consistency of the test battery as a whole.

Conclusions

I will conclude with the overview of the properties of negative nominal elements. This and the previous chapter were precisely intended to extend the mechanism of chain formation proposed for clausal negation to the nominal domain as well, since an account

⁵⁵ See Richter and Sailer (1998) for a criticism.

of the syntax of negation should cover a core nucleus of data, which includes the distribution of negative quantifiers. The problem is that they are interspersed between a whole range of other items that sometimes show a negative meaning inherited by other elements. I believe that N-words represent such a case.

Going back to my main proposal, namely the existence of a mechanism able to construct negative chains, we have seen that such a mechanism has revealed to be able to resist the complex problem posed by the new set of data delivered by negative quantifiers, if integrated with a notion such as that of *Syntactic Phase*. In this way the differences between vP internal and vP external positions follows from a more general property of Syntax, and this will allow to keep the set of assumptions required to cope with the specific problem of the syntax of negation minimal. I believe that the system I have proposed results as being very ‘light’, in the sense that it relies only on general mechanics founded on basic principles such as *the clause typing hypothesis*. With regard to the extended feature typology I have adopted, I believe that this will be a more elegant way to express chains, in a way that all syntactic operations would be ultimately motivated by interpretive reasons, in accordance with Brody’s *Principle of Radical Interpretability*. But, actually, the system doesn’t crucially rely on this choice.

With regard to nominal elements, I have tried to face the problem systematically, keeping the different classes of language distinct, as well different kinds of negative and polarity items. Once a typology of such elements is provided, many syntactic mechanisms such as the Neg-criterion and Neg-Factorization might be dispensed with. Of course, the price to pay in order to simplify syntax is to admit different types of polarity items, but this move actually seems to be unavoidable, given that polarity sensitivity cannot be considered as a whole and variations in the strength of PIs are found not only cross-linguistically, but also language-internally.

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