

In this new book Liliane Haegeman presents an account of sentential negation within the Government and Binding framework. Building on the work of Klima and Lasnik, Haegeman demonstrates the parallelism between negative sentences and interrogative sentences, and gives a unified analysis in terms of a well-formedness condition on syntactic representations: the AFFECT-criterion, instantiated as the WH-criterion in interrogative sentences and as the NEG-criterion in negative sentences. It is shown that in the same way that in many languages the WH-criterion gives rise to WH-movement, the NEG-criterion may also give rise to NEG-movement. This is particularly clear in the Germanic languages. In the analysis of sentential negation in Romance languages the author makes extensive use of the notion of representational chain, showing that in these languages too the NEG-criterion applies at the level of S-structure.

In addition to providing a syntactic analysis of sentential negation the book also raises a number of theoretical issues such as that of the distinction between A-positions and A'-positions and the level of application of well-formedness conditions.

This book will be of interest to all those working on theoretical syntax, particularly of the Germanic and Romance languages.

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The syntax of negation

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THE SYNTAX OF NEGATION

LILIANE HAEGEMAN

Department of Linguistics, University of Geneva



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**Il n'y a guère que les savants et les marchands de chandelles pour
déplorer qu'au lever du soleil les lanternes soient inutiles!**
Christiane Singer, *Une Passion* (Albin Michel, 1992: 69)

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Preface

In this book I develop an analysis of the syntax of negation against the background of the generative tradition, more specifically the Principles and Parameters framework initiated by Noam Chomsky.

The linguistics literature is full of discussions of negation and has been so for a long time. Discussions have ranged from the morphological aspects of negation, to the syntax, the semantics and the pragmatics. In this book I do not intend to provide an exhaustive discussion of all the aspects of negation which were, at one moment or another, prominent issues in the linguistics literature. This could not be the topic of one book, but it would be the topic of a series. I concentrate on the syntactic aspects of negation, focusing almost exclusively on what is usually referred to as sentence negation, i.e. those examples where the negation marker has scope over and thus gives negative value to a whole sentence, as is the case in the following English sentences: (i) *I won't go there any more* and (ii) *No one said nothing* or (iii) *He gave nothing to Mary*.

I will not restrict the discussion to an analysis of aspects of the syntax of negation; rather I will try to bring out those aspects of the syntax of negation which are not specific to negative sentences as such, but which belong to the larger domain of the syntax of operators, with special attention to the parallelism between negative sentences and interrogative sentences. This line of research was initiated in the generative tradition by Edward Klima in the 1960s. What is important about Klima's work is that much of the analysis is still valid in the current framework, and his work contains the essence of what are the central topics of discussion in the current literature. What my work will do is recast some of Klima's earlier proposals in terms of the current generative model. I also draw on Lasnik's work on negation written in the 1970s.

With respect to the framework used, I will adopt the so-called Government and Binding tradition. I will, however, refer to the more recent Minimalist Program regularly, and bring out parallelisms and

differences between the two frameworks with respect to the matter at hand. I have adopted the traditional SOV analysis for the West Germanic languages but I have inserted occasional references to those accounts which adopt the Universal Base hypothesis and postulate a universal SVO base order.

In my discussion I have made essential use of two recent discussions of *wh*-movement. My analysis starts out from Rizzi's discussion of the *wh*-criterion, which I generalize and develop for negation in terms of the *NEG*-criterion. I first discuss the application of the *NEG*-criterion to West Flemish, a language in which negative constituents undergo movement, exactly like *wh*-constituents undergo movement in, say, English or French. Then I show how the same kind of approach can be extended to other languages, some of which lack overt movement of negative constituents. In order to deal with these languages I will depart strongly from Rizzi's original approach and I follow recent work by Brody in which extensive and systematic use is made of operator chains. It seems to me that the latter option has important conceptual advantages and that its empirical coverage is at least equal to Rizzi's original approach. The discussion will also reveal the need to rethink the nature of derivational and representational chains: contrary to what would be expected from the Relativized Minimality framework, for instance, derivational chains headed by negative arguments sometimes cannot be formed by binding and antecedent-government is required. In order to deal with this I propose the notion of layered chains, with an argument layer and an operator layer; in the case which will be discussed, the operator layer, which imposes antecedent government relations on the links of the chain, overrules the argument layer.

This book is organized as follows. In chapter 1 I outline the basic tenets of the model I am adopting. Readers familiar with the Government and Binding literature will not find this chapter particularly innovative. I simply discuss those domains of the grammar which will be relevant to my work and include some reference to recent developments. In chapter 2 I show how the syntax of negation can be treated in parallel with the syntax of interrogative sentences and I develop the *NEG*-criterion, a well-formedness condition on the distribution of negative heads and negative quantifiers first formulated in joint work with Raffaella Zanuttini. In chapter 3 I consider the syntax of negation in West Flemish. In chapter 4 I extend the analysis to other languages, and I introduce the concept of the layered chain. Given that the discussion in chapters 2, 3 and 4 relies

on the distinction between A- and A'-positions, I turn to a general discussion of this issue in chapter 5. Finally, chapter 6 summarizes the book, points to the more important remaining problems and briefly discusses non-sentential negation.

Parts of this book are based on papers which were published elsewhere. Some of the West Flemish data discussed in chapter 3 are also to be found in the paper 'Negative Concord, Negative heads' which appeared in D. Delfitto, M. Everaert, A. Evers and F. Stuurman (eds.) *Going Romance and Beyond* published in 1991. Chapter 2 is parallel to the discussion in 'Negation in West Flemish and the NEG-criterion', in the *Proceedings of the NELS Conference 22* (1992), edited by K. Broderick. Chapter 4 is related to the paper 'Negative heads and negative operators: the NEG-criterion' in B. Lust, M. Suner, and J. Whitman (eds.) *Syntactic Theory and First Language Acquisition: Cross linguistic perspectives. Vol 1. Heads, Projections and Learnability*. I also refer to the two joint papers with Raffaella Zanuttini, which were the starting point for this book: in 1991 we published 'Negative heads and the NEG-criterion', in *The Linguistic Review*. Our second joint paper, which contains a detailed analysis of the conditions on negative concord, is 'Negative Concord in West Flemish', to appear in *Parameters and Functional Heads*, edited by Adriana Belletti and Luigi Rizzi. However, I wish to emphasize that though the leading idea of this book is the same as that in the related articles, the specific implementation of the analysis differs considerably from the published papers.

I started working on negation in 1989. Most of this work has been presented in the DES course at the University of Geneva. I thank the students who attended these classes for patiently listening to what at times must have been variations on a theme with frequent changes of direction. Special thanks are due to Lucienne Rasetti and Julien Musolino for their valuable questions and suggestions. I also presented this work at the *Seminaire de Recherche* at the University of Geneva, for the GDR group 120 (syntaxe comparative) at Paris in 1990, at Tilburg University in 1990, at University College London in 1991, at the *Going Romance* conference in Utrecht in 1991, at the LAGB conference in Brighton in 1992, at the conference on Celtic languages in Bangor in 1992, at the Department of Cognitive Sciences at Johns Hopkins University in 1992 and at the DEA programme in linguistics at the University of Nancy in 1993. I wish to thank all the audiences of these meetings for their comments and suggestions.

In addition I also thank the colleagues and friends who have discussed parts of this book with me: Enoch Aboh, Adriana Belletti, Hans den Besten, Luigi Burzio, Carlo Cecchetto, Peter Coopmans, Siobhan Cottell, Arnold Evers, Riny Huybregts, Michel de Graff, Corinne Grange, Jane Grimshaw, Teresa Guasti, Eric Haeberli, Teun Hoekstra, Carla Luijks, Rita Manzini, Jamal Ouhalla, Genoveva Puskas, Henk Van Riemsdijk, Karin Robbers, Beatrice Santorini, Manuela Schoenenberger, Ur Shlonsky and Michal Starke.

Michael Brody and Luigi Rizzi were the main sources of inspiration for the theoretical basis of this book, and I am grateful to them for the discussion we had on various issues. I think that the extensive use I make in this book of representational chains is not a coincidence. Of course, neither can be held responsible for the way I have elaborated and modified their proposals. I also express my gratitude to Paolo Acquaviva and Magui Suner for sending me their work and for discussing various points with me. It was very stimulating to find out how, starting from different empirical data, our analyses converged towards the same conclusions.

Thanks are also due to Carlo Cecchetto, Claire Foley, Corinne Grange, Genoveva Puskas, Lucienne Rasetti, Raffaella Zanuttini and two anonymous CUP reviewers for detailed comments on the manuscript.

My warmest thanks also go to Eric Haeberli and Manuela Schoenenberger who spent the first part of their Easter vacation reading through a final version of the text and doing a lot of copy editing. Without them the book would not have taken the shape it has now. Thanks also to Mariette Suttels for proofreading.

Special thanks go to David Lightfoot and Neil Smith. They managed to make me laugh when life seemed to have turned itself into a negative chain.

Among all the colleagues and friends in the linguistics world there is no doubt that Raffaella Zanuttini deserves special mention. If it had not been for that long discussion over coffee and Swiss chocolates at Micheli's on a cold December afternoon in 1989, this book would not have existed. Raffaella's first GLOW paper on negation in 1989 and her stay in Geneva in 1989-1990 were the starting point for my work on negation and the continuous discussion we have had throughout the last five years has helped me to give shape to my ideas. And, more importantly, we developed a friendship which goes far beyond the

question where to locate NegP in the tree. Raffaella deserves the credit for whatever merits this book may have. Needless to say, I am responsible for everything that is wrong with it.

Finally, thanks to my parents and my brother for their friendship (and their judgements) and to Hedwig, who was the positive antidote to working on negation.

This research is part of project 11-33542.93 subsidized by the Fonds National Suisse de la Recherche Scientifique. I also make extensive use of work by Puskas (1994) and Hamann (1993), both part of the same project.

1 *Introduction*

1 The theoretical framework for the discussion

This book discusses the syntax of sentential negation against the background of generative syntax; more specifically, the Principles and Parameters approach (cf. Chomsky 1981, 1986a, 1986b etc.). The conceptual framework adopted for the discussion is that usually referred to as Government and Binding Theory, GB theory for short (cf. Haegeman 1991, 1994a). I have also incorporated occasional references to more recent developments of the Principles and Parameters framework, such as Chomsky's Minimalist Program (1993) and Brody's Radical Minimalism (1993b). Some of Brody's proposals will be used extensively.

The first part of this chapter consists of an introduction to the main theoretical concepts used in the book. For reasons of space I cannot provide an exhaustive introduction to the theory. I have selected those modules of the grammar which will have primary importance for the discussion. I refer the reader to the literature for detailed discussion and motivation. The following areas will be discussed:

- 1.1 Syntactic structure is endocentric
- 1.2 Levels of representation
- 1.3 Word order variation
- 1.4 Perfect projections and Extended projections
- 1.5 Movement
- 1.6 Relativized Minimality
- 1.7 Movement at S-structure or at LF

Some of the concepts introduced in this chapter will be treated in more detail in later chapters.

2 Introduction

1.1 Syntactic structure is endocentric

1.1.1 X-bar theory

One of the core principles of generative syntax is the idea that syntax is structure-determined. Clauses are hierarchically organized into types of constituents, the phrases. At each level of the hierarchy the same principles determine the structure of a constituent. These structural principles can be summarized in terms of the traditional notion of endocentricity: constituents are organized hierarchically around a head; the head determines the properties of the constituent. Let me illustrate this by means of a simplified example. Consider the sentence (1a):

- (1) a. [_{NP} John's description of the accidents] was published in three papers.

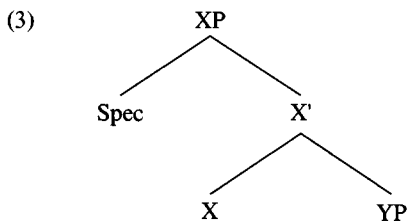
In (1a) the subject of the sentence is the constituent *John's description of the accidents*. As a first approximation (but see section 1.4.3) let us say that this constituent is a noun phrase, NP. An NP is a constituent or a phrase whose central element, the head, is a noun, here the N *description*. The features of the head of a phrase determine the features of the phrase. Categorical features of a phrase, for instance, are determined by its head: if the head of the phrase is a noun (N), the phrase is a noun phrase (NP) (rather than, say, a verb phrase (VP) or an adjectival phrase (AP)). The nominal features, gender, number and person, of an NP are also determined by the nominal features of the head N. In (1a) the N *description* is singular; the phrase *John's description of the accidents* is also singular, triggering singular agreement on the inflected verb *was*. In the French example (1b) the gender of the head of the NP *la description des accidents par Jean* is the feminine N, *description* ('description'), hence the NP is feminine, triggering feminine agreement on the participle, *publié-e* ('published'):

- (1) b. La description [fem. sg] des accidents par Jean a déjà
the description of-the accidents by John has already
été publiée [fem. sg].
been published

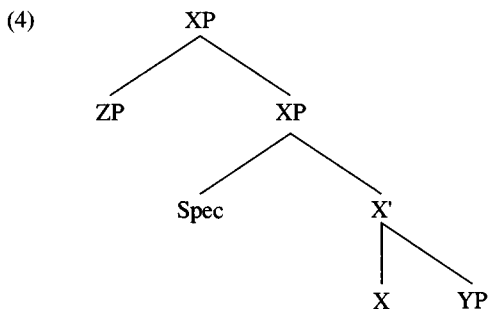
It is standardly assumed that the structure of phrases is determined by a number of rigid principles summarized in what has come to be known as X-bar theory.

- (2) X-bar theory
 a. $XP \rightarrow \text{Spec} - X'$ b. $X' \rightarrow X - YP$

(2) can be represented by the tree diagram format in (3):



X is the head of the phrase, XP. XP is a projection of X; XP is the maximal projection. The head X combines with another maximal projection, YP, to form an intermediate projection X'; YP is the complement of X. X' in turn combines with a maximal projection which is the specifier of the phrase to form XP, the maximal projection. Until recently it was also often proposed that one maximal projection might adjoin to another one, giving rise to structures as in (4):



In (4) the base XP is combined with another maximal projection ZP, to form a higher projection of XP.

(3) and (4) represent the 'classical' phrase-structure theory in the GB-framework. There have been a number of proposals that the theory should be more restrictive. Kayne (1993), for instance, proposes that there be only two levels of projection: X° and XP, the intermediate level X' is dispensed with.¹ The extent to which adjunction can be used is also being debated, with Kayne (1993) proposing to restrict adjunction maximally (cf. references in note 1). When relevant I turn to this issue in the discussion.

