

16 Sentential Negation

RAFFAELLA ZANUTTINI

1 On the Centrality of Sentential Negation

There is a variety of reasons why a proper understanding of the expression of sentential negation is central to our understanding of grammar. Among them are the following:

- Since sentential negation is expressed by all languages, it is interesting to examine the range of possible variation attested crosslinguistically. It is clear even from a superficial investigation of the world's languages that sentential negation is not expressed in as many ways as there are languages. An examination of crosslinguistic differences can tell us what possibilities Universal Grammar (UG) makes available in this domain, and inform us of the kinds of constraint it imposes.
- Negative markers tend to occur in the same part of the structure as realizes other types of grammatical information, standardly considered to be the nucleus of the clause (for example, tense and aspect). Understanding the properties of the negative markers is likely to also shed light on the properties of these elements, through the study of their interaction.
- Negative markers interact with several parts of the grammar of a language. In some cases, they interfere with extraction of maximal projections, in others with movement of heads; they may also determine certain restrictions on the distribution of inherently negative constituents. Interestingly, though, different negative markers have different effects. It is essential that we understand the properties which distinguish negative markers from one another, if we hope to reach a clear understanding of these other phenomena.
- Negative markers can be sensitive to mood, aspectual, or temporal distinctions, as well as to the type of clause in which they occur (e.g. declarative versus imperative). Understanding such sensitivity can shed light on certain (often non-apparent) differences that a language draws among clausal types.

In this chapter, I will discuss only a few of these aspects. My goal will not be to provide a comprehensive overview of recent studies on the syntax of sentential negation; this could not be done in a few pages, given the vastness of this domain of inquiry. Rather, I will outline some of the questions that have been asked on this topic, and some of the approaches taken in the attempt to answer them. The questions I discuss center on the most basic syntactic properties of negative markers, since they are a good starting point for the investigation of many of the complex phenomena relating to sentential negation. Because of the general nature of the discussion, not much attention will be devoted to negation in English, which would require digressions on properties which are language specific. At the same time, because my own research on negation has focussed on Romance languages, many of the arguments discussed in this chapter will be drawn from this language family. However, the reader should not be discouraged by the lack of discussion of a given language or the abundance of arguments from another, since the focus of the chapter is on the *kinds* of question we can ask and on the *kinds* of answer we can give in trying to understand the syntax of sentential negation.

The chapter is structured as follows. In section 2, I first provide a very brief overview of the strategies employed crosslinguistically for the expression of sentential negation; then I outline two basic questions which will guide our voyage through some of the main issues underlying the syntactic study of sentential negation. In section 3, I raise the question of how we can determine the syntactic category to which negative markers belong; then I discuss some proposals on how best to capture their distribution and distinguish them from other elements which have similar, though not identical, distributional properties. In section 4, I address the issue of the phrasal status of negative markers; I discuss some tests which can help us determine whether they behave like heads or like maximal projections. Finally, in section 5, I outline the kinds of question which arise from the proposals discussed throughout the chapter in trying to characterize the options made available by UG for the syntactic expression of sentential negation.

2 The Syntactic Expression of Sentential Negation: A Crosslinguistic View

While space limitations prevent me from doing justice to typological work on negation, let me simply point out the main patterns found across a sample of languages described in one such work, Payne (1985).¹ Even this cursory overview should suffice to justify the assertion of the previous section that the grammatical strategies used to express sentential negation tend to interact with those used to express grammatical meaning typically associated with inflection, e.g. tense, aspect, and mood specifications. Payne (1985) outlines four strategies for the expression of sentential negation; according to his survey, all languages use at least one of these strategies, and some use more than one.

One strategy, found in Polynesian languages, is that of negating a clause by means of a negative marker which has the characteristics of a verb taking a sentential complement. This is exemplified in (1) from Tongan, a Polynesian language analyzed in Chung (1970) and Churchward (1953) (the brackets indicate clausal boundary):²

- (1) Na'e 'ikai [ke 'alu 'a Siale] (Tongan)
 AspNegAsp-go AbsoluteCharlie
 "Charlie didn't go."

Negative markers of this type share some properties with main verbs, while differing from them in being sensitive to the aspect marking of the clause; in fact, in some cases, such "negative verbs" appear to be a combination of a negative marker and an aspect marker.

Another strategy consists in negating a clause via a negative marker which has the properties of a finite auxiliary (carrying person, number, tense, aspect, or mood affixes) followed by the lexical verb in a non-finite participial form. This type is exemplified in (2) with the Siberian language Evenki, of the Tungus family:

- (2) Bi ə-ə-w dukuwɾn-ma duku-ra. (Evenki)
 I-NegPast1Sg letter-Obj write-Part
 "I didn't write a letter."

A third, more common strategy uses a negative marker which appears in the form of a "particle," an element which can be invariant (e.g. Russian *ne*) or can exhibit sensitivity to mood (e.g. Hungarian *ne/nem*), tense, or aspect (e.g. Arabic *lam/la*). Negative particles are usually associated with the verb, i.e., in many languages they occur in a position immediately preceding the verb. Pre-verbal negative particles are often "reinforced," in Payne's terminology, by a postverbal negative particle; the position of the latter element is not necessarily adjacent to the verb. A widely known example of such co-occurrence is that of French *ne* and *pas*; an example from Welsh is given in (3):

- (3) *Nid* yw'r bachgen (*ddim*) yn hoffi coffi. (Welsh)
 Neg is-the boy Neg in like coffee
 "The boy does not like coffee."

Finally, negative markers can be part of the derivational morphology of the verb, as a prefix, a suffix, or an infix. For example, Turkish *-me-* precedes the affixes expressing tense, mood, person, and number and follows those indicating reciprocals, reflexives, causatives, and passives.

In this chapter, I will focus on the syntactic characterization of sentential negation in languages which adopt the third of these strategies, namely

the use of what Payne calls a negative particle. The term *particle* is a useful descriptive tool in this context, referring to elements which have a unique semantic function, that of contributing an instance of negation, and which do not appear to be easily classified within the traditional syntactic categories. However, it is merely a descriptive term, which leaves their syntactic characterization unstated. My goal will be to guide the reader through some of the recent work on the syntax of sentential negation which has addressed precisely the question of how to characterize so-called negative particles. I will start by asking two basic questions, which will help us classify negative particles (henceforth, “negative markers”) in terms of syntactic category and phrasal status:

- 1 Do negative markers exhibit the same distribution as any other known class of elements (for example, adverbs, markers of tense, aspect, or mood, subject or object pronominal clitics), or are they characterized by a unique distributional pattern?
- 2 Do negative markers exhibit the syntactic behavior of heads or of maximal projections?

The answers to these two basic questions are essential to set the stage for any further syntactic investigation.