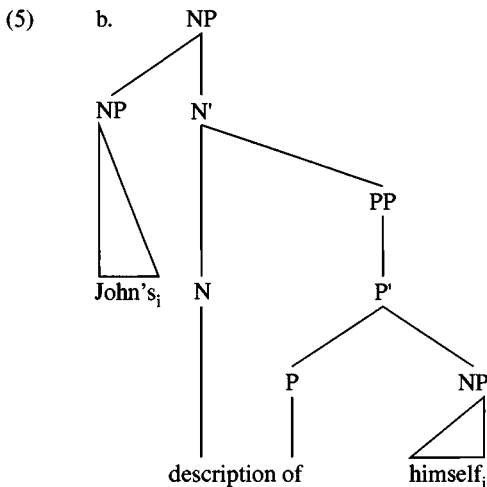
4 Introduction

1.1.2 Geometrical relations in tree diagrams

Syntactic relations between phrasal projections are established on the basis of the c-command configuration:

- (5) a. C-command
A node X c-commands a node Y iff
- (i) X does not dominate Y;
 - (ii) Y does not dominate X;
 - (iii) the first branching node Z dominating X dominates Y.

In the representation (5b) the NP *himself* is c-commanded by the genitive NP *John's*. The NP *himself* is a reflexive, it is referentially dependent on the antecedent *John's*. This dependence is represented by coindexation. *John's* binds *himself*, where binding is defined as in (5c).



- (5) c. Binding
X binds Y iff
- (i) X c-commands Y;
 - (ii) X and Y are coindexed.

1.1.3 Argument structure

The structure of clauses is determined by the X-bar theory sketched in section 1.1.1. The heads which determine the projections are of two types: lexical heads and functional heads. Roughly, lexical heads belong to open

classes, N, V, A, and P, while the functional heads are the closed classes of function words such as determiners, auxiliaries and the morphological endings. Lexical heads contribute to the description of the event structure of the clause. Consider (6a):

- (6) a. Mary will probably invite John.

It is the verb *invite* which describes the event expressed in the sentence. The NPs *Mary* and *John* are arguments of the verb, *invite*; they refer to the participants in the event. In the GB tradition, theta-theory regulates the distribution of arguments in the sentence. Lexical heads carry thematic information; they are associated with a number of arguments to which they assign a thematic role or theta-role, such as AGENT, PATIENT, THEME, GOAL, SOURCE etc. The theta-criterion (7) imposes a one-to-one relation between arguments and theta-roles such that one NP can only be associated with one theta-role and conversely one theta-role is only assigned to one argument.

- (7) Theta-criterion
 a. Each argument is associated with one theta-role;
 b. Each theta-role is associated with one argument.

The arguments of the verb are realized as subject and as complements (direct or indirect objects, PP complements). There is a locality condition on the realization of arguments which imposes that theta-roles are assigned within the maximal projection of the lexical head. This means, for instance, that V assigns all its theta-roles VP-internally. In (6a) the AGENT role of the subject NP will be assigned to an NP in the position [Spec,VP]; the PATIENT role of the complement will be assigned to [NP,V']. This does not imply that the subject NP *Mary* in (6a) occupies a VP-internal position. We shall see presently that the subject NP has to be moved to the canonical subject position, the highest NP position in the clause.

As mentioned above, clauses are composed of projections of lexical heads and projections of functional heads. In (6a), for instance, the lexical projection of V, *invite*, is associated with a functional head, the modal auxiliary *will*; in (6b) the verb is associated with the past tense morphology *-ed*:

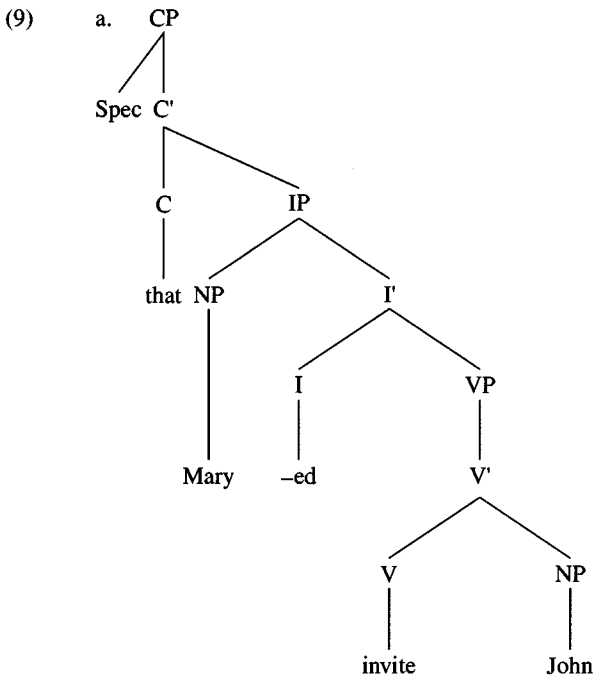
- (6) b. Mary probably invited John.

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There are a number of arguments for proposing that both in (6a) and in (6b) the functional elements, *will* and the past tense morpheme respectively, should be realized in a position separate from VP. To mention only one such argument: in both (6a) and in (6b) subject-auxiliary inversion affects the functional head, *will* and the past tense respectively, and does not affect V:

- (8) a. Will Mary invite John?
 b. Did Mary invite John?

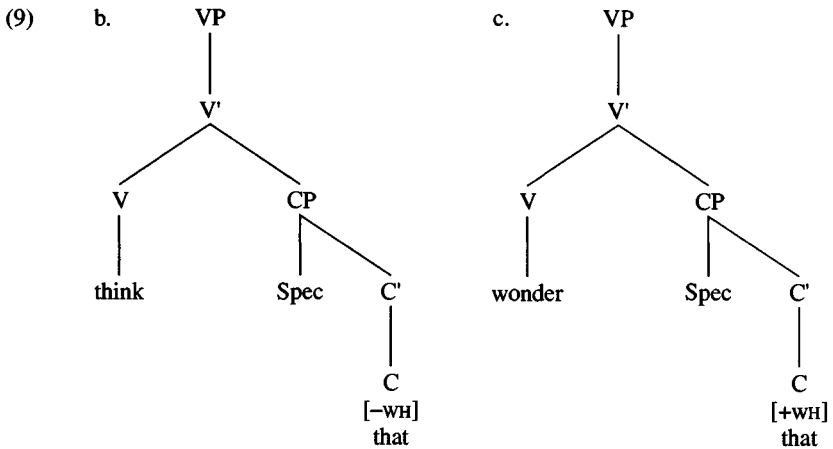
Based on considerations such as that above it is proposed that clauses are projected along the schema in (9a):



VP is the complement of the agreement and the tense morphology realized in I. We refine the analysis of I below. I combines with VP to form I'. The maximal projection of I, IP, corresponds to the clause: the specifier of IP is the subject NP. I is the head of the clause: it is the nature of I which determines, for instance, whether a clause is finite or non-finite. In (6a) and (6b) the clause is finite, in (6c) below it is non-finite and I is realized as *to*.

- (6) c. [_{CP} For [_{IP} John to invite Mary]] would be rather surprising.

C is the complementizer, the subordinating conjunction which introduces the clause; C is another functional head. In finite declarative clauses C is realized as *that*,² in finite interrogatives it is realized as *if*. The properties of C determine the properties of its projection, CP. We assume that interrogative clauses are headed by a C which carries the feature [+WH], while declaratives are headed by a C with the feature [-WH]. Verbs may select an interrogative clause or a declarative clause: *think*, for instance, selects a declarative CP, while *wonder* selects an interrogative CP. Selection is a local process: V selects the type of C which is the head of its complement:



C in turn determines the selection of the complement IP: *that* selects a finite IP; *for*, for instance, selects a non-finite IP.³

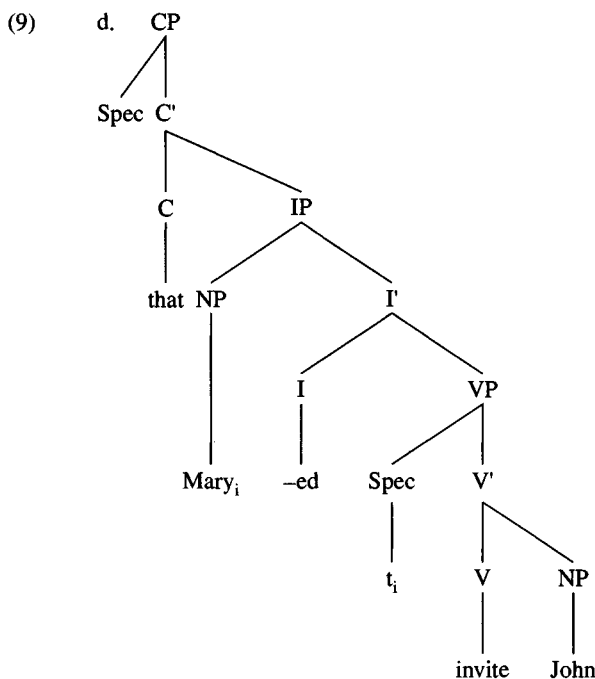
In the discussion of argument structure we proposed that arguments of a lexical head are realized locally, i.e. within the projection of the lexical head. However, representation (9a) is in apparent contradiction with this proposal since the subject NP *Mary* is not realized locally, i.e. within the VP headed by the V *invite*. Similarly in (6d) the arguments of *invite* are not realized within the lexical projection of V.

- (6) d. Who do you think [_{CP} that [_{IP} Mary will [_{VP} invite?]]]

8 Introduction

In (6d) *who* is an argument of *invite* but it is realized outside the clause containing the verb *invite* and which is introduced by the complementizer *that*.

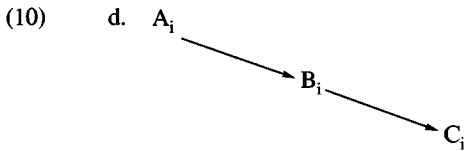
Whenever the arguments of a verb, or of a head in more general terms, are realized outside the projection of that head we assume that they have undergone movement. Movement of a category gives rise to the formation of a chain which links the moved category with the extraction site marked by a trace (*t*). Following this assumption, a more adequate representation for (9a) would be (9d) in which the trace under [Spec,VP] indicates the thematic position of the subject NP.



The NP *Mary* moves into the empty [Spec,IP] position. This kind of movement is achieved by substitution: the moved NP is inserted into the empty slot. The NP *Mary* and its trace are linked, we say that they form a chain $\langle Mary_i, t_i \rangle$. $Mary_i$ c-commands its trace, t_i , and is coindexed with it; $Mary_i$ binds its trace, t_i (cf. (5)). Chains are defined as in (10):

- (10) Chain
- a. $C = \langle x_1, \dots, x_n \rangle$ is a chain iff, for $1 \leq i < n$, x_i is the local binder of x_{i+1} .
 - b. x is a binder of y iff, for $x, y = \text{a category}$, x and y are co-indexed, and x c-commands y ;
 - c. x is the local binder of y iff x is a binder of y and there is no z such that z is a binder of y , and z is not a binder of x . (cf. Rizzi 1986a: 66)

The impact of local binding will become relevant in subsequent chapters of this book. Clause (10c) of the chain formation algorithm ensures that chains cannot skip coindexed elements: in a structure like (10d) where A c-commands B and B c-commands C , and where A, B and C are coindexed, A, B and C form a chain. It is not possible, in this configuration, to form a chain which includes A and C , but excludes B .



For further discussions of chain formation the reader is referred to Rizzi (1986a).

We turn to the relation between the verb *invite* and the associated inflectional ending *-ed* below.

In (6d) the matrix subject *you* originates in the matrix VP and is moved to the matrix [Spec,IP]; the embedded subject *Mary* originates in the embedded VP and has moved to the subject position of the embedded clause; in addition *who*, the object of the lower clause has moved to the [Spec,CP] of the matrix domain (cf. Haegeman 1994a for discussion of movement):

- (6) e. Who_k do [_{IP} you_i [_{VP} t_i think [_{CP} that [_{IP} Mary_j will [_{VP} t_j invite t_k?]]]]]

In the generative tradition (Chomsky 1965: 68-74; 1981: 42), grammatical functions such as subject and object are not syntactic primitives. Rather these notions are derived on the basis of the geometrical relations in the tree. The subject is the highest NP in the clausal domain, i.e. the NP which occupies the specifier of IP, [Spec,IP] etc. Though the individual grammatical functions are derivative, the theory does maintain a more global contrast between the nuclear

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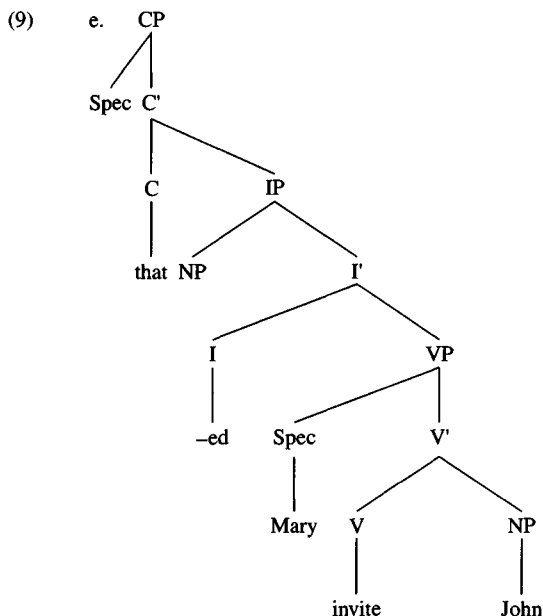
positions associated with grammatical functions, such as subject, and object, and other peripheral positions which are not canonically associated with a grammatical function. The former are referred to as A-positions, the latter are A'-positions. We return to the contrast in section 1.2.2 and also extensively in chapter 5.

1.2 Levels of representation

The derivation of clauses as discussed schematically in section 1.1 implies that clauses have distinct levels of representation. In the GB literature three levels of representation are standardly recognized: D-structure, S-structure and LF.

1.2.1 D-structure

The D-structure representation of a clause is determined by the thematic structure of the lexical head (especially V, cf. note 10 below) and by the selectional restrictions of the functional heads. The D-structure of (9d) would be as in (9e) where the subject NP *Mary* is in its thematic position, [Spec,VP].



1.2.2 S-structure

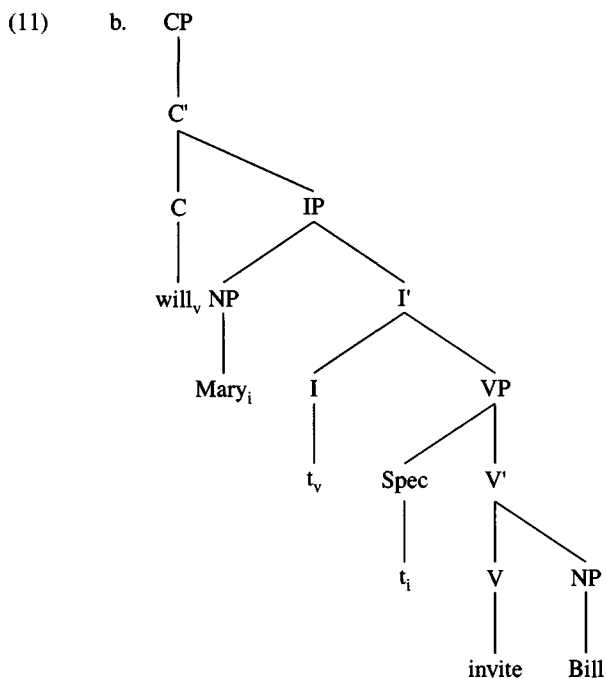
The level of S-structure encodes the modifications on D-structure which have an overt reflex. For instance, in English, as in many other languages, the subject NP cannot remain VP-internally but must move to a higher position. The motivation for this movement is case theory: in order to be able to receive a thematic role, arguments must be visible. Visibility is achieved by the assignment of case. Subject NPs of finite clauses are assigned nominative case by the finite inflection, I, under specifier-head agreement. This means that in order to be licensed *Mary*, the subject NP, must move to [Spec,IP] where it can be assigned nominative case by I. The movement of an NP to the subject position is referred to as NP-movement. For the time being, let us assume that object NPs are assigned accusative case by the verb. In (9e), *John* would be assigned accusative case by *invite*. We reconsider the case properties of objects in chapter 5.