3 The Syntactic Category of Negative Markers

In this section I will address the first of the two questions just outlined, namely whether the distribution of negative markers is the same as that of any known syntactic category or whether it is unique. In particular, I will examine the possibility that negative markers should be assimilated to adverbs or pronominal elements. I present some of the empirical and conceptual arguments given in the recent literature against such an assimilation within the Romance family, demonstrating that negative markers have unique distributional properties. Though the precise kind of evidence discussed here might not be available in all languages, the types of argument presented in support of this conclusion can be seen as paradigmatic.

3.1 *A comparison with VP-adverbs*

A very influential proposal on the syntactic category of negative markers is the one given in Pollock (1989), in the context of a more general discussion of the structure of the clause, based on comparative data from English and French. Pollock observed that the well-known asymmetry in the position of lexical verbs and auxiliary verbs which can be observed in English finite clauses is also found in French, though only in non-finite clauses.

Since Emonds's (1976) and Jackendoff's (1972) work, it has been assumed that, in English finite clauses, auxiliary verbs occur in a higher structural position than lexical verbs. Postulating such an asymmetry provides a straightforward account of the different positions these elements exhibit in questions (cf. 4a vs. 4b), in the presence of VP-adverbs like *often* (cf. 5a vs. 5b), and in the presence of the negative marker *not* (cf. 6a vs. 6b):

- (4) a. *Is Mary* running the marathon?
 b. **Runs Mary* the marathon? (Does Mary run the marathon?)
- (5) a. *Mary is often* running the marathon.
 b. **Mary runs often* the marathon. (*Mary often runs* the marathon.)
- (6) a. *Mary is not* running the marathon.
 b. **Mary runs not* the marathon. (*Mary does not run* the marathon.)

Let us suppose that the auxiliary verb *is* moves to the head of the clause, IP, whereas the lexical verb *run* occurs in a lower position, the head of VP. The contrast in (4) can be seen as stemming from the fact that the auxiliary *is* can invert with the subject, moving from I to C; in contrast, the main verb *runs*, unable to move from V to I, will also be unable to move from I to C. In (5), because the auxiliary *is* occurs in I, it precedes the adverb *often*, taken to occur in a lower position; in contrast, the lexical verb *runs* follows the adverb *often* because it is in VP. By similar reasoning, in (6), because *is* occurs in I, it precedes the negative marker *not*, taken to occur in a position intermediate between I and V; in contrast *runs*, which occurs in V, cannot do so, because it occupies a position which is structurally lower than the negative marker.

The asymmetry between auxiliary and lexical verbs found in English finite clauses contrasts with the lack of such an asymmetry in French finite clauses, where lexical verbs and auxiliaries share the same distribution, at least in their relative order with respect to the negative marker and the class of so-called VP-adverbs. Against this background, Pollock (1989) makes the interesting and novel observation that the asymmetry which English exhibits in finite clauses is indeed present in French as well, but only in infinitival clauses. The following examples show that, whereas the auxiliary *être* "to be" can precede the negative marker *pas* (cf. 7b), a lexical verb like *sembler* "to seem" cannot (cf. 8b):³

- (7) a. *Ne pas être* heureux est une condition pour écrire des romans.
ne pas to-be happy is a prerequisite for to-write of-the novels
 "Not to be happy is a prerequisite to write novels."
 b. *N'être pas* heureux est une condition pour écrire des romans.

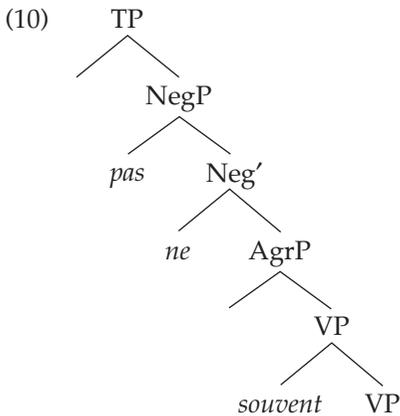
- (8) a. Ne pas *sembler* heureux est une condition pour écrire des
ne pas to-seem happy is a prerequisite for to-write of-the
 romans.
 novels
 "Not to seem happy is a prerequisite to write novels."
 b. *Ne *sembler* pas heureux est une condition pour écrire des romans.

The same pattern holds for the contrast between *avoir* and other lexical verbs (see Pollock 1989: sec. 2.1). This pattern could be captured by saying that infinitival auxiliaries in French have the option of staying in situ or moving to I, whereas infinitival lexical verbs do not leave the VP. From this it would follow that infinitival auxiliaries can precede the negative marker *pas*, as in (7b), whereas infinitival lexical verbs cannot, as shown in (8b). However, if the relevant contrast were movement to I or lack of such movement, Pollock points out, we would expect that infinitival lexical verbs, which do not move to I, should follow not only the negative marker *pas* but also the class of VP-adverbs, such as the French counterpart of *often*. But this is not what the data show; as illustrated in the following examples, an infinitival lexical verb in French can precede a VP-adverb (cf. 9a), even though it cannot precede *pas* (cf. 9b, parallel to 8b):

- (9) a. *Paraître* souvent triste pendant son voyage de noce, c'est rare.
 to-look often sad during one's honeymoon that-is rare
 "To often look sad during one's honeymoon is rare."
 b. *Ne *paraître* pas triste pendant son voyage de noce, c'est normal.
 ne to-look pas sad during one's honeymoon, that-is normal
 "Not to look sad during one's honeymoon is normal."

This contrast leads Pollock to the following conclusion, which has proven extremely influential for the study of negative markers: VP-adverbs like English *often* and French *souvent*, and negative markers like English *not* and French *pas*, do not occupy the same structural position, despite the fact that they both occur between I and V.

To account for the crosslinguistic pattern just described, Pollock proposes that all infinitival verbs in French can raise to a head position which is higher than VP but lower than the position where the negative marker *pas* occurs. Furthermore, infinitival auxiliaries, in contrast with infinitival lexical verbs, can raise even further, to a position from which they precede the negative marker. To account for these positions and for the status of the negative markers, treated separately from adverbs, Pollock suggests that independent syntactic status should be given to three elements traditionally associated with Inflection, namely tense, agreement, and negation. Thus, instead of representing the inflectional part of the clause with the single node IP, Pollock argues that it should be represented as consisting of three distinct syntactic projections, as follows:



In this representation, an (overt or abstract) tense morpheme heads the TP projection and an (overt or abstract) agreement morpheme the AgrP projection; in French, *ne* heads NegP whereas *pas* occurs in its specifier. The adverbs of the class of *souvent* “often” are assumed to occur in a projection adjoined to VP. Such an articulated view of the clause, combined with the assumption that verbs move to a different extent depending on the language and on whether they are auxiliaries or main verbs, allows an account of the word orders described above, as follows. In English, auxiliaries move to the head of TP, whereas main verbs occur in the heads of VP. This accounts for the pattern in (4)–(6), along the same lines as previous work on the topic. In French, in contrast, both auxiliaries and main verbs move to the head of TP in finite clauses, as already argued in Emonds (1976). In non-finite clauses, Pollock argues, auxiliaries can move to the head of TP, whereas main verbs can only undergo so-called “short verb movement” to the head of a projection intermediate between TP and VP, labelled AgrP. This accounts for the contrast between (7) and (8), as follows. In (7b), the infinitival auxiliary *être* raises to the head of TP, and as a result precedes the negative marker *pas* in linear order (*ne* is assumed to cliticize onto the verb and thus move along with it). In contrast, the infinitival lexical verb *sembler* in (8) only undergoes short verb movement to the head of AgrP; consequently, it follows *pas* in linear order (cf. 8a) and cannot precede it (cf. the ungrammaticality of 8b).⁴ Similarly, this proposal accounts for the minimal pair in (9): the infinitival lexical verb *paraître* can undergo short verb movement, and thus land in a position on the left of the adverb *souvent* (assumed to occur in a position adjoined to VP), as shown in (9a); but it cannot raise all the way to the head of TP, and cannot land in a position to the left of *pas*, as shown in (9b).⁵

Pollock’s proposal on how to account for the linear order of the verb with respect to VP-adverbs and postverbal negative markers like *pas* constitutes a first important step towards providing an answer for the question of whether or not negative markers have the same distribution as elements belonging to any of the syntactic categories that we know. Pollock’s study can be taken to

answer a subpart of that question, namely whether postverbal negative markers like French *pas* have the same distribution as VP-adverbs of the class of *souvent* "often." The answer given in this study is negative: this work clearly shows that we need to distinguish *pas* from VP-adverbs, if we want to be able to express the generalization that French exhibits the same restrictions on verb movement as English, though in infinitival rather than in finite clauses. As stated above, this is because infinitival lexical verbs in French can raise past the VP-adverbs, though not past the negative marker *pas*.

3.2 *A comparison with pre-verbal clitics*

The discussion in the previous section has focussed on the comparison of French *pas* with the class of VP-adverbs; the conclusion that these items must be viewed as belonging to two distinct syntactic classes, on the basis of their distribution, can be extended to other negative markers which occupy the same structural position as French *pas*, for example negative markers found in certain Northern Italian dialects (cf. Zanuttini 1997). It may also extend to the negative markers of many Germanic languages (e.g. German *nicht*, Dutch *niet*, Swedish *inte*), which occur higher than VP but lower than I. But that same conclusion does not straightforwardly extend to negative markers like French *ne*, or Italian *non*, or Spanish *no*, which occur in pre-verbal position. Pollock's arguments, based on the relative word order of auxiliaries and main verbs in relation to VP-adverbs and negative markers, simply do not extend to these elements, which consistently precede the verb, whether finite or non-finite, auxiliary or lexical. At first glance, these elements appear to share the distribution of pronominal clitics, given that they occur immediately adjacent to the verb and, if any element intervenes between them and the verb, it can only be a pronominal clitic. The question then arises whether these negative markers could be viewed as being of the same syntactic category as pronominal clitics.

The idea might seem implausible in light of the fact that they have completely different semantic functions, pronominal clitics being nominal elements which can bear a thematic role, negative markers conveying sentential negation to the interpretation of the clause. In principle, though, it is possible to conceive of a class of elements which have the same distribution without sharing any semantic component. It turns out, however, that this solution would be problematic not only because of their semantic differences, but also because a closer look reveals the existence of a number of discrepancies between the distribution of pronominal clitics and that of this class of negative markers. For example, whereas French *ne* shares the distribution of pronominal clitics in finite and infinitival clauses, where they both precede the verb (cf. 11), Italian *non* exhibits the same distribution as pronominal clitics in finite clauses only (cf. 12a), but not in infinitival clauses. In these contexts, *non* precedes the infinitival verb, whereas pronominal clitics follow it (cf. 12b):

- (11) a. Jean *ne les mange* pas. (French)
 John Neg Clitic eats Neg
 "John doesn't eat them."
 b. Jean voudrait *ne pas les manger*.
 John would-want Neg Neg them to-eat
 "John would want not to eat them."
- (12) a. Gianni *non le mangia*. (Italian)
 John Neg them eats
 "John doesn't eat them."
 b. Gianni preferisce *non mangiarle*.
 John prefers Neg to-eat-them
 "John prefers not to eat them."

Moreover, as pointed out in Zanuttini (1991: sec. 2.2.3), Italian *non* can be separated from the verb in certain marginal cases in which the verb can raise past the negative marker, an option which is not given to pronominal clitics. Given the appropriate context, it can also bear contrastive stress (cf. 13, where capitalization indicates phonetic prominence), whereas pronominal clitics can only do so in case of a meta-linguistic repair, i.e., within the template "not x but y":

- (13) a. Preferisco NON farlo. (Italian)
 prefer Neg to-do-it
 "I'd prefer NOT to do it."
 b. *Preferisco non farLO!
 c. Preferisco non farLO, ma farLA!
 prefer Neg to-do-it (Masc) but to-do-it (Fem)

Differences of this kind warrant the conclusion that the pre-verbal negative markers under discussion are not to be viewed as part of the same syntactic class as pronominal clitics, even on purely distributional grounds. Once again, then, we are examining a class of negative markers whose properties are not the same as those of any other known syntactic category.

The proposal made in Pollock (1989) could be extended to cover these cases in several ways. Recall that, in Pollock's work, French *ne* is viewed as the head of the same projection NegP whose specifier is *pas*, which is generated lower than TP but above VP (see (10)). The reason why *ne* always precedes the verb, which is taken to occur in the head of TP in French, is that it is clitic in nature, and thus adjoins to the verb and raises with it. This proposal expresses the intuition that the negative marker *ne* belongs to a distinct syntactic category from pronominal clitics; at the same time, though, it captures the similarity in the distribution of negative markers and pronominal clitics, by arguing that both cliticize onto the verb. This proposal could be extended to other pre-verbal negative markers in Romance; for example, Belletti (1990, 1994) has extended it to Italian *non*.⁶

A different way of extending Pollock's (1989) proposal to these pre-verbal negative markers consists of exploiting the idea of an independent syntactic projection headed by negative markers, but having the pre-verbal negative marker be the head of a projection distinct from the one of which the postverbal negative marker is a specifier. This has been done, on the basis of different arguments, in Laka (1990) and Zanuttini (1991), among others. Laka (1990) argues for the existence of a functional projection whose possible instantiations are negation and emphatic affirmation. This proposal is based on the complementary distribution of negation and emphatic affirmation found in English and Basque. In English, as already pointed out in Chomsky (1957), sentential negation and emphatic affirmation are in complementary distribution, as shown in (14):

- (14) a. I didn't, as Bill had thought, go to the store.
 b. I DID, as Bill had thought, go to the store.
 c. *I DID not, as Bill had thought, go to the store.