In the proposal which has come to be known as the Minimalist Program the concept of case assignment is replaced by that of case-checking. NPs are base generated with the case morphology. In order for the case morphology to be licensed, the NPs have to move to an appropriate checking position. We return to this point in section 1.4.1.2.

So far, we have discussed the movement of a maximal projection, in our example the relevant maximal projection was an NP. Other kinds of movements are also possible. In (11a) the auxiliary *will* precedes the subject NP, *Mary*. We assume that *will* has moved to C (cf. Haegeman 1994a chapter 2 for arguments). *Will* undergoes head-to-head-movement. In fact the structure preservation condition imposes that heads can only be moved to head positions.

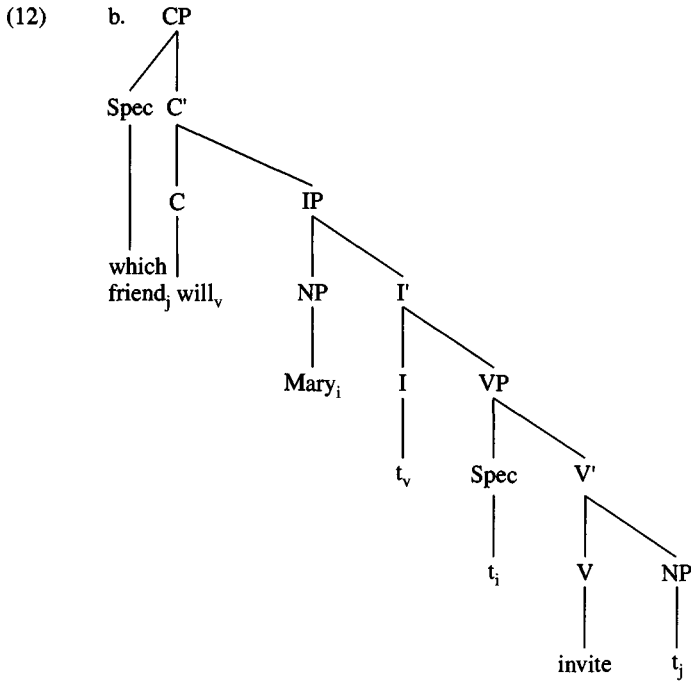
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(11) a. Will Mary invite Bill?



The moved head, *will*, c-commands its trace. In (12a) the auxiliary *will* has moved from I to C, by head-to-head movement, and a maximal projection, the WH-phrase *which friend*, has moved to the sentence-initial position: [Spec,CP], leaving a coindexed trace in its base position. Again the moved constituent *which friend* substitutes for an empty slot. The moved constituent c-commands its trace, with which it is coindexed.

(12) a. Which friend will Mary invite?



The position occupied by *which friend* is not an A-position. It is not a position which is uniquely associated with one grammatical function: not only complements, but also adjuncts may occupy the sentence-initial position.

- (12) c. [_{CP} Why will [_{IP} Mary invite Bill?]]
 d. [_{CP} When will [_{IP} Mary invite Bill?]]

A clause-peripheral position such as [Spec,CP], which is not directly associated with a grammatical function, is an A'-position. We return in detail to the definition of A-positions and A'-positions in chapter 5.

Interrogative constituents such as *which friend*, *why*, *when* etc. undergo leftward movement and end up sentence initially at S-structure in English. One trend, which has been gaining ground recently, is to argue that all movement is due to morphological motivations: movement is morphology driven. In the case of NPs, the idea would be that it is the case features of the NP which force it to move; for WH-movement one could argue that it is the WH-morphology of the phrase which induces the

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movement to [Spec,CP]. Another, perhaps more traditional line, is more semantic in nature: one might assume that *WH*-elements are scope-bearing elements, and that the [Spec,CP] position is a typical scope position. The idea would be that *WH*-constituents move to the sentence-initial position because that is the slot in which they can take clausal scope and give interrogative force to the sentence. I return to this point in chapter 2 and subsequent chapters.

1.2.3 LF

In addition to S-structure and D-structure standard GB theory also postulates a level of LF, or logical form. This level represents semantic relations. Consider for instance (13):

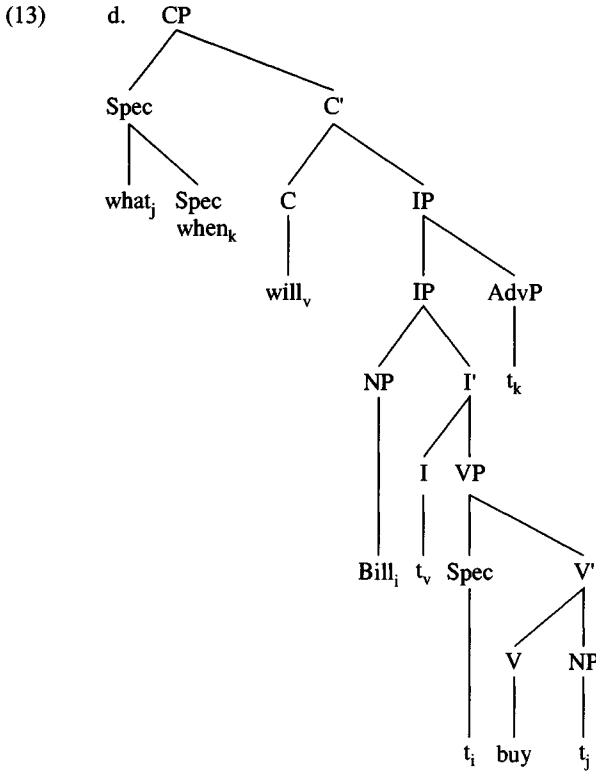
- (13) a. When will Bill buy the book?
b. When will Bill buy what?

In (13a) only one *WH*-constituent occurs in the clause and it is preposed to [Spec,CP]. In (13b) there are two *WH*-phrases: the preposed time adjunct *when* and the element *what* which has not left its VP-internal base position. Following the literature we say that *what* in (13b) is *in situ*.

When in (13a) gives the interrogative force to the sentence. The sentence is a question about the *TIME* of the purchase. (13b) is a question not solely about the *TIME* of the purchase, but also about the *THEME*, what will be bought. In (13b) *what* is associated with the interrogative force of the question. Answers to (13b) will pair *TIMES* and *THEMES*:

- (13) c. Bill will buy the record in the morning and the book in the afternoon.

It is proposed that though *what* occupies a VP-internal position at S-structure, its interrogative force should be represented at the level of LF, the level of the semantic representation; at that level *what* should occupy a position in which it can take clausal scope. One option is to propose that at LF *what* in (13b) also is moved to the scope position associated with interrogative elements. In (13d) *what* is adjoined to [Spec,CP]:



Observe that unlike the movement of *when*, which involves substitution, the movement of *what* is done by adjunction (cf. Lasnik and Saito 1984). We return to these points in chapter 2.⁴

LF representations also encode scope properties of quantifiers (cf. May 1985). Consider (14):

- (14) a. Mary will invite Bill.
- b. Mary will invite everyone.

In (14a) the complement of *invite* is a constant, *Bill*. In (14b) it is a quantifier. In elementary logic (14a) and (14b) would have the representations (14c) and (14d) respectively:

- (14) c. I (m, b)
- d. $\forall x, (x = \text{human}) I (m, x)$

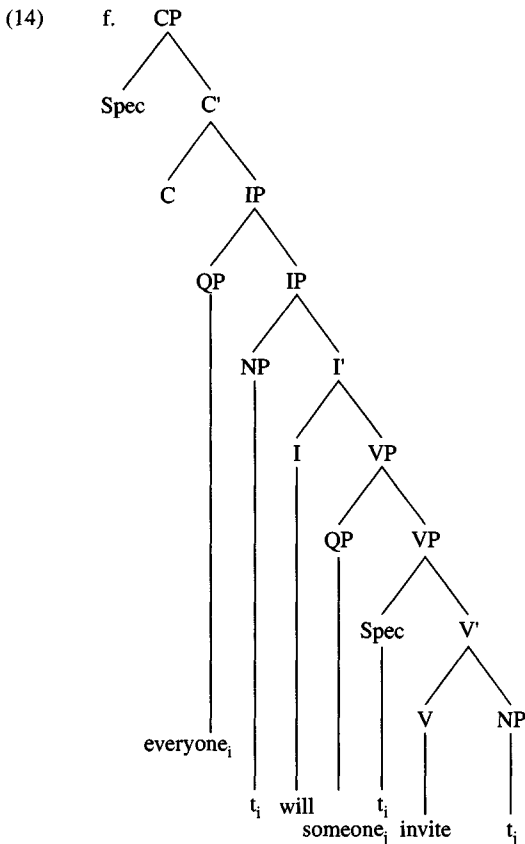
In (14d) the complement of *invite* is a variable *x*, bound by an operator, the universal quantifier \forall . The quantifier *everyone* occupies a scope

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position and can take scope over the clause. (14e) is ambiguous depending on the scope of the respective quantifiers:

(14) e. Everyone will invite someone.

In one reading *everyone* has scope over *someone*: there are as many invited persons as there are people inviting; in the second reading *someone* has wide scope: there is one specific person ‘someone’ who is invited by everyone. At LF scope-bearing elements such as *someone* and *everyone* are assigned to a scope position. Following the representations of standard logic, it is assumed that in the syntactic representation scope positions are also left-peripheral. The proposal is that at the level of LF quantifiers be left adjoined to a maximal projection. (14e) would have the representation in (14f):



The ambiguity of the sentence can be read off the LF representation. Let us assume that for one quantifier to have scope over another one, the first should c-command the second.⁵ In the LF representation (14f), the quantifier *someone_j* occupies a scope position, which is VP adjoined. Following our assumptions above the subject NP *everyone_i*, itself a quantifier, originates VP-internally, it moves to the subject position for case reasons and leaves a trace (*t_i*) in the base position. Once *someone_j* has moved to the position adjoined to VP it c-commands the VP-internal trace of the subject. The subject itself, *everyone_j*, c-commands the quantifier *someone_j*. The ambiguity of the sentence results from the fact that on the one hand *everyone_i* c-commands *someone_j*, on the other hand *someone_j* c-commands the trace of *everyone_i*.

The analysis proposed here implies that scope relations can be determined on the basis of chains. It is not only the S-structure position of the subject which is relevant for scope, its VP-internal trace *t_i* also plays a part. The scope of the quantifier *everyone_i* is determined by its chain $\langle \textit{everyone}_i, t_i, t_i \rangle$.

The movement of the quantifier is often referred to as quantifier raising or QR. The adjoined positions occupied by the quantifiers are also peripheral positions. Scope positions are not canonically associated with specific grammatical functions. They are typically left-peripheral A'-positions (cf. 1.1.3). Let us return for a moment to the analysis of interrogative sentences such as (15a):

(15) a. Who will Mary invite?

In (15a) *who* occupies [Spec,CP]. [Spec,CP] is left-peripheral, and we have argued that, not being associated with one specific grammatical function, it is an A'-position. This means that in fact [Spec,CP] is a scope position. This conclusion is rather welcome in view of the fact that semantically WH-phrases such as *who* are like quantifiers. The interpretation of (15a) can be represented as in (15b):

(15) b. For which *x*, (*x*=human) I (*m*, *x*)

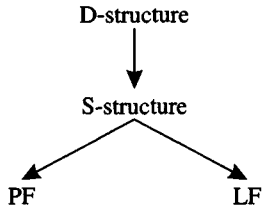
1.2.4 Summary: levels of representation

1.2.4.1 The T-model

Following the discussion in sections 1.2.1–1.2.3 we end up with the following organization of our grammar:

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(16) The T-model



D-structure encodes the lexical properties of the heads, their selectional properties etc. S-structure is the level which is spelt out as the overt string (PF). The mapping from D-structure to S-structure is achieved via movement operations as those illustrated already above. S-structure is spelt out, whereas the LF representation need not correspond to the spell-out form of a sentence. LF is the semantic representation.

The three-level grammar proposed in (16) is static in conception: (16) suggests that there are three discrete levels which demarcate a certain stage in the derivation of the sentence. Taking a sentence like (17a) the relevant levels of derivation would be those in (17b)–(17d). The representations are simplified for expository reasons.

- (17)
- a. Will John meet everyone?
 - b. D-structure
[_{CP} [_{IP} e [_{r°} will] [_{VP} John meet everyone]]]
 - c. S-structure
[_{CP} will [_{IP} John_i [_{r°} t] [_{VP} t_i meet everyone]]]
 - d. LF
[_{CP} will [_{IP} John_i [_{r°} t] [_{VP} everyone_j [_{VP} t_i meet t_j]]]]]

Recently this conception of the grammar has been challenged and various alternatives have been advocated. I briefly discuss two here.⁶

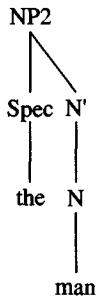
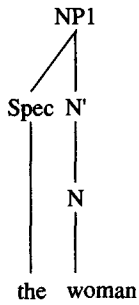
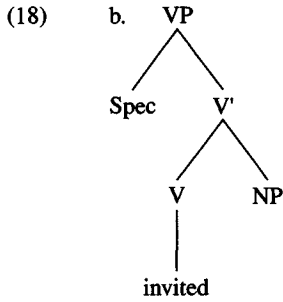
1.2.4.2 Minimalism

Chomsky (1993) proposes a more dynamic approach to tree structures. Syntactic structures are assembled and developed in the course of the derivation. Take a sentence like (18a):

- (18) a. The woman invited the man.

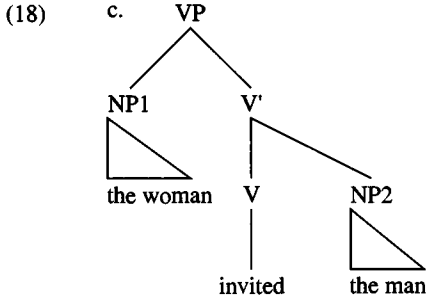
The lexical heads, the words of the language, enter the computational system by the format imposed by X-bar theory (cf. 1.1.1). A sentence will

be assembled on the basis of the projections of the lexical heads, in the example, V and N:

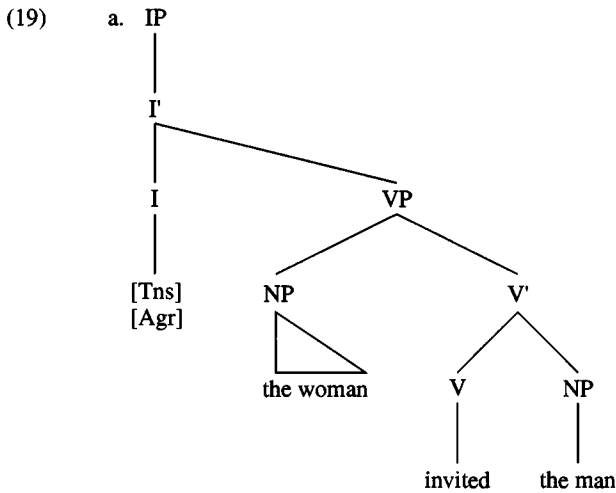


The NP structures, NP1 and NP2, are inserted into the argument slots of the VP, by a so-called generalized transformation (cf. Chomsky 1993).

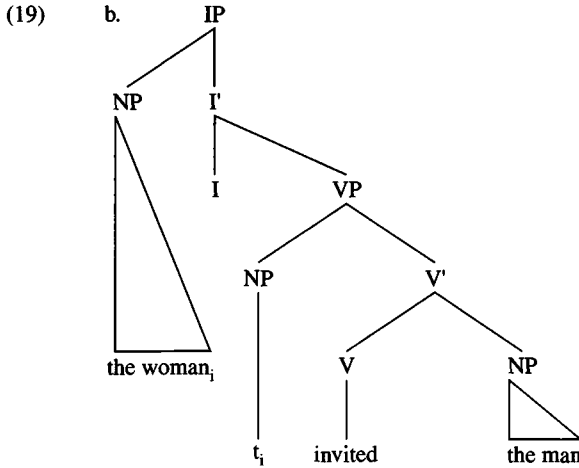
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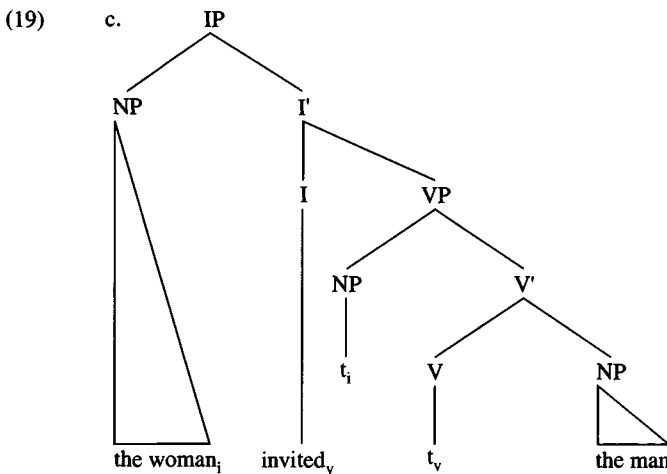
The resulting structure is extended with functional projections, i.e. VP is associated with functional material such as Tense and Agreement morphemes. In Chomsky's system words are base generated with their full morphology, and the functional heads of the clause are abstract bundles of features (cf. below). VP is associated with an inflectional level, which we represent as IP here (but cf. 1.4).



In (19a) the NP *the woman* is not licensed: it carries nominative case, which cannot be checked VP-internally. In order to be licensed the subject NP *the woman* moves to [Spec,IP]:

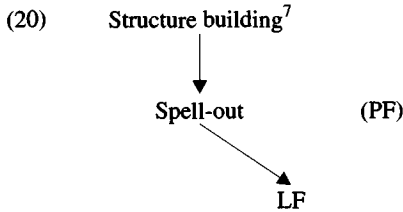


I leave aside many important points which will become the topic of later discussion. Let us assume, for the sake of the argument, that in (19b) all morphological licensing conditions are fulfilled. Then the sentence can be spelt out: (19b) is the Spell-out. Further conditions have to be satisfied, though, which do not have a morphological reflex. For instance, at LF *invited* must be associated with the abstract I head, as we will discuss in more detail in section 1.4. This will be achieved by an abstract movement, which leads to a representation that does not feed Spell-out.



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The derivation above is a sketch of some of the central ideas of the Minimalist approach to clause structure. Obviously much more would have to be said to do justice to the Minimalist Program. Crucial to the present discussion is that in the Minimalist Program two levels are relevant: Spell-out (corresponding roughly to S-structure) and LF.



Chomsky proposes that grammar relates LF and Spell-out and is economy based. The principle of economy has two aspects. On the one hand there is economy of derivations: the derivation must be as economical as possible, which means that it should be done in as few steps as possible and in the shortest steps possible (cf. Zwart 1993 for discussion). There is also an economy of representations which can be related to the principle of Full Interpretation: every symbol in a representation must be interpretable, redundant symbols must be eliminated.

With respect to the economy of derivations, Chomsky assumes that a movement operation which is overtly spelt out is more costly than abstract movement without overt reflex. Movement before the Spell-out level is more costly than that after Spell-out. This means that movement is always a last-resort operation, which is delayed as late as possible. If for some reason movement can be delayed till LF then it will be delayed. The timing of movement is driven by morphology. Morphological features which are strong have to be checked before Spell-out, they have an overt reflex. Weak features are only checked at LF. Anticipating the discussion in section 1.4 we say that the inflectional morphology of the French verb is strong, which forces movement at S-structure, while the inflectional morphology of the English verb is weak, which allows verb movement to be delayed till LF: in languages where the nominative case morphology is strong, the subject NP cannot remain VP-internally, etc. We return to this Minimalist conception of the grammar in later sections.

Another approach, Radical Minimalism, is elaborated by Brody (1993b). While Chomsky's (1993) approach is strictly derivational and relies very much on the cyclic development of structures from smaller

units into bigger units, Brody's approach is representational. I discuss some of the concepts Brody introduces in section 1.7.4.

1.3 Word-order variation

The reader will observe that in the present discussion X-bar theory only allows for the order specifier-head and head-complement. The question arises, of course, how to represent languages which exhibit superficial complement-head order. Importantly for our discussion, for instance, the West Germanic languages German and Dutch display object-verb order in embedded clauses:

- (21) a. dass Hans das Buch kauft
 that Hans the book buys
 'that Hans buys the book'
 b. dat Jan het boek koopt
 that Jan the book buys
 'that Jan buys the book'

(21a) is German, (21b) is Dutch. I return to the order of constituents in Germanic languages in detail in section 2 below. Here I will briefly sketch two of the options that have been proposed in the literature.

Traditionally it has been proposed that while X-bar theory determines the hierarchy of constituents, their linear ordering is subject to parametric variation. This is usually represented as in (22a)–(22b):

- (22) a. $XP \rightarrow \text{Spec}; X'$
 b. $X' \rightarrow X; YP$

where the semicolon indicates that linear order varies: (22b), for instance, allows for both the order (22b') and (22b''):

- (22) b.' $X' \rightarrow X \text{ --- } YP$
 b.'' $X' \rightarrow YP \text{ --- } X$

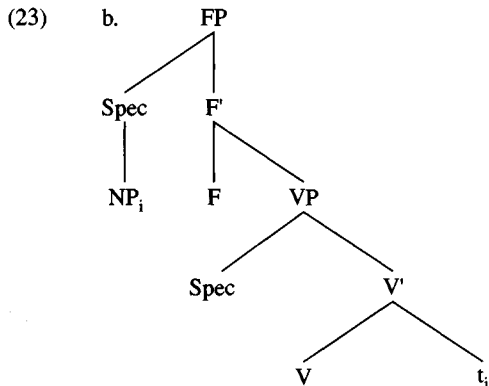
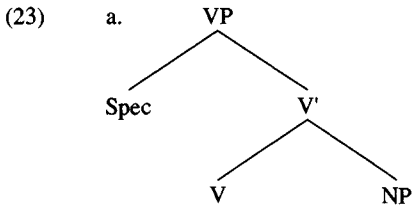
Languages with OV order, such as German, Dutch and Japanese, to mention only some, select (22b''); while VO languages, such as English, French and Italian, select (22b') as the instantiation of the schema (22b). Further principles have sometimes been proposed to account for the variation but these need not concern us here. Under the view presented by (22), languages vary parametrically with respect to the head-complement order, some languages are head-initial, others are head-final. In languages

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in which VP is head-initial VO is the base order, in languages where VP is head-final OV is the base order.

Recently, though, it has been proposed that no such variation should be allowed. Kayne (1993) proposes a rigorous theory where precedence relations reflect asymmetric c-command relations. If X precedes Y in the string then X asymmetrically c-commands Y in the structure. X asymmetrically c-commands Y if X c-commands Y and Y does not c-command X. The proposal entails that only head-complement linearization, and specifier-head linearization, are possible. The linearization OV cannot correspond to a base order: if O precedes V then O must asymmetrically c-command V. Whenever a language exhibits OV order this must be a derived order where O has been moved to a c-commanding specifier position. Kayne assumes that movement is always to a c-commanding position, i.e. lowering is not possible; this means that in linear terms all movement is leftward. Rightward movement is excluded on principled grounds.

Concretely, and simplifying for the sake of discussion, we could say that Germanic languages such as German and Dutch also have the underlying VP structure in (23a). (23a) will linearize as V-O. The surface order where O precedes V has to be derived by leftward movement of the object to a c-commanding specifier position.



Movement into a thematic position is excluded by virtue of the theta-criterion (cf. 1.1.3 (7)). If we assume that adjunction is allowed by X-bar theory (cf. 1.1.2) then the complement-verb linearization could be derived by adjoining the complement leftward to some projection dominating V. If adjunction is also excluded, then the object will have to be moved leftward to a specifier position of a functional head. We return to this proposal in section 2 below where we discuss the syntax of Germanic languages.

1.4 Perfect projections and Extended projections

1.4.1 The split-Infl hypothesis

1.4.1.1 The GB tradition

So far we have been assuming that the clause consists of a VP dominated by two functional projections, IP and CP. We turn to the structure of clauses in more detail in this section. Consider (24):

(24) John likes chocolate.

(24) is a finite clause: *likes* is inflected for third-person singular, and it is in the present tense. In our representation we used the category I to represent the verb inflection, I dominates both agreement (Agr) features and tense (T) features. However, if we assume that inflectional morphology is represented by means of functional heads then it is not obvious that Agr and T should be amalgamated under one node. The English inflectional system is notably impoverished, but when we turn to other languages the tense morpheme and the inflection morpheme are discrete entities. In (25) we give the third-person singular and plural past-tense forms for the French, German and Italian equivalents of the verb *work*.

(25)	a. French	Jean	travaill-	ai-	t
		Jean	work	past	3sg
		ils	travaill-	ai-	ent
		they	work	past	3pl
	b. German	Hans	arbeite-	te	
		Hans	work	past	
		Sie	arbeite-	te-	n
		they	work	past	3pl

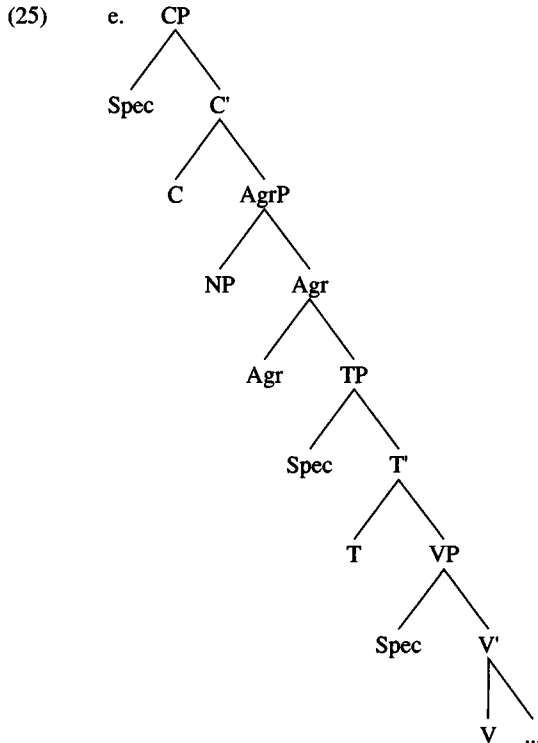
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c. Italian	Gianni lavora-	v-	a
	Gianni work	past	3sg
	loro lavora-	v-	ano
	they work	past	3pl

The fact that tense and Agr can be morphologically distinguished would favour an approach in which we distinguish two V-related inflectional heads: Agr, encoding the agreement morphology, and T, encoding the tense ending, where the affixation to V follows the schema in (25d).

(25) d. V _ T _ Agr

The proposal to decompose Infl into discrete entities was first argued for by Pollock (1989) on the basis of the different positions of the verb in French and in English. Pollock proposed that TP dominates AgrP. However, taking into account the relative order of tense and agreement morphology (cf. Baker (1985)) as illustrated in (25d), Belletti (1990) proposes the following rough structure:



Agr is composed of the so-called *phi* features, i.e. person and number. Agr features are V-related: they are encoded on V; the features of the V-related Agr also match the nominal features of the subject NP. The subject NP is base generated in [Spec,VP] and will move to the specifier of AgrP to enter into an agreement relation with the nominal features of the Agr node. T represents the tense morpheme. V is base generated as the head of VP. In French, V moves to Agr via T. At T V incorporates to the Tense morphology, giving rise to a [_T V-T] complex. This complex in turn moves to Agr to form [_{Agr} [_T V-T] -Agr] by incorporation. In English lexical verbs remain in the VP and auxiliaries move to Agr. Data such as those in (26) are evidence for this proposal:

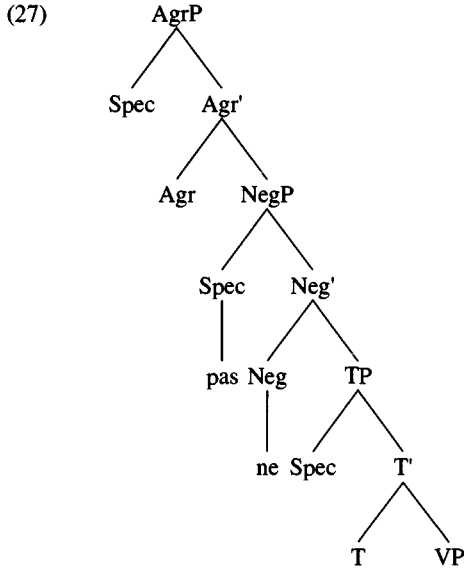
- (26) a. Jean ne mange pas de chocolat.
 Jean *ne* eats not chocolate
 b. Jean n'a pas mangé de chocolat.
 Jean *ne* has not eaten chocolate
 c. John does not eat any chocolate.
 d. *John eats not any chocolate.
 e. Jean has not eaten any chocolate.

In (26a) sentential negation is expressed by means of the clitic head *ne* and the element *pas*. *Pas* occupies a fixed position in the clause. *Ne* is a head-like element. Observe, for instance, that it moves with the inflected verb under subject-auxiliary inversion.