Moreover, the presence of an auxiliary or a modal, or else an instance of *do*-support, is required by both emphatic affirmation and by sentential negation expressed by means of the negative marker. This same requirement is also imposed by the overt element marking emphatic affirmation, *so* (cf. Klima 1964: 257), as illustrated in (15):

- (15) a. The writers could *so* believe the boy.
 b. *The writers *so* believed the boy.
 c. The writers did *so* believe the boy.

Finally, as Laka points out, both negation and emphatic affirmation are in complementary distribution with *so*, as shown in (16):⁷

- (16) a. *The writers didn't *so* believe the boy.
 b. *The writers DID *so* believe the boy.

Hence, Laka's work concludes, the sentential negative marker *n't*, the abstract marking of emphatic affirmation, and the overt particle of emphatic affirmation *so* are all possible instantiations of the same functional projection in English, which is given the label P. Similarly, in Basque the negative particle *ez*, the abstract affirmative morpheme, and the emphatic particle *ba* are in complementary distribution and all trigger auxiliary fronting. This is taken to be supportive evidence for the existence of a functional projection with these particular elements. Laka's work extends the proposal concerning the existence of a single functional category housing negation and emphatic affirmation to Romance, arguing that in this language family such a projection occurs in a structural position lower than C but higher than TP. This projection can be headed by the pre-verbal negative markers of Romance, but cannot host the postverbal ones (such as French *pas*), since they occur too high in the

structure. Laka's proposal therefore maintains Pollock's (1989) idea that the negative markers project an independent syntactic category, while suggesting that the structural position of such a category is higher than the one proposed in Pollock's work on the basis of the distribution of French *pas*.

Zanuttini (1991) extends Pollock's proposal in a direction similar to Laka's, but on the basis of different considerations. One consideration is that, in contrast with French *ne*, an account of the distribution of Italian *non* which assimilates it to pronominal clitics is problematic. We have already mentioned the differences between *non* and pronominal clitics in their ability to carry phonological prominence; moreover, as we will see in section 4, *non* does not form a cluster with pronominal clitics, but rather counts as an intervening element which blocks their movement. A second consideration which supports treating Italian *non* as heading a projection other than the one of French *pas* stems from the comparison of pre-verbal negative markers with postverbal negative markers in co-occurrence with imperative verbs. While the former cannot negate a verbal form which is morphologically unique to the imperative (a suppletive verbal form must be used, from the paradigm of the subjunctive, the indicative, or the infinitive), the latter do not show any incompatibility with true imperative forms. Some examples are given below, in which the pre-verbal negative marker of Italian is contrasted with the postverbal negative marker of Piedmontese, a Romance variety spoken in northwestern Italy:

- (17) a. Parla! (true imperative form) (Italian)
 "Talk!" (2Sg)
 b. **Non* parla!
 c. *Non* parlare! (suppletive form)
 Neg to-talk
 "Don't talk!" (2Sg)
- (18) a. Parla! (true imperative form) (Piedmontese)
 "Talk!" (2Sg)
 b. Parla *nen*! (true imperative form)
 talk Neg
 "Don't talk!"

The incompatibility of the pre-verbal negative marker with true imperative forms is systematically found within Romance whenever a language employs a negative marker which occurs in pre-verbal position and which negates the clause by itself. That is, it is found, among others, in languages like Spanish, Catalan, Italian, and the central and southern Italian dialects, all of which can negate a clause by means of a pre-verbal negative marker alone; but it is not necessarily found in languages where the pre-verbal negative marker must co-occur with another negative element to negate a clause. Zanuttini (1991) suggests that the contrast between pre-verbal and postverbal negative markers in co-occurrence with true imperative forms can best be accounted for by

assuming that they each project a functional category (call them NegP-1 and NegP-2) in a different structural position, and with different sensitivities to their complement. In particular, pre-verbal negative markers, which head a projection NegP-1 higher than TP (NegP-1 TP . . . VP), require the presence of some feature in their complement which true imperatives lack, namely tense. In contrast, postverbal negative markers, which occur in a NegP-2 projection lower than at least some components of inflection (TP . . . NEGP-2 . . . VP), are not sensitive to the same properties of their complement.⁸ Finally, a third consideration given in this work for extending Pollock's proposal but distinguishing the projection hosting postverbal negative markers like French *pas* from pre-verbal negative markers like Italian *non* is the following. The Romance languages which negate a clause by means of a negative marker like French *pas* or Piedmontese *nen* exhibit sentences where a negative indefinite occurs in postverbal position and is the only overt negative element in the clause. This is illustrated in (19) with an example from Piedmontese. In contrast, the Romance languages which negate a clause by means of a pre-verbal negative marker alone do not license negative indefinites in postverbal position unless they co-occur with a c-commanding negative element. This is illustrated with examples from Italian in the contrast between (20) and (21):

- (19) a. I sento *gnente*. (Piedmontese)
 SCI hear nothing
 "I don't hear anything."
 b. A l'è rivaye *gnun*.
 SCI SCI'is arrived-there no one
 "Nobody arrived."
- (20) a. *Sento *niente*. (Italian)
 hear nothing
 "I don't hear anything."
 b. *E' arrivato *nessuno*.
 is arrived no one
 "Nobody arrived."
- (21) a. *Non* sento *niente*.
 "I don't hear anything."
 b. *Non* è arrivato *nessuno*.
 "Nobody arrived."

Zanuttini (1991) takes this pattern to provide another reason for distinguishing the pre-verbal from the postverbal negative markers in Romance: assuming that they occur in different structural positions allows one to build an account of these contrasts where the strategy employed by a given language for the expression of sentential negation plays a crucial role in determining the licensing conditions for negative indefinites.⁹

3.3 *Negative markers and the projection NegP*

In this section we have seen that the proposals in Pollock (1989) have been extremely influential on recent studies on the syntactic expression of sentential negation. To summarize, one major empirical contribution of that work is the observation that the distribution of negative markers which follow the verb in I and precede the VP is not identical to that of the class of VP-adverbs. This observation, combined with the assumption present in Chomsky (1986) that functional elements have the same phrasal properties as lexical elements, led to a major theoretical innovation, namely the proposal that negative markers be viewed as elements heading an independent syntactic category, whose semantic properties can be characterized as contributing an instance of negation to the clause. This proposal captures the intuition that these negative markers have properties in common with functional elements (e.g. they express grammatical meaning and form a closed class), an intuition shared by researchers working on languages which employ negative markers and verbal affixes to express sentential negation.

This proposal has proven extremely fruitful in analyzing negative markers in many languages, including but also going beyond Germanic and Romance. As was briefly described in section 3.2, Pollock's original proposal has been extended in its empirical domain by proposing that not all negative markers belong to the same projection, but that more than one must be postulated. (In section 5 we will return to the issue of exactly how many distinct functional projections need to be postulated to account for the distribution of negative markers observed crosslinguistically.) Though such projections have been given different labels in different analyses, in this chapter I refer to them with the label NegP for simplicity.