- (26) f. Ne mange -t- il pas de chocolat?
 ne eats he not chocolate

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Let us assume that negative clauses contain a functional projection NegP situated between AgrP and TP (cf. Belletti 1990, Pollock 1989):



Ne cliticizes to Agr. *Pas* is the specifier of NegP.⁸ The fact that the French inflected V in (26a) precedes *pas* is evidence that V has moved to Agr. The fact that the lexical verb cannot precede *not* in English is evidence that V remains in the VP. The difference between the two languages is correlated with the morphology of the verb. In (28a) we give the present-tense paradigm for the V *parler* ('speak') in French, in (28b) we give the English variant. In French there are five morphologically distinct forms, in English there are two. We will say that the inflection is strong in French, whereas it is weak in English:

- (28)
- a. je parle
 - tu parles
 - il parle
 - nous parlons
 - vous parlez
 - ils parlent
 - b. I speak
 - you speak
 - he speaks

we speak
 you speak
 they speak

Strong Agr attracts the V-stem (for more details the reader is referred to Pollock's own discussion and also to Chomsky 1993).

We return to the role of NegP in the grammar in later chapters. Suffice it to say at this point that the scope of the negation is determined by NegP proper, as signalled by French *pas*. This is evidenced in the sentences in (29):

- (29) a. Jean ne se comporte pas toujours bien.
 Jean *ne* himself behaves not always well
 'Jean does not always behave well.'
 b. Jean ne se comporte toujours pas bien.
 Jean *ne* himself behaves always not well
 'Jean still does not behave well.'

The scope of sentential negation with respect to the time adverb *toujours* ('always') depends on the relative position of *pas* and the adverbial. If it were the element *ne* which determines the scope of negation then there should be no difference in interpretation between (29a) and (29b). The position of *ne* in (29) is not determined by scope properties as such, rather *ne* is a clitic which cannot remain stranded in Neg°.

In negative sentences in English, we assume that *not* occupies [Spec, NegP]; however, we return to this issue in chapter 4, section 1.4.

In the literature the proposal that Infl be decomposed into functional projections has had a significant impact and further proposals have been formulated concerning the nature and hierarchical ordering of functional projections (Ouhalla 1990). One proposal which will have an impact on our discussion is that we do not only identify a functional head Agr which matches the agreement on the subject but that we also have to provide for an object Agr node (Agro). This is supported directly by evidence from languages with overt object-agreement morphology such as Hungarian (30). We return to object agreement in chapter 5.⁹

- (30) a. Látok egy lányt.
 see 1sg indef a girl-Acc
 'I see a girl.'

- b. *Látom a lányt.*
 see 1sg def the girl–Acc
 ‘I see the girl.’ (data from Maracz 1988: 205)

1.4.1.2 Minimalism and feature checking

In this section we return to the Minimalist perspective where syntax is driven by principles of economy. One instantiation of the Economy Principle is that movement should only take place when necessary, this is sometimes referred to as ‘Movement as a last resort’. Movement may be overt, in which case it takes place before Spell-out, or it may be covert, in which case it takes place after Spell-out, at LF. Recall also that Chomsky proposes that overt movement is a more costly operation than covert movement. For reasons of Economy, then, covert movement is preferred, or to put it differently: movement is delayed as late as possible (‘Procrastinate’).

In the classical GB literature developed above verbs are base-generated as bare stems under the lexical heads, and their inflectional morphology – i.e. the person, number and tense endings – is base generated separately under inflectional heads. The thematic position of the subject NP is VP-internal. In both French and English the subject NP has to be morphologically licensed in [Spec,AgrP]. In French finite clauses V moves to Agr via T, picking up the inflectional endings and giving rise to the derived structure (31a).

- (31) a. [_{AgrP} Violetta_j [_{Agr} [_T [v embrass]ai]t] [_{TP} [_T–t] [_{VP} t_j t Alfredo]]]

In English, Agr is weak and lexical verbs do not leave the VP. In order to amalgamate V and the V-related inflections, the inflectional endings Agr and T will lower onto the V:

- (31) b. [_{AgrP} Violetta_j [_{Agr} t] [_{TP} [_T–t] [_{VP} t_j kissed Alfredo]]]

The reader is referred to Chomsky (1991) and to Rizzi (1990a).

In the Minimalist Program Chomsky (1993) adopts the split-Infl clause structure: VP is dominated by V-related functional projections TP and AgrP. But in contrast with the earlier GB literature, verbs are base-generated *with* their inflectional endings. The functional heads Agr and T do not dominate inflectional morphemes, they dominate bundles of abstract features. These features have to be eliminated in the course of the derivation. Chomsky’s idea is that the functional features associated with the verbal inflectional morphology have to be checked

by the matching abstract features on the functional heads (Agr, T). Feature checking is done by adjoining the inflected lexical head (say V) to the matching functional head (say Agr or T). Feature checking eliminates the abstract features. Chomsky continues to assume that verbal Agr may be weak or strong. Strong Agr is visible at PF, weak Agr is not. Because strong features would be visible at PF they have to be eliminated before PF, i.e. before Spell-out. In other words: the feature checking of Agr must take place before Spell-out. If strong features are spelt out this leads to ungrammaticality. In Minimalist terminology: ‘the derivation crashes’.

The verbal Agr features in French are strong; unless they are eliminated they will be visible at PF. In order to eliminate the strong verbal Agr *embrassait* in (32a) has to move to Agr. When Agr has checked the agreement morphology on V it disappears. Recall that two options are possible: overt movement, movement before Spell-out, or covert movement, movement after Spell-out. If V-movement in French was postponed to the level of LF, i.e. if V-movement were covert, the structure would be spelt out as in (32a). This would mean that strong verbal agreement would remain unchecked at PF. If a strong feature is left unchecked in (32a) it is not eliminated, it remains visible and the sentence will be ungrammatical. Because of its strong morphology the verb *embrassait* is forced to move: Agr will check the agreement morphology, and the strong Agr features will then be eliminated. This leads to the representation (32b):

- (32) a. [_{AgrP} [_{Agr} Fm] [_{TP} [_T Fn] [_{VP} Violetta embrassait Alfredo]]]
 b. [_{AgrP} Violetta_j [_{Agr} [_T [_v embrassai]_i]_t] [_{TP} [_T-*t*] [_{VP} *t_j* *t* Alfredo]]]

In English (32c), the Agr morphology associated with *kissed* also has to be checked against abstract Agr features. Like Pollock (1989) Chomsky assumes that Agr is weak in English. Weak Agr is not visible at PF. In other words, the inflected verb does not have to get its features checked by moving to Agr before Spell-out. Since the verb need not move before Spell-out it won't move before Spell-out: by the Economy Principle, particularly Procrastinate, movement will be delayed to the post-Spell-out level, i.e. roughly to LF in our standard terminology. The NP *Violetta* moves to the canonical subject position for case checking.

- (32) c. [_{AgrP} Violetta_j [_{Agr} Fm] [_{TP} [_T Fn] [_{VP} *t_j* kissed Alfredo]]]

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Kissed will move to Agr to check its features after Spell-out, i.e. to derive LF. (Cf. 1.2.3; 1.2.4.)

(32) d. [_{AgrP} Violetta_j [_{Agr} [_T kissed_i]] [_{TP} [_T *t_i*] [_{VP} *t_j* *t_i* Alfredo]]]

Feature checking extends to other kinds of inflectional features. Whereas in the classical GB approach it is assumed that an NP moves to a position where it is *assigned* case, in the Minimalist Program the NP is base-generated with the case morphology and the case features have to be *checked* at a different point in the structure. The subject NP, for instance, is generated in its base position [_{Spec,VP}] with the nominative case morphology and it will then move to [_{Spec,AgrP}] in order to check the case features. Again the timing of the movement is morphology-driven.

The reader should be aware that for expository reasons I represent the checking formalism in a representational format. As mentioned before, in the Minimalist Program clause structure is assembled stepwise (cf. 1.2.4.2), and the lexical projections are gradually extended by higher functional projections. For a more accurate rendering of the processes of structure building the reader is referred to the literature.

1.4.1.3 Pollock (1993)

In his original discussion of the split-Infl hypothesis (1989), Pollock argued that the hierarchy of functional projections in English and French was as in (33a):

(33) a. [_{TP} [_{NegP} [_{AgrP} [_{VP}]]]]

He also assumed this order was invariant cross-linguistically. Based on the derivational approach to morphology where it is assumed that the verb picks up the inflection as it moves through functional heads Belletti (1990) reverses the order of AgrP and TP:

(33) b. [_{AgrP} [_{NegP} [_{TP} [_{VP}]]]]

Pollock (1993) argues that though (33b) may be compatible with a derivational approach where inflectional endings are generated separately on functional heads and are combined with the verb as a result of head-to-head movement (cf. Baker (1985)), (33b) is not necessarily compatible with the checking approach of Minimalism where heads are base-

generated with their inflection. In such an approach TP should dominate AgrP. I quote his argumentation at length here:

verbs enter the computational component in their fully inflected morphological form *x*, analysed as in [34]

$$[34] \quad x = [\text{Root} + \text{Infl1} + \dots + \text{Infln}]$$

x further adjoins to some 'syntactic' inflectional head *I*, forming [35]:

$$[35] \quad [{}_I x, I]$$

...

Observe first that under fairly standard ideas concerning morphology ... [34] is really the simplified version of [36], where each Infl is the head of the constituent to its left.

$$[36] \quad x = [{}_{\text{infln}} \dots [{}_{\text{infl1}} \text{Root-infl1}] \dots \text{infln}]$$

So for example a future form like *parlerons* ('we will speak') in French would be analysed in simplified fashion as in [37]:

$$[37] \quad [{}_{\text{Root-parl}}] \text{-er}_{\text{Tense/mood}} \text{-ons}_{\text{Agrs}}$$

Under this interpretation notice that the syntactic structure in [38]

$$[38] \quad [{}_{\text{TP}} \text{NP T } [{}_{\text{AgrP}} \text{Agr } [{}_{\text{VP}} x]]]$$

provides the most adequate input structure for the 'checking' of the various inflectional affixes under the natural view that the outer 'shells' of a morphologically complex item are to be checked first. On that view [37] should first move to Agrs to get the 1person pl marker *-ons* 'checked' (i.e. 'peeled off' in Chomsky's theory), then to T to get the Tense-mood marker *-er* checked. Thus [38], which is the functional structure suggested in Pollock (1989) is the required input for checking. (1993: 25-7)

In addition to the functional projections in (38) Pollock also proposes that the functional projection Mood Phrase dominates the clausal complex. In this proposal he follows Zanuttini (1991) in assuming that NegP is high in the structure of clauses; he also follows her in assuming that the position of NegP may vary cross-linguistically.

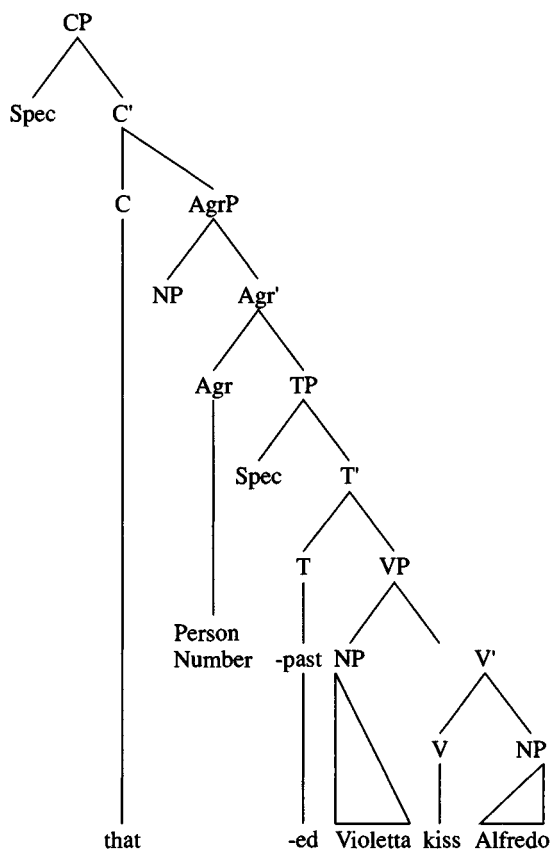
$$(39) \quad [{}_{\text{MoodP}} \text{M } [{}_{\text{NegP}} \text{Neg } [{}_{\text{TP}} \text{T } [{}_{\text{AgrP}} \text{Agr } [{}_{\text{VP}} x]]]]]$$

I will return to the structures discussed above in chapter 3 below. It is important for our discussion that both Belletti (1990) and Pollock (1993) propose that NegP dominates TP.

1.4.2 Extended projection

In her discussion of the geometry of trees Grimshaw (1991) proposes that phrase structure be defined not solely in terms of 'perfect' projections, lexical or functional, but that certain syntactic relations should be calculated on extended projections. I briefly outline her proposal here. The lexical categories, such as VP, are associated with functional categories such as AgrP, TP. It is interesting to consider this development from a historical perspective. In earlier versions of generative grammar (Jackendoff 1977, for instance) it had been proposed that clauses were projections of V. In the current literature clauses are hierarchically organized functional projections. (40), for instance, would be a D-structure of a clause which has the structure proposed by Belletti (1990):

(40) D-structure



The arguments of V are generated VP-internally. If the thematic position of the subject is VP-internal, then the ‘semantic’ core of the clause is the VP: VP contains all the thematic information of the clause, i.e. V, the predicate, which expresses the relevant state or activity, and the arguments, subject, objects, which are associated with the thematic roles. The functional projections do not contribute to the thematic information. T serves to locate the event expressed by the VP with respect to time; Agr is responsible for the licensing of the subject argument. Similarly, the CP level does not modify the thematic information of the clause. Intuitively, the constituents of the VP, V and its arguments, encode the action described by the sentence ‘Violetta’s kissing Alfredo’, and the functional projections TP, AgrP or CP do not modify the components of this action: the CP *that Violetta kissed Alfredo* describes, in some intuitive sense, the same action as the VP which it dominates. Abney (1987: 55) suggests the following formulation: ‘in the “passing on” of the descriptive content of their complements, functional heads contrast with thematic heads’. From a semantic point of view clauses in some sense are projections of V; they are extended projections of V, to use Grimshaw’s (1991) terminology. It is standardly assumed that lexical categories N and V can be analysed in terms of binary features, along the lines in (41):

- (41) a. N [+N, -V]
b. V [-N, +V]

Following Grimshaw we could propose that the categorial features of lexical heads also contain the functional feature value [F0], where F0 means that the projection is not functional. Functional heads would be associated with a specific functional value. T, for instance could be given the value [F1], Agr [F2]. Thus (41) could be extended to the following.

- (42) V [-N, +V, F0]
T [-N, +V, F1]
Agr [-N, +V, F2]
N [+N, -V, F0]
D [+N, -V, F1] (for the structure of NPs, cf. section 1.4.3 below)

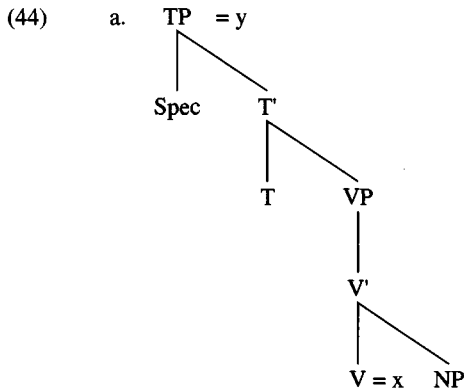
T and Agr are V-related functional heads: they share the features [+V, -N] with V. Based on (42), VP is a projection of the feature matrix [-N, +V, F0], the clause is a projection of Agr, i.e. of [-N, +V, F2]. VP and AgrP share the categorial features [-N, +V] and they only differ in the

value of the functional feature: VP has the value 0, AgrP has the value 2. The feature value of the functional heads will determine the hierarchical organization in the clausal domain. Grimshaw's work captures the intuition, also discussed by Abney (1987), that at some level clauses are projections of V augmented with the associated functional projections.¹⁰ Extended projection and extended head are defined as in (43):

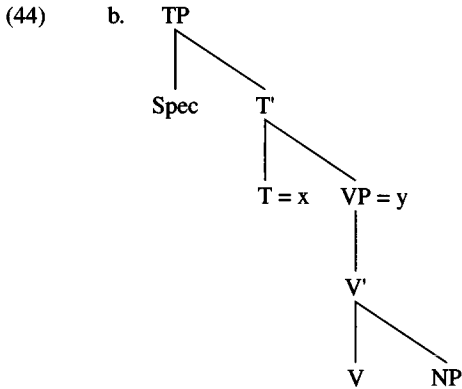
- (43) x is the extended head of y , and y is an extended projection of x iff:
- (a) y dominates x ;
 - (b) y and x share all categorial features;
 - (c) all nodes intervening between x and y share all categorial features;
 - (d) If x and y are not in the same perfect projection, the F value of y is higher than the F value of x ;
where n intervenes between x and y if y dominates x and n ; n dominates x , and n does not dominate y .

(Grimshaw 1991: 4)

Perfect projections are what we have been considering so far: VP is the perfect projection of V, IP of I etc. Extended projections of V are V', VP (which are also perfect projections) and then also T', TP etc. T is an extended head of VP, since TP is an extended projection.



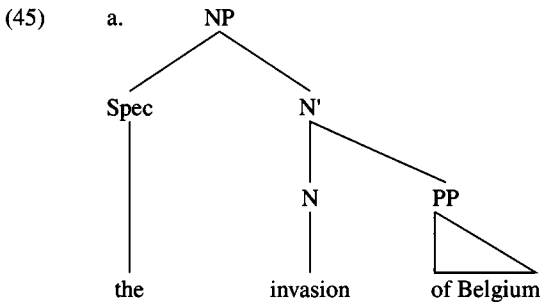
In (44) T and V share the lexical features (in Grimshaw's framework [+V, -N]) and they differ in the F value. TP is an extended projection of V: TP dominates V, they share the relevant features and so do all the intervening nodes, T has the value F1 and V has the value F0. But conversely, T is not an extended head of VP, and VP is not an extended projection of T:



y does not dominate x , y and x do share the relevant features, but the feature value of y is F0 hence is lower than that of T which is F1.

1.4.3 The DP hypothesis

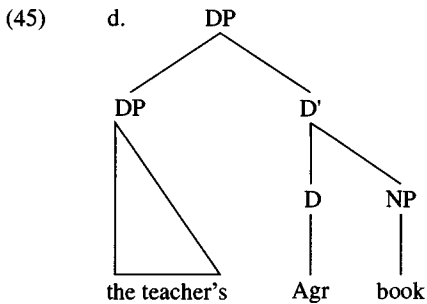
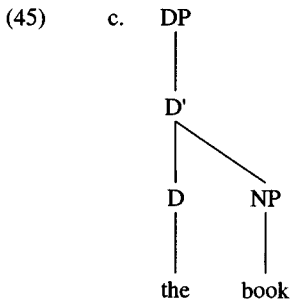
In section 1.1 we assumed that a constituent like *the invasion of Belgium* is an NP, it is a phrase headed by the noun *invasion*.



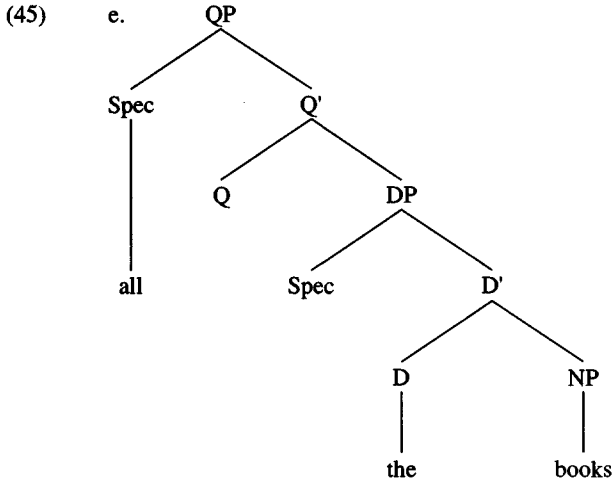
We treated the determiner *the* as a specifier. This is disturbing, though, for a number of related reasons. Determiners belong to a closed class, which strongly suggests that determiners are non-lexical or functional elements. Specifier positions are usually occupied by maximal projections, while determiners seem to be one-word elements, i.e. heads. That determiners are head-like functional elements is also suggested by the fact that in some languages they are realized as inflectional morphemes:

- (45) b. Swedish: flicka -n
 girl det
 'the girl'

Recall that we proposed that clauses essentially reduce to projections of V (VP) dominated by functional projections, AgrP and TP. Abney (1987) proposes that in the same way that the clause is a VP dominated by the appropriate functional projections, the category which we have been referring to as NP should be seen as a projection of N dominated by a functional projection. Abney proposes that English NPs too may contain an Agr head and that this head assigns GENITIVE case. The question arises whether there are items which are base generated in the Agr head associated with the NP. Abney proposes that the determiners are base generated under the nominal Agr. This means that the determiner is the head of the constituent, DP. A determiner takes an NP complement.



In (45c) D is realized as the determiner *the*, D selects an NP complement, the bare N *book*. In (45d) the D-head of the DP is not realized by the determiner. D dominates the abstract nominal Agr which assigns genitive to *the teacher*, in [Spec,DP]. The proposal that NPs are dominated by functional projections such as DP can be extended further: for instance it could be argued that quantifiers such as *all* are heads of QP which select a DP complement:



In the remainder of this book I use the label NP, bearing in mind that NPs are not perfect projections of N but rather extended projections of N.

1.5 Movement

We have already referred to syntactic movement at several stages of the discussion. In a derivational framework movement mediates between different levels of representation. In the classical GB approach movement maps D-structure onto S-structure and S-structure onto LF. In the Minimalist approach movement will derive extended structures on the basis of more elementary structures and will also derive LF representations. In both approaches we distinguish a number of types of movement which will be briefly discussed here.

1.5.1 Head-to-head movement

Head-to-head movement is the movement which affects heads: the movement of V to Agr is an instance of head-to-head movement. Heads can only move to heads: the principle of structure preservation imposes that movement cannot alter syntactic structure.¹¹ Heads can either substitute for an empty head position or they can adjoin to a head position (cf. Rizzi and Roberts 1989).

1.5.2 *XP-movement*

XP-movement, or movement of a maximal projection, has also been illustrated. The movement of the subject NP from [Spec,VP] to [Spec,IP] illustrates NP-movement. Another example of NP-movement is the movement of the object NP, the complement of the verb, from the object position [NP,V'] to the subject position in a passive sentence. NP-movement is A-movement: it lands an NP in an A-position (for discussion cf. Haegeman 1994a, chapter 6).¹²

wh-movement, on the other hand, is A'-movement: it moves a constituent (not necessarily an NP) to an A'-position, i.e. [Spec,CP]. The movement of quantifiers to adjoined positions to derive LF representations is also an instance of A'-movement: the quantifier moves to a scope position, a left-peripheral A'-position.

In the recent literature it has been proposed that movement can only be leftward. This is in contrast with earlier versions of the theory where both rightward and leftward movement were allowed for. Rightward movement was presumed to derive patterns of heavy NP shift as in (46):

- (46) a. You should drink [NP a glass of whisky and two glasses of rum] every night.
 b. You should drink t_i every night [NP_i a glass of whisky and two glasses of rum].

Rightward movement was also held responsible for the sentence-final position of clausal complements in the West Germanic SOV languages: in German and in Dutch clausal complements, unlike their NP counterparts, follow the inflected V in embedded clauses. (47) illustrates Dutch:

- (47) a. dat Jan dat verhaal verteld heeft
 that Jan that story told has
 'that Jan told that story'
 b. dat Jan verteld heeft [CP dat hij ziek is]
 that Jan told has that he ill is
 'that Jan has said that he is ill'

The sentence-final CP in (47b) is moved rightward across V. The same approach would apply to post-verbal PPs:

- (47) c. dat hij nooit verteld heeft [PP over Marie]
 that he never told has about Marie
 'that he never talked about Marie'

In recent proposals (Kayne 1993) rightward movement is not allowed. The idea is that all movement is leftward. We will briefly consider the consequences of this proposal for the syntax of Germanic languages in section 2.

1.5.3 ECP

Movement operations leave empty positions at the site of extraction. Non-overt or empty positions cannot be randomly generated. They have to be associated with an overt position. Empty categories are subject to a number of conditions. One such condition is the Empty Category Principle, the ECP, a licensing condition on empty categories (48):

- (48) a. ECP
 An empty category must be properly head-governed (adapted from Rizzi 1990a:30)

Head-government is defined in (48b):

- (48) b. Head-government
 X head-governs Y iff
 (i) $X \in \{A, N, P, V, Agr, T\}$
 (ii) X m-commands Y^{13}
 (iii) no barrier intervenes
 (iv) Relativized Minimality is respected
 (Rizzi 1990a: 6)

We turn to Relativized Minimality in section 1.6. Suffice it to say for the moment that (iv) restricts the type of interveners between a head and the element it head-governs.

In addition to the formal licensing condition (48) non-overt elements have to be interpretable, i.e. they are subject to an identification condition. The identification condition can be fulfilled in one of two ways: by (i) binding, (ii) antecedent-government. The identification condition can be related to the principle of Full Interpretation, which imposes that symbols in the syntactic representation must be interpretable. As mentioned before, in a Minimalist framework Full Interpretation derives from economy of representations: a syntactic representation must not contain superfluous symbols. The identification condition on empty categories is given in (49):

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- (49) a. Identification condition
Non-overt elements must be identified
by (i) binding;
or (ii) antecedent-government.

Binding is restricted to elements with referential indices. In Rizzi's (1990a) approach referential indices are associated with elements that have a thematic role and are referential. Antecedent-government is a more local relation which can identify traces without referential indices such as the traces of reason adverbs, manner adverbs and non-referential elements which are not assigned a thematic role such as idiom chunks. As can be seen from the definitions, binding (defined in (49b)) will allow for a greater distance between the trace and the antecedent than antecedent-government as defined in (49c): as long as the binder and the bindee share a referential index and the binder c-commands the bindee, the binding relation will be established regardless of intervening potential antecedents. On the other hand, antecedent-government contains the Relativized Minimality clause (iv) which restricts the type of interveners between the antecedent governor and the governed element.

- (49) b. Binding
X binds Y iff
(i) X c-commands Y
(ii) X and Y have the same referential index
(Rizzi 1990a:87)
- (49) c. X antecedent-governs Y iff
(i) X and Y are non-distinct
(ii) X c-commands Y
(iii) no barrier intervenes
(iv) Relativized Minimality is respected
(Rizzi 1990a:92)

At this point we need to return to the chain-formation algorithm given in (10). Recall that we proposed that chains were formed by coindexation. If we were to argue that only arguments have an index, then there could never be a non-argument chain. This is not a desirable option. One possibility is to say that we have to distinguish referential indices from non-referential indices: the former are strong and can identify traces by binding, the latter are weak and require antecedent-government for identifying traces (cf. Starke 1993a). Alternatively we allow for a chain to be formed by antecedent-government relations. In this book we will

continue to use indices also on non-referential chains, but the reader should remember that these indices are weak and cannot identify a trace by binding.

1.6 Relativized Minimality

Relativized Minimality characterizes the potential interveners which can block government, either head-government or antecedent-government. It is defined in (50).

- (50) Relativized Minimality
 X x-governs Y only if there is no Z such that
 (i) Z is a typical potential x-governor for Y
 (ii) Z c-commands Y and does not c-command X
 (Rizzi 1990a: 7)

Let us turn to some examples. Consider (51) and (52):

- (51) a. Who_i do you think [_{CP} t_i [_{IP} they will fire t_i?]]
 b. ?Who_i did you wonder [_{CP} why [_{IP} they will fire t_i?]]
- (52) a. Why do you think [_{CP}t that [_{IP} they will fire John t?]]
 b. *Why did you wonder [_{CP} who [_{IP} they will fire t?]]

In (51a) *who* is extracted from the embedded clause. It is an argument of the verb and receives a referential index according to Rizzi's approach. It thus can identify its trace by binding. The slightly degraded status of (51b) is due to a violation of the subjacency constraint. Extraction across a *wh*-phrase in [_{Spec},_{CP}] is generally degraded in English; clauses introduced by a *wh*-constituent are strong islands.

(51b) is interpretable with *who_i* being extracted from the embedded clause: the trace is connected to the antecedent by binding. The intervening *wh*-element (*why*) does not block the binding relation between the moved element and its trace. The trace can be identified.

In (52a) we only consider the reading where the adjunct *why* is extracted from the lower clause. Adjuncts do not have a thematic role and hence they do not get a referential index. The only way that *why* can identify its trace is by antecedent-government. This is possible in (52a) but blocked in (52b) because *who* is a potential antecedent and intervenes between the trace and the antecedent. Long construal of *why* is impossible. The only possible interpretation for the string in (52b) is that *why* is taken to be extracted from the matrix clause:

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- (52) c. Why did you wonder t [_{CP} who [_{IP} they will fire?]]

The trace in the embedded clause (52b) is uninterpretable: it is not antecedent-governed and hence it will not be identified. (52b) violates the economy of representation. Observe that like (51b) (52b) also violates subjacency: *why* is extracted from a strong island. However, the degradation in the judgement of (52b) as compared to (51b) indicates that other principles of the grammar are at stake. The examples above show that intervening WH-elements have a blocking effect on antecedent-government by WH-constituents.

Anticipating our discussion in chapter 2 observe that the argument/adjunct asymmetry which is exhibited in sentences with intervening WH-constituents is also found with intervening negative elements. Consider the following examples, from Rizzi (1990a) who cites Ross (1983):

- (53) a. Bill is here, which they (don't) know.
b. *Bill is here, as they (*don't) know.