4 The Phrase Structure Status of Negative Markers

We have introduced the hypothesis that negative markers are best viewed as elements which belong to a syntactic category of their own. Assuming that each category abides by X' -theory, we now need to ask, for any given negative marker, whether it is the head of such a category, hence an X° , or whether it is a maximal projection in its specifier, hence an XP. In this section we are going to discuss what kinds of test can tell us whether a negative marker is a head or a maximal projection. Studies on movement phenomena concur that heads interfere with the movement of heads, whereas maximal projections interfere with that of maximal projections. Thus one way to test the phrase structural status of negative markers consists in examining their behavior in the presence of the movement of other heads and maximal projections.

4.1 Negative markers as heads

One approach to the analysis of pronominal clitics in Romance, which follows the seminal work of Kayne on the topic, views them as heads. Given that heads interfere with the movement of heads, we can test the phrasal status of negative markers by observing their interaction with pronominal clitics. In particular, we need a context in which the pronominal clitics can normally undergo head-to-head movement on their way to a certain position; if the presence of a negative marker in that path makes movement of the pronominal clitics impossible, that can be taken as evidence for the head status of the negative marker. Such a situation indeed exists in Romance, and in fact it was the empirical basis for Kayne's (1989b) proposal that pre-verbal negative markers like French *ne* and Italian *non* are heads. In French, pronominal clitics which correspond to arguments of the embedded clause cliticize onto the matrix verb in causative constructions (cf. 22a); such a position is taken to be the result of head-to-head movement of the clitic. As pointed out in Kayne's work, if the negative marker *ne* is present in the embedded clause, movement of the clitic to the matrix clause gives rise to ungrammaticality (cf. 22b):

- (22) a. Jean *la* fait manger par/à Paul. (French)
 John it makes to-eat by/to Paul
 "John makes Paul eat it."
 b. *Jean *l'*a fait *ne* pas manger à l'enfant.
 John it-has made Neg Neg to-eat to the-child
 "John made the child not eat it."

To account for this pattern Kayne (1989b) suggests that *ne* be viewed as a head, and that the presence of a head between the clitic on the matrix verb and its trace in the infinitival VP blocks the relation of antecedent government between the clitic and its trace. Kayne then extends this account to the cases of so-called "long clitic climbing" in Italian. These are contexts where a matrix predicate which belongs to the class of so-called "restructuring verbs" (cf. Rizzi 1982, Burzio 1986, among others) takes an infinitival clause as its complement. The pronominal clitics which are arguments of the embedded predicate can appear either in the embedded clause or in the matrix clause (cf. 23a, b). However, if the negative marker *non* is present in the complement clause, long clitic climbing yields results that are less than perfect, ranging from marginal to ungrammatical. This is shown in (24), where the perfectly grammatical example where the clitic is in the complement clause (24a) contrasts with the one where the clitic occurs in the matrix clause as a result of long clitic climbing (24b):¹⁰

- (23) a. Gianni vuole veder*li*. (Italian)
 John wants to-see-them
 "John wants to see them."
 b. Gianni *li* vuole vedere.

- (24) a. Gianni vuole *non* vederli.
 John wants not to-see-them
 "John wants not to see them."
 b. *Gianni *li* vuole *non* vedere.

The blocking effect of Italian *non* can be given the same explanation as the blocking effect of French *ne*. More generally, the blocking effect of pre-verbal negative markers on pronominal clitics, in striking contrast with the lack of any such effect triggered by postverbal negative markers, can be seen as a good diagnostic test for their status as heads. The main problem with this test is that it is only viable if a language allows long clitic climbing, i.e., movement of pronominal clitics from the embedded to the matrix clause.

A different test which can help us determine whether a negative marker is a head, and which is possible in a different set of languages, consists in examining whether the pre-verbal negative marker interferes with verb movement to C. If the functional projection NegP occurs in a position structurally higher than the one occupied by the finite verb but lower than C, then a negative marker which is a head in terms of phrase structure should block movement of the verb to C. The most straightforward way to test this prediction is to examine a language which exhibits overt verb movement to C. Within Romance, French questions exhibit a different linear order between the finite verb and a pronominal subject than do declarative clauses. Similarly, certain northern Italian dialects exhibit a word order in questions in which the verb precedes the pronominal clitics (also referred to as "subject clitic inversion"). This contrasts with the word order they exhibit in declarative clauses, where the subject clitic precedes the finite verb. Because of the role attributed to the CP projection in the syntax and semantics of questions, this word order has often been analyzed as the result of verb movement to C.¹¹ Whereas subject clitic inversion is not affected by the presence of the pre-verbal negative marker *ne* in French, it does exhibit sensitivity to the presence of the pre-verbal negative marker in the northern Italian dialects. This can be exemplified with some examples from Paduan, a Romance variety spoken in the northern Italian city of Padua, and studied extensively in works such as Benincà and Vanelli (1982) and Poletto (1993a, 1993b):

- (25) a. *El vien.* (Paduan)
 SCI comes
 "He's coming."
 b. *Vien-lo?*
 comes-SCI
 "Is he coming?"
- (26) a. *El no vien.*
 SCI Neg comes
 "He isn't coming."

- b. **No vien-lo?*
Neg comes-SCI
- c. *Nol vien?*
Neg-SCI comes
“Isn’t he coming?”

(25) exemplifies the difference in linear order of the subject clitic with respect to the verb in declaratives and yes/no questions: only the latter exhibit subject clitic inversion. (26) shows that, in the presence of the negative marker *no*, subject clitic inversion gives rise to ungrammaticality. One way of analyzing these data consists in arguing that verb movement to C, obligatory in affirmative yes/no questions (cf. 25b), is blocked by the presence of the negative marker, which intervenes between the landing site of the verb and its trace. The reasoning goes as follows: a blocking effect is expected to occur only between elements of the same phrasal type; given that the verb is a head, the blocking effect triggered by a negative marker leads to the conclusion that the negative marker is also a head. I believe that this kind of evidence supports the head status of certain negative markers, though I do not agree with the claim often made concerning these cases, namely that they simply lack any movement to C. The conceptual problem I see with arguing that nothing has moved to C is the following: CP is generally assumed to play a central role in the syntax and semantics of questions. Syntactically, in some languages at least, verb movement to C is a crucial property differentiating a declarative from an interrogative clause; thus verb movement to C has often been related to the existence of certain features in CP (in the generativist tradition, from the Q morpheme of Baker 1970 to the interrogative features of Chomsky 1995b). If such movement must take place to form a question, whether to satisfy the needs of an abstract morpheme or to check strong interrogative features, how can it fail to take place in the presence of a negative marker without giving rise to ungrammaticality? In other words, how is a clause with a negative marker marked as a question, if the relevant syntactic operation (namely, verb movement to C) does not take place?