Extraction across a negative constituent does not give rise to a subjacency effect. (53a) is grammatical. (53b) is ungrammatical. The degradation in (53b) cannot be ascribed to subjacency, given the grammaticality of (53a). We will say that the degraded status of (53b) is caused by a violation of the identification requirement on traces. Whereas an intervening negation does not give rise to strong island effects, it does interfere with antecedent-government relations. In (53)

WH-movement of the adverbial element *as* is affected by the presence of negation, whereas movement of the argument (proclausal) element *which* is not in the nearly synonymous sentence.

(Rizzi 1990a: 15)

The analysis extends to the examples in (54).

- (54) a. It is for this reason that I believe that John was fired.
b. It is for this reason that I don't believe that John was fired.

(Rizzi 1990a: 15, from Travis 1984; Kayne 1986 fn. 17)

Quoting Rizzi:

[54a] is ambiguous; the clefted adverbial can be construed with the main clause or with the embedded clause. [54b] is not ambiguous; the negation on the main verb blocks the lower construal (that is, the sentence cannot mean 'this is the reason such that I don't believe that John was fired for this reason' and can mean only 'this is the reason which motivates my disbelief').

(Rizzi 1990a: 15-16)

The blocking effect of negation is also illustrated in (55):

- (55) a. How strongly do you believe that inflation will rebound?
 b. How strongly do you not believe that inflation will rebound?

(55a) is ambiguous, *how strongly* can relate both to the matrix verb or to the embedded verb; in (55b) only the matrix construal survives, long construal is ungrammatical. Negative interveners do not affect argument extraction, they fail to give rise to subjacency effects. We will say that negative interveners create weak islands; they create islands for antecedent-government. Ross (1983) refers to such negative islands as inner islands. We return to these data in chapters 2, 3 and 4.

Another illustration of Relativized Minimality is given in (56):

- (56) a. Could John *t* have been there?
 b. Have they been there?
 c. *Have John could *t* been there?

In (56a) *could* is the highest auxiliary, it moves to C. In (56b) *have* is the highest auxiliary and also moves to C. Only the highest auxiliary can move to C: in (56c) *have* crosses the higher *could*, leading to ungrammaticality: the moved auxiliary in C cannot antecedent govern its trace because *could* would intervene. Head-movement cannot skip intervening heads, a constraint known as the Head Movement Constraint (Travis 1984).

1.7 Movement at S-structure or at LF

1.7.1 Cross-linguistic variation

There is cross-linguistic variation with respect to the application of overt WH-movement. Three situations arise: (i) in languages like English, Dutch, German, French etc. one WH-constituent moves obligatorily to [Spec,CP] at S-structure, and the others do not move to [Spec,CP]. They may remain *in situ* (57a) or they may undergo rightward movement (57b). Multiple movement to sentence-initial position is ungrammatical (57c). (ii) In languages like Chinese (Aoun and Li 1993: 201), on the other hand, there is no overt WH-movement to [Spec,CP] (58). Finally (iii) in languages like Hungarian or Polish there is multiple movement: all WH-constituents move to a sentence-initial position (59).

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- (57) a. I wonder who said what?
b. I wonder which of the students borrowed t from you which of the theses.
c. I wonder *who what said?
- (58) a. Zhangsan kandao shenme?
Zhangsan saw what
'What did Zhangsan see?'
b. Zhangsan zai nar kandao ni?
Zhangsan at where saw you
'Where did Zhangsan see you?'
c. Ta xiang-zhidao ni maile shenme.
he wonders you bought what
'He wonders what you bought.'
d. Ta renwei ni maile shenme?
he think you bought what
'What does he think you bought?'

(Aoun and Li, 1993: 201)

- (59) a. Kto co robi? (Polish)
who does what
b. Ki mit látott (Hungarian:)
who what saw

(Pesetsky 1989)

(Puskas 1992)

The classical assumption is that the difference in application of WH-movement illustrated in (57)–(59) concerns the *level* of application of WH-movement. Intrinsicly, WH-elements are operators which give interrogative force to the clause and at LF they have to occupy a scope position, i.e. a left-peripheral A'-position. We will refine this in chapter 2 below. In English, one WH-element apparently must attain its scope position at S-structure already; in Chinese, the movement can be delayed till LF; in Polish and Hungarian, all WH-elements must attain their scope position at S-structure. There are a number of accounts for this difference between languages. We sketch some of the approaches here.

1.7.2 Earliness

One way of interpreting the difference between languages with (multiple) movement and those without is to say (with Pesetsky 1989) that there is an Earliness Principle which forces movement to apply as early as

possible: movement which *can* apply at S-structure *must* apply at S-structure and cannot be delayed till LF.

(60) Earliness Principle

Satisfy grammatical requirements as early as possible in the hierarchy of levels: DS > SS > LF > LP.

(Pesetsky, GLOW Newsletter: 1989: 48)

Let us see how the Earliness Principle could be implemented. WH-phrases are operators intrinsically: at the level of the semantic representation, LF, they have to occupy a scope position from which they bind a variable. This means that WH-phrases will not be able to remain in their base position at LF. When a sentence contains several WH-phrases they ultimately all have to be fronted, i.e. at LF they all must be moved and bind a variable.

In Chinese, S-structure movement is not possible; in English, only one constituent can move but multiple movement is not possible, and in Polish and Hungarian, multiple movement is obligatory. Availability of movement as such could be related to the syntactic properties of the language in question. For instance, we might say that adjunction to CP or to [Spec, CP] is excluded at S-structure in English, which means that multiple movement is excluded at that level.

Based on the above observations, we can interpret the cross-linguistic variation with respect to WH-movement in terms of the Earliness Principle. If the grammar of a language allows for syntactic WH-movement then WH-movement must apply at S-structure; this would be the case for English: one WH-constituent can and must be fronted. If the grammar does not allow WH-movement, then there will be no S-structure movement. This would be the case of Chinese. If the language allows for multiple fronting at S-structure, then the movement of all the WH-phrases will be enforced by the Earliness Principle; this would be the case in Hungarian or Polish. If the grammar of the language does not allow multiple movement, then multiple WH-fronting will not apply at S-structure and it will be delayed till LF.

Recently, there have been proposals that the variation between languages with overt WH-movement and those without does not mean that the latter lack WH-movement at S-structure. Watanabe (1991) proposes that while there is no movement of an overt element in Japanese, there is movement of a non-overt WH-operator, represented as OP, which is extracted from the WH-phrase (cf. also Aoun and Li 1993).

Very roughly, the Japanese example (61a) with the WH-constituent *dare-o* ('who') *in situ*, would have the representation (61b), where OP has been extracted from the WH-phrase.

- (61) a. John-ga dare-o butta ka siranai
 John who hit Q know not
 'I don't know who John hit.'
- b. [OP_i [John-ga [dare t_i o] butta] ka] siranai
 John who hit Q know not

The non-overt operator OP is an abstract WH-operator which would be extracted from the WH-constituent and moved to a scope position. In Watanabe's account the difference between languages with WH-movement in the syntax such as English and languages which appear to lack WH-movement such as Japanese is not that in one language there is WH-movement at S-structure and in the other there is not. In Watanabe's account WH-movement of the abstract operator OP is universally required at S-structure; all WH-phrases are associated with an abstract operator; and minimally it is the abstract operator which moves at S-structure. The difference between English and Japanese is that in English the abstract question operator OP cannot be separated from the WH-constituent with which it is associated and in Japanese it can.¹⁴

Watanabe's analysis presupposes an economy-based account in which movement is restricted to what is required. In principle, it is enough if the abstract operator moves at S-structure and this is what happens in Japanese. If only the abstract operator has to move, and if this is possible in the grammar of Japanese, then only the abstract operator will move: all additional movement would be superfluous hence non-economical. In English the non-overt operator must also move at S-structure; in addition, the grammar of English does not allow the non-overt operator to be separated from the associated WH-phrase. Thus the WH-operator must pied pipe the associated WH-phrase. The variation between Japanese and English reduces to the question whether or not the abstract interrogative operator OP can be separated from the WH-associated phrase.

1.7.3 *Procrastinate*

As mentioned already, Chomsky proposes that syntactic mechanisms are regulated by economy principles and that a principle of economy will

delay movement as late as possible ('Procrastinate'). Obviously, such a view is not compatible with the Earliness Account discussed in section 1.7.2 and the data have to be reinterpreted. Chomsky (1993: 31-2) says

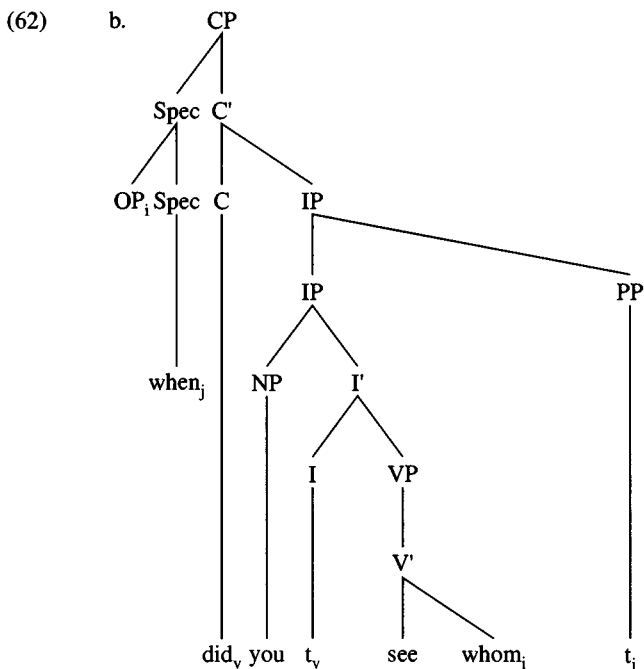
If Watanabe's theory of WH-movement is correct, there is no parametric variation with regard to WH-in-situ: the language differences (say, English-Japanese) reduce to morphology, in this case, the internal morphology of the WH-phrases. Still, the question arises why raising of the WH-operator is ever overt, contrary to Procrastinate. The basic economy of derivation assumption is that operations are driven by necessity: they are 'last resort', applied if they must be, not otherwise ... Our assumption is that operations are driven by morphological necessity: certain features must be checked in the checking domain of a head, or the derivation will crash. Therefore, raising of an operator to [Spec,CP] must be driven by such a requirement. The natural assumption is that C may have an operator feature (which we take to be the Q or WH-feature standardly assumed in C in such cases), and that this feature is a morphological property of such operators as WH-. For an appropriate C, the operators raise for feature checking to the checking domain of C ([Spec,CP], or adjunction to specifier (absorption)), thereby satisfying their scopal properties ... If the operator feature of C is strong, the movement must be overt ... If Watanabe is correct, the WH-operator feature is universally strong.

1.7.4 Radical minimalism (Brody 1993b)

1.7.4.1 Scope markers

Brody (1993b) proposes an enriched syntactic representation from which morphological Spell-out and LF are read off simultaneously (cf. Koster 1993a). For Brody the Spell-out/S-structure representation is the only level of representation; his account dispenses with LF movements. To represent scope properties Brody uses chains, which need not necessarily be created by movement. In (62a), for instance, the WH-operator *when* heads a chain created by movement; the sentential scope of the WH-phrase *in situ* is represented by the expletive scope marker which is adjoined to the overt operator. Anticipating the discussion in chapters 2 and especially 4 I represent the expletive scope marker as OP.

- (62) a. When did you see whom?



The scope of *whom* is determined by the non-overt OP with which *whom* will form a representational chain, usually represented as a (big) CHAIN. Unlike derivational chains, CHAINS are not created by movement (Chomsky 1986a, Rizzi 1986a). In (62b) the relation between the operator and *whom* is established by coindexation. We discussed chains created by movement in section 1.1.3. In the next section we briefly turn to CHAINS created by coindexation.

1.7.4.2 Expletive replacement

Consider (63):

(63) There_i arrived three more students_i.

In (63) the subject NP *three more students* does not occupy the canonical subject position. [Spec, AgrP] is occupied by the expletive *there*. We assume that the expletive is connected with the subject, *three more students*. The connection, which has not been created by movement, is established by means of coindexation. *There* and the post-verbal subject form a CHAIN. An expletive element does not seem to contribute to the semantics of the sentence, it is its associate, the post-verbal subject, which

functions as the subject of the clause. Given the requirement of economy of representations, specifically the principle of Full Interpretation, Chomsky (1991, 1993; see 1.2.4.2 above) proposes that expletives should be eliminated at LF, because they lack semantic content. In standard analyses it is proposed that the associate moves towards the expletive. Either the associate replaces the expletive ('expletive replacement', Chomsky 1991) or else the associate adjoins to the expletive (Chomsky 1993).

1.7.4.3 Expletives and scope

Expletives are generally used in connection with the existential construction illustrated in (63) in 1.7.4.2. Typically the expletive occupies an A-position. The representation (62) extends the use of the notion expletive: the scope markers which are associated with WH-phrases *in situ* are expletives in A'-positions. I will refer to such scope markers as expletive operators. In our example (62b) OP forms a CHAIN with *whom*, $\langle \text{OP}, \textit{whom} \rangle$.¹⁵ If we extend the notion of expletive replacement to the data in (62), then we might assume that at LF *whom_i* in (62b) will move to adjoin to OP_i . LF raising of the WH-constituent *whom* would then in fact be a form of expletive replacement and would be forced by Full Interpretation (1.2.4.2).

Following Brody's approach, the scope of WH-phrases can be determined by two kinds of chains: either the WH-phrase is spelt out as the head of a chain or it is spelt out in a lower position of a CHAIN which is headed by an expletive scope marker. The parametric variation between languages with multiple WH-movement and those without is related then to the Spell-out conditions on WH-chains. In languages with multiple movement the heads of all the WH-chains must be spelt out as overt operators; in English, on the other hand, only one chain allows for the head to be spelt out as an overt operator, all other operators must be part of a CHAIN headed by a non-overt scope marker. In (62b) the WH-phrase *when* is spelt out as the head of a chain, while the phrase *whom* cannot be spelt out as the head of a chain.

2 Some notes on the syntax of SOV languages

2.1 *The classical analysis: SOV vs. SVO*

2.1.1 *Root vs. non-root asymmetry*

In this section I briefly discuss the analysis of Germanic SOV languages such as Dutch and German. The issue is relevant because a major part of the empirical material used in the description of negation will be drawn from West Flemish. For more discussion of the structure of these languages cf. also Haegeman (1992a).