One could of course conclude that movement to C is not an essential component in forming a question, thus circumventing this conceptual problem; but the crosslinguistic generalizations which point in the direction of verb movement to C as central to this clausal type in certain languages are quite robust, and one is therefore reluctant to set them aside. Alternatively, one could conclude that, at least in the case of yes/no questions, movement to C is essential to mark the clause as interrogative, but that such movement does not necessarily involve the verb. In Zanuttini (1997: sec. 2.4), I have argued that it is the negative marker itself, a head, which moves to C in such negative questions; this movement suffices to mark the clause as a question. Thus, instead of viewing the intervening negative marker as blocking verb movement, we can view it as making verb movement to C unnecessary, by virtue of itself being able to check the features that need to be checked in yes/no questions.¹²

Independently of this analysis and on the basis of data from several dialects of Chinese, Cheng et al. (1997) have reached the same conclusion. They observe that the question particle *ma* that marks yes/no questions is in complementary distribution with a negative marker in sentence final position, and conclude that the negative marker in Mandarin can fulfill the same function otherwise carried out by the question particle, namely that of syntactically marking a yes/no question.

4.2 Negative markers as maximal projections

Having examined the kind of evidence adduced in support of analyzing certain negative markers as heads, we can now turn our attention to the kind of evidence used to support their status as maximal projections. This comes in two forms: lack of the effects normally induced by heads (i.e., interference with head movement processes, as discussed above) and evidence of interference with movement of maximal projections.¹³

The former type of evidence is clear: in the languages where the verb is assumed to have raised out of the VP in the syntax and the negative markers follow the verb in linear order, they clearly must not block movement of the verb from its base position to its landing site. This is clearly seen in the case of French, already discussed in section 3, where finite verbs and infinitival auxiliaries can raise past the negative marker *pas* without it showing any blocking effect. Identical patterns are found in the other Romance varieties which exhibit postverbal negative markers, such as Catalan *pas* (cf. Espinal 1992), or the Romance varieties spoken in north-western Italy (cf. Parry 1996, 1997, and references there, Zanuttini 1997). The same is true of the Germanic languages, as can be seen in clear cases of verb movement. The following examples, from Holmberg and Platzack (1988), clearly illustrate that the Swedish negative marker *inte*, which precedes the verb in linear order in embedded clauses (cf. 27a), does not block verb movement in matrix clauses (cf. 27b), where the verb moves to second position:

- (27) a. ...om Jan *inte* köpte boken. (Swedish)
 that John Neg bought books
 "... if John didn't buy books."
 b. Jan köpte *inte* boken.
 John bought Neg books
 "John didn't buy books."

The second type of evidence mentioned above, namely interference of negative markers with movement of maximal projections, calls for a distinction between maximal projections which occupy an A-position and those which occupy an A'-position. Given the widely held assumption that minimality effects are only triggered by elements of the same type (cf. Rizzi 1990), only the movement of maximal projections in A'-positions is predicted to be affected

by the presence of a negative marker, since negative markers occur in non-argument positions. This is the background for the discussion of the interference of negative markers with the extraction of adjuncts, the so-called “inner island” effects of Ross (1983). A purely syntactic account of these patterns is offered in Rizzi (1990), in terms of the blocking effect of the negative marker. Consider the contrast in (28), focussing on the interaction between the negative marker *pas* and the quantifier *beaucoup*:

- (28) a. Il n’a [pas [résolu *beaucoup* de problèmes]]. (French)
 he Neg’has Neg solved many of problems
 “Many problems are such that he didn’t solve them.” OR
 “Not many problems are such that he solved them.”
 b. Il n’a [pas [*beaucoup* résolu [e de problèmes]]].
 he Neg’has Neg many solved of problems
 “Not many problems are such that he solved them.”

(29) *beaucoup*_i il n’a [pas [t_i résolu [e de problèmes]]]

In (28a) the object *beaucoup de problèmes* does not move in the syntax, and the sentence has both the interpretation in which it has wider scope than the negative marker and the one where it has narrower scope than the negative marker. In contrast, in (28b) the quantifier *beaucoup* has moved to an A’-position in the syntax and the sentence can only have the interpretation in which the quantified object has narrower scope than the negative marker. In Rizzi’s view the second interpretation is unavailable to (28b) because, if the quantifier raised at LF, it could not establish the proper relation of antecedent government with its trace due to the intervention of *pas*, a maximal projection in an A’-position (cf. the representation in 29). However, a wide scope interpretation is available when the quantifier remains in situ in the syntax, as in (28a), because the trace left in object position by LF-movement is theta-governed by the verb. Leaving aside the issue of whether a purely syntactic account is sufficient to account for negative island effects, this approach does not grant any conclusion concerning the phrasal status of negative markers. This is because negative island phenomena appear in the presence not only of negative markers which are maximal projections, but also of those which are heads by other syntactic tests, for example the pre-verbal negative marker of Italian, *non*. Rizzi (1990) notes this fact and suggests that it should be accounted for by assuming either that all negative markers must be in a specifier position at some level of representation, or that negative markers which are heads co-occur with a phonetically empty operator in their specifier. In effect, this rules out the possibility of using negative island phenomena as a diagnostic test for the phrasal status of negative markers. Suppose in fact that every negative marker which is a head co-occurred with an operator in its specifier; then its behavior with respect to inner island effects would be indistinguishable from that of a negative marker which is itself a maximal projection in a specifier position.

In sum, in this section we have examined some tests which can help one determine whether a negative marker is a head or a maximal projection. Though most of them require a particular constellation of properties in order to be applicable in a given language, I hope they convey a sense of the kinds of question that can be asked in order to determine the phrasal status of negative markers.

5 From Particular Languages to Universal Grammar

In the preceding sections we have discussed some basic tools for the syntactic characterization of negative markers offered to us by recent proposals. In this section, I would like to provide an overview of certain conclusions that have been reached in the literature concerning the syntactic expression of sentential negation in a variety of languages, with the goal of moving a step forward toward being able to define the range of variation permitted by UG in this domain. We will therefore address, albeit in some cases very briefly, the following issues:

- Does every language have a category NegP projected by its sentential negative markers?
- Is the structural position of NegP fixed or can it vary across languages?
- Can there be more than one NegP within a single clause?

The first issue, concerning whether the grammar of every language has a functional projection which expresses sentential negation, is an empirical matter. As we briefly saw in section 2, many languages negate a clause by means of elements descriptively labeled as particles, which we have been calling negative markers. In the case of each individual language, it needs to be established through the relevant syntactic tests whether these elements have the same distributional properties as some other lexical or functional element in that language (for example, adverbs, or pronominal clitics), or whether it is necessary to argue that they belong to an independent distributional class. As we saw in the course of our discussion, in some languages negative markers share the distribution of elements which mark emphatic affirmation, suggesting the existence of a class of functional elements marking a clause's polarity. In other languages, as discussed in Payne (1985), sentential negation is expressed not by negative markers, but by verbal forms. The issue arises concerning such languages, as in languages with negative markers, whether it is advantageous, theoretically and/or empirically, to postulate that negative clauses contain an abstract functional projection with formal features relevant for the expression of sentential negation. Such languages will need to be evaluated on a case by case basis.

The second issue, concerning whether the structural position of NegP is fixed or can vary across languages, has already been addressed indirectly in

section 3, while presenting some of the arguments adduced in the literature for the postulation of a projection NegP. If we accept Pollock's arguments distinguishing French *pas* from adverbs, and if we find convincing the reasons for postulating a structural distinction between French *pas* on the one hand and Italian *non* and Spanish *no* on the other, then we reach the conclusion that NegP is not in a fixed position crosslinguistically. In agreement with this conclusion, Ouhalla (1990) proposes that the position of the projection NegP constitutes one of the two ways in which languages can differ with respect to the syntactic expression of sentential negation (the other being whether the negative marker is a head or a maximal projection). His idea is cast in terms of a parameter, which expresses the different structural positions in terms of the selectional properties of the head of the projection NegP:

- (30) **The NEG Parameter** (Ouhalla 1990):
- a. NEG selects VP.
 - b. NEG selects TNS(P).

This work assumes the following sequence of functional projections: AgrP TP NegP VP. It captures the difference between French *ne* and English *not*, as well as between Berber *ur-* and Turkish *-me-* (cf. 31 below) by assuming that, in each pair, the former takes the tense projection as its complement, whereas the latter takes the VP. This proposal is supported by the relative linear order of the negative marker and the tense morpheme. In Berber, a head initial language, the negative marker immediately precedes the tense morpheme (cf. 31a), the linear order expected to result from the head-complement relation. In Turkish, where the head follows its complement (since it is a head final language), the tense morpheme follows the negative morpheme which in turn follows the verb, a linear order which is seen to result from tense selecting negation, and in turn negation selecting VP (cf. 31b):

- (31) a. *Ur-ad-y-xdel* Mohand dudsha. (Berber)
 Neg-will TNS-3MascSg(AGR)-arrive Mohand tomorrow
 "Mohand will not arrive tomorrow."
- b. John elmalar-i *ser-me-di-*(.). (Turkish)
 John apples-Acc like-Neg-pastTNS-3Sg(AGR)
 "John does not like apples."

Though more recent studies have suggested that the range of variation in the position of NegP is wider than that suggested by the NEG Parameter, this proposal was the first to explicitly state that the structural position of NegP can vary across languages.

The third issue, whether there can be more than one NegP in a single clause, is addressed at length in Zanuttini (1997: ch. 3). This work examines Romance varieties spoken in northern Italy which negate the clause by means of a postverbal negative marker.¹⁴ Some of these languages have two morphologically distinct postverbal negative markers, which differ both in distribution and

in the contribution they make to the interpretation of the clause. The difference in distribution can be detected by analyzing their relative position with respect to different classes of adverbs, following Cinque's (1994b, 1999) classification. When a language has two postverbal negative markers, one of them obligatorily precedes adverbs of the class of "already," as shown in (32) for Piedmontese *pa* and Milanese *minga*:¹⁵

- (32) a. A l'è *pa* *gia* parti. (Piedmontese)
 SCI SCI-is Neg already left
 "He hasn't already left."
 b. L'è *minga* *gemò* parti. (Milanese)
 SCI-is Neg already left
 "He hasn't already left."

The second negative marker, in contrast, follows "already"; depending on the language, it either precedes the next class of adverbs (i.e., "no more") in the hierarchical structure, as is the case with Piedmontese *nen* and Valdostan *pa*, or else it follows "already" and two other adverb classes, namely "no more" and "always." In the case of Milanese *no*, this can be seen in clauses containing an auxiliary and a past participle. The past participle can occur to the right of *semper* "always," but it can also raise to the head position immediately above it, whose specifier is an adverb of the class of "no more," or to the next head, whose specifier hosts adverbs like "already." This is illustrated schematically below (from Zanuttini 1997: 88):

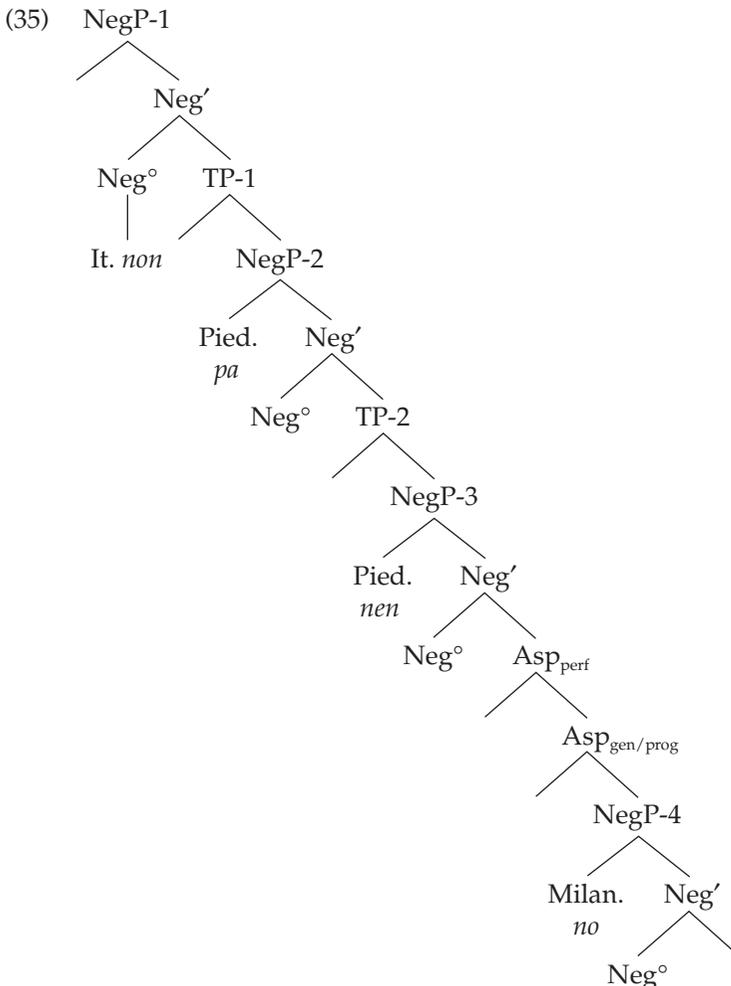
- (33) *minga* - (participle) - *gemò* - (participle) - *pü* - (participle) -
 Neg already no more
semper - (participle)
 always

Crucially, though, the past participle cannot occur to the right of the negative marker *no*, thus suggesting that *no* occurs in a position lower than the one where *semper* occurs:

- (34) *minga* - (participle) - *gemò* - (participle) - *pü* - (participle) - *semper* -
 Neg already no more always
 (participle) - *no*
 Neg

Besides differing in distribution, the negative markers which occur higher than "already" differ from the lower ones in their contribution to the interpretation of the clause: these negative markers are used when the proposition which is being negated is assumed in the discourse, or presupposed (Zanuttini 1997 uses the label "presuppositional negative markers" for this class of elements). The ones which are structurally lower than "already," in contrast, negate a proposition which does not have a special discourse status. Based on these

observations, it seems that, within Romance, there is support for the postulation of four distinct projections hosting negative markers, which cannot be collapsed with those hosting adverbs. Distinguishing them by assigning the lowest number to the one which is structurally highest, they can be described as follows: NegP-1 is the projection of negative markers like Italian *non* and Spanish *no*, which precede the finite verb; NegP-2 corresponds to the presuppositional negative markers, exemplified by Piedmontese *pa* and Milanese *minga*, which precede adverbs like “already”; NegP-3 is the projection of Piedmontese *nen*, lower than the one hosting “already” but higher than the one hosting “any more”; NegP-4 is the projection of Milanese *no*, lower than the projection whose specifier is “always.” Following Cinque’s proposal on both the structure of the clause and the content of the functional projections hosting the adverbs relevant for the distribution of negative markers, Zanuttini (1997: 101) summarizes these positions with the following diagram:



This conclusion, drawn from the study of several varieties of Romance, can be rephrased in more general terms in light of Cinque's work. On the assumption that the sequence of functional projections is made available by UG to all languages, individual languages will differ depending on which ones they instantiate. Thus, rather than thinking of a binary choice between a projection NegP taking TP as a complement and a projection NegP taking VP as a complement, we can think of crosslinguistic variation in this domain as resulting from differences concerning which of the available NegP projections a given language instantiates, and why.

6 Conclusion

In this chapter I have focussed on a set of issues concerning the syntax of sentential negation which center on the proper characterization of negative markers. Although this is only one piece in the mosaic of issues that relate to the grammatical representation of sentential negation, it is an important one both in itself and for the analysis of other grammatical phenomena. The kinds of question raised in this chapter, and the kind of reasoning adopted in searching for answers to them, can hopefully provide a sense of our current understanding of these issues, a useful background for reading current literature on the topic, and the basis for further progress.

NOTES

- 1 Cf. also Dahl (1979), Dryer (1989), Bernini and Ramat (1992), and Kahrel and van den Berg (1994).
- 2 All the examples in this section are from Payne (1985).
- 3 Pollock (1989) points out that modal-like verbs such as *vouloir* "want," *devoir* "must," and *pouvoir* "can" also contrast with lexical verbs in being able to precede *pas* in infinitival clauses.
- 4 One problem left open by this account concerns the relative order of *ne* and *pas* in cases of short verb movement. If *ne* is the head of the projection of which *pas* is the specifier, and it precedes *pas* in linear order because it raises along with the verb, it should fail to precede *pas* when the verb does not raise past NegP because it only undergoes short verb movement. However, *ne* always precedes *pas* in linear order, even in cases of short verb movement (cf. 8a).
- 5 Pollock's (1989) paper makes a very precise proposal concerning what the difference in verb movement should be derived from. Because it is not strictly relevant for the study of sentential negation, I will not discuss it here but simply refer the reader to Pollock's work.
- 6 Belletti (1990) directly extends Pollock's (1989) proposal for French *ne* to Italian *non*. Belletti (1994) refines the earlier proposal concerning the movement of Italian *non* to pre-verbal position and suggests that this movement is

- similar to, though distinct from, that of pronominal clitics.
- 7 See also Kayne (1989b) for an analysis of the complementary distribution of the negative marker *n't* and the particle of emphatic affirmation *so* in English.
 - 8 The dots in the diagrams are intended to suggest that other functional projections may intervene which do not affect the distribution of NegP. See Zanuttini (1997) for a more comprehensive discussion of the data and of the strengths and weaknesses of two possible approaches to negative imperatives.
 - 9 Due to space limitations, I cannot discuss the proposed account here. I refer the interested reader to Zanuttini (1991) and Ladusaw (1992).
 - 10 The grammaticality of long clitic climbing in the presence of a pre-verbal negative marker is sensitive to a complex set of factors, which include the lexical choice in the matrix predicate, as well as its aspectual properties. For example, Treviño (1991) points out that long clitic climbing across the negative marker *no* is not completely ruled out in Spanish when the matrix predicate is a modal verb.
 - 11 For French, cf. Kayne and Pollock (1978) and Rizzi and Roberts (1989), among others, for the view that such movement takes place in the syntax, and Sportiche (to appear) for the view that it takes place covertly, i.e., at LF.
 - 12 The case of *wh*-questions is slightly different, at least in Paduan: in the presence of a pre-verbal negative marker blocking verb movement, a cleft construction is used. See Zanuttini (1997) for a description and an analysis of this syntactic strategy.
 - 13 As pointed out by the editors of this volume, a third test that can be used to determine the phrasal status of an element is extraction: if a constituent can be moved to a position usually occupied by a maximal projection, then it is a maximal projection. For example, the fact that the adverb *never* in English can be moved to a position generally assumed to be a specifier, as in (i), argues for its status as a maximal projection. In contrast, the impossibility of preposing the negative marker *not*, as in (ii), in conjunction with the differences between *never* and *not* related to the use of do-support, argues for the head status of *not*:
 - (i) *Never* had I read such a book.
 - (ii) **Not* had I read such a book.
 Though in principle this is a good test, in practice it does not help us distinguish negative markers which are heads from those which are maximal projections, since to my knowledge no negative marker can be fronted in this way. This suggests that factors other than their phrasal status must be at play to block such movement.
 - 14 Although an answer to the question concerning multiple NegPs might also come from languages where a pre-verbal and a postverbal negative marker co-occur, the case of languages which employ only postverbal negative markers is clearer. As we saw in the discussion of French, pre-verbal *ne* and postverbal *pas* might have originated in the same functional projection and have been separated by movement. In this work, I will leave open the issue of where *ne* originates.
 - 15 For the sake of brevity, I will not give the second half of the paradigm, namely the examples where the negative marker follows the adverb corresponding to

“already,” which are ungrammatical. Similarly, I will not provide the examples which show that the relative order of adverbs in these languages is the same as the order found by Cinque (1994b) to hold in Italian and French; I refer the reader to Zanuttini (1997: ch. 3). Cinque (1994b, 1999) argues that the relative order of certain classes of adverbs is fixed and holds crosslinguistically,

since it reflects the fixed ordering of the functional projections in which they occur. Simplifying his results, for the relevant part of the clause, between the lowest tense projection and the VP, the elements which occur in the specifier of a functional projection are the following, in their relative order: neg – already – no more – always – completely.