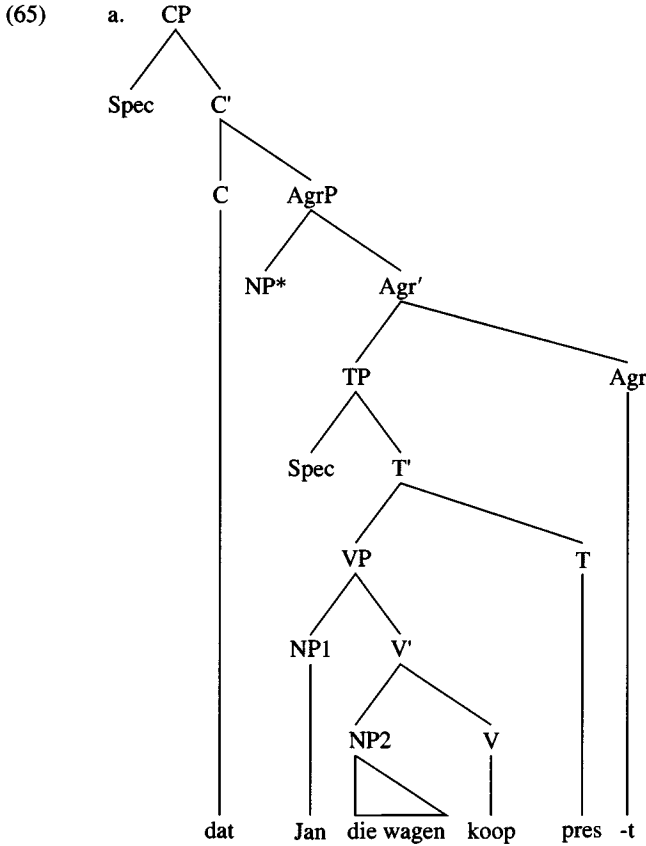
In the Germanic SOV languages there is a well-known asymmetry between root clauses and embedded clauses. Roughly, and simplifying for the time being, the finite verb occupies the second position in root clauses (64a–c) and it occupies a final position in embedded clauses, finite (64d) or non-finite (64e):

- (64)
- a. Hans koopt morgen die wagen.
Hans buys tomorrow that car
 - b. Morgen koopt Hans die wagen.
 - c. Die wagen koopt Hans morgen.
 - d. Ik denk dat Hans die wagen morgen koopt.
I think that Hans that car tomorrow buys
 - e. Hans zal proberen [die wagen morgen te kopen].

The classical GB analysis of these data is that embedded clauses reflect the underlying structure. The idea is that languages such as Dutch are SOV languages (Koster 1975) and that the verb moves to C to attain second position in finite root clauses (den Besten 1983). Based on work on universals (Greenberg 1963) it is often assumed that languages with OV order also have the order V-I, i.e. that both VP and the functional projections that compose the clausal domain are head-final. In the next section we illustrate some derivations.

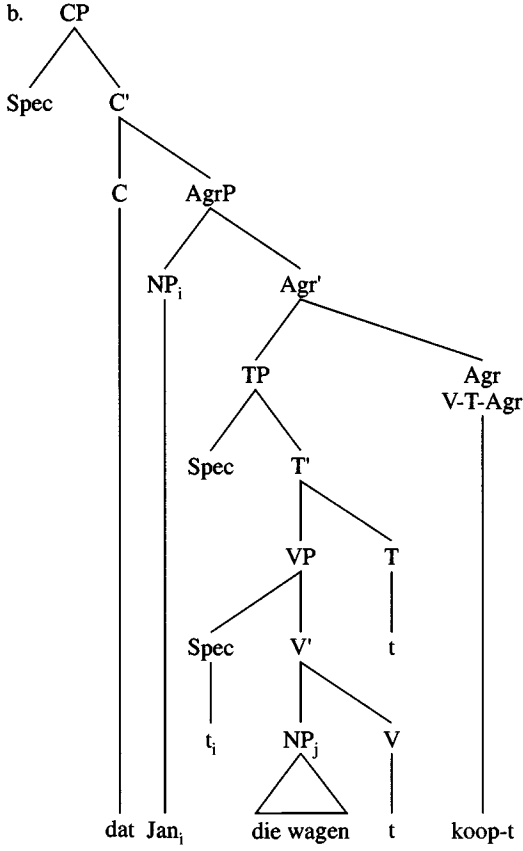
2.1.2 *Examples*

(65a) is a schematic D-structure for a non-interrogative root clause. NP1 is the thematic position of the subject. NP2 represents the base position of the direct object. I assume that IP is decomposed into AgrP and TP, and that AgrP dominates TP.¹⁶

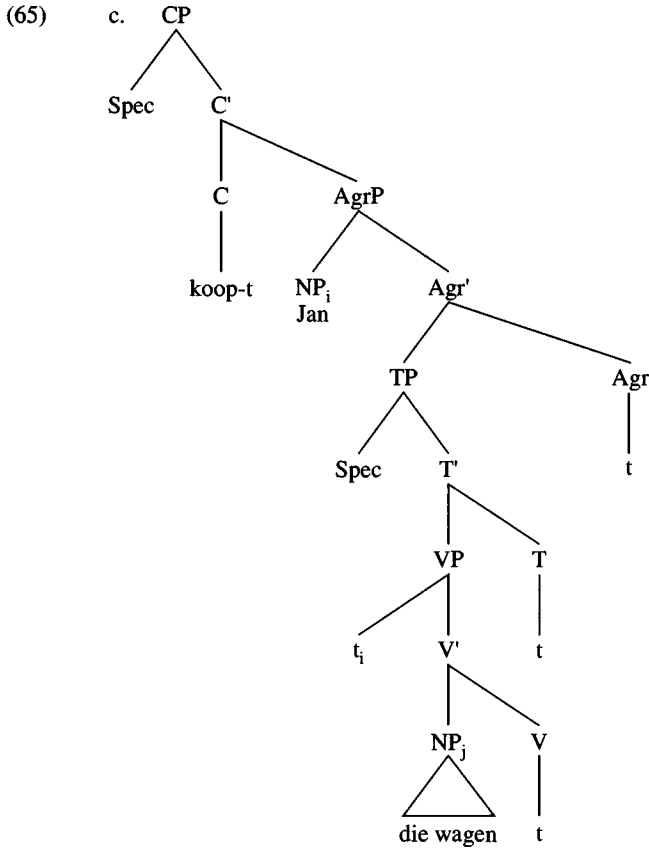


(65b) is the S-structure for embedded declaratives: the subject NP moves to the specifier position of AgrP (NP*) in order to be assigned nominative case. It is not clear whether the V moves to Agr and T (as in French) or whether Agr and T lower to V (as in English). Considering that the inflectional system of Dutch (and German) is slightly richer than that in English let us assume that the V-stem moves to the relevant functional heads to pick up the inflection. This step is not as such uncontroversial (Zwart 1993). We return to the issue in chapter 3, section 6.

(65)



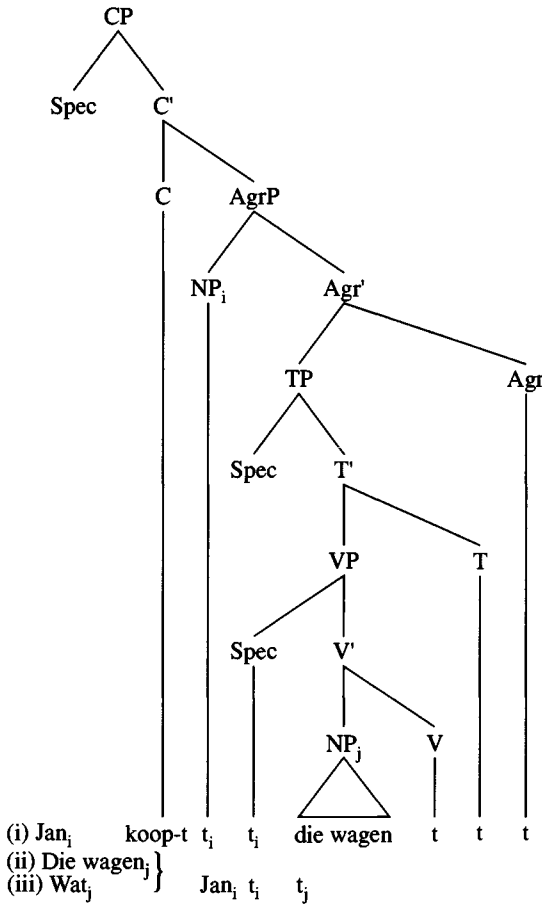
(65c) is a direct question: the finite verb moves to C.



Since V moves to C in this example we are led to assume that it will now move through the inflectional heads of the Infl system. Direct movement of V to C would violate Relativized Minimality as intermediate landing sites for movement, T and Agr, would be skipped.

Finally (65d) illustrates the structure of V2 sentences: the finite V moves to C and another constituent topicalizes. As a rough approximation we assume that topicalization moves a constituent to [Spec, CP].¹⁷

(65) d. S-structure: V2 root clause.



2.1.3 Clausal complements

2.1.3.1 Extraposition of clausal complements

There are a number of complications in the structure of Dutch (and German) which obscure the picture outlined here. One point has already been illustrated in (47a) and (47b) above: NP complements precede the embedded finite V, clausal complements must follow:

- (66) a. dat Jan [_{NP} dat verhaal] verteld heeft
 that Jan that story told has
 b. dat Jan verteld heeft [_{CP} dat hij ziek is]

that Jan told has that he ill is

The standard analysis of the pattern in (66b) is to say that the clausal complements are extraposed, i.e. moved to the right. If we assume that the inflected V is under Agr, then this means that the clauses would have to be adjoined to AgrP.

2.1.3.2 Verb Raising

Another problem is raised by the distribution of non-finite verbs:

- (67) a. dat Jan morgen komen wil
that Jan tomorrow come wants
b. dat Jan morgen wil komen

In (67a) the non-finite complement *komen* ('come') precedes V, an order which is expected in an OV pattern. In (67b) the non-finite V unexpectedly follows the finite V. This pattern is an illustration of V-Raising (VR): the non-finite V right-adjoins to the higher V with which it forms a cluster (Evers 1975; Haegeman and Van Riemsdijk 1986; Haegeman 1992a).

Consider also the following clause:

- (68) dat Jan probeert om die wagen te verkopen.
that Jan tries for that car to sell
'that Jan tries to sell that car'

Following Giusti (1991) we could assume that Dutch *te* is like English *to*, an overt realization of one of the functional heads which make up the Infl complex, T or Agr. This suggests that the infinitive in (68) also moves to the right of a functional head, a pattern which would be symmetric with V-Raising in (67b).

2.1.3.3 Verb Projection Raising

A final complication is raised by data from dialects such as West Flemish (WF):

- (69) da Valère wildige [morgen dienen boek kuopen]
that Valère wanted tomorrow that book buy

In (69) the non-finite complement *morgen dienen boek kuopen* follows the higher V *wildige* ('wanted'). The proposal in the literature is that the string *morgen dienen boek kuopen* is extraposed by a process referred to a Verb Projection Raising (VPR). VPR in such an analysis involves a

rightward movement of the relevant constituent which is adjoined to IP. Though we use the label VPR, it will be shown that the extraposed constituent is not simply a VP but rather an extended projection of VP (chapter 3). This was argued for independently by Vanden Wyngaerd (1989b).

2.1.3.4 Scrambling

It is also well known that the constituents of a clause in the Germanic languages exhibit relatively freer word order than their counterparts in English:

- (70) a. dat Jan morgen die wagen zal kopen.
 that Jan tomorrow that car will buy
 b. dat Jan die wagen morgen zal kopen.

In (70a) the direct object is adjacent to V, a position which could reflect the base position; in (70b) the direct object precedes the adverb. In the literature the permutation of arguments is referred to as scrambling. I return to the phenomenon in chapters 3 and 5. Suffice it to say for the time being that scrambling involves clause-internal leftward XP-movement.

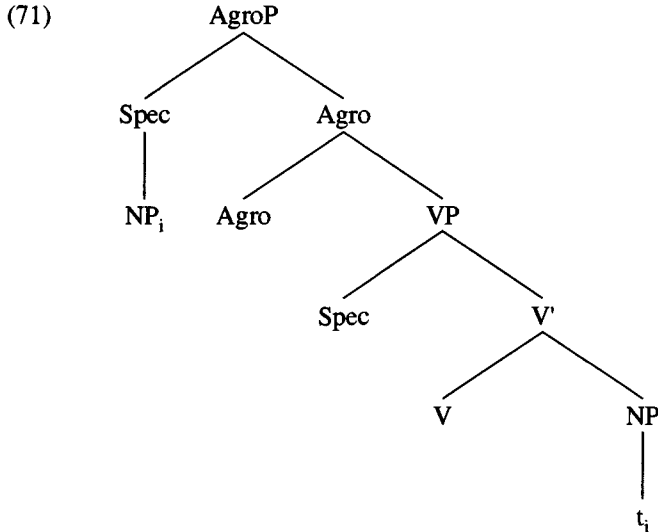
2.2 *The universal base hypothesis: SOV as SVO with scrambling*

Rather than postulating that there is parametric variation in the base with some languages having the base order VO and others having OV, a universal base hypothesis has sometimes been argued for: base structures are invariant across languages. Kayne (1993) offers an updated version of the universal base hypothesis: he proposes that all precedence relations have to be related to asymmetric c-command relations of nodes in the tree. The contrast between VO word order (found in English) and OV word order (as illustrated in German and Dutch) is no longer reduced to a word-order parameter, rather in VO languages V c-commands O asymmetrically, and in OV languages O c-commands V asymmetrically. The same tendency is found in Chomsky's Minimalist Program as developed in work on Dutch by Zwart (1993).

Proponents of the universal base hypothesis argue that there are a number of empirical problems with the analysis of the Germanic SOV languages outlined in 2.1. I only review some points here. For more details see Zwart (1993).

If we admit that the functional projections which constitute the clausal domain and VP are head-final, we still have to admit that CP is head-initial, that PP is head-initial and that given that the NP follows the functional head D (determiner) DP, the extended projection of NP is head-initial. This means that there is a lot of inconsistency.

Another point, touched upon above, is that clausal complements follow their governing head, V. In order to deal with this variation the traditional approach appeals to extraposition in terms of right adjunction to AgrP (section 2.1.3.1). Rightward adjunction to AgrP is also postulated for VPR patterns (section 2.1.3.3). As an alternative one might envisage that rather than assuming that post-verbal clausal complements are moved rightward, the OV order exhibited by non-clausal complements is generated by leftward movement of the non-clausal complement. Leftward movement of arguments is needed independently for scrambling (cf. example (70)). Let us follow Vanden Wyngaerd (1989a), Haegeman (1993c), and Zwart (1993) in assuming that scrambling is the movement of the object to the specifier position of AgroP for reasons of case checking:



In such a view the Dutch base structure does not differ from the English base structure: both languages have a head-initial VP. The Dutch OV order results from movement of the object to a position where it asymmetrically c-commands the verb, i.e. to a specifier position of a

functional head. English and Dutch differ in that the Dutch NP object must move to *Agr*P in the syntax, before Spell-out, while the English counterpart can check its case as late as LF (cf. Branigan 1992).

If all functional projections are head-initial, though, this will also apply to the functional projections making up the IP system, *Agr*P and TP. This leads to a number of questions with respect to the position of the inflected V. Consider WF (72):

- (72) dat Valère gisteren dienen boek nie gekocht eet
 that Valère yesterday that book not bought has
 ‘that Valère failed to buy the book yesterday’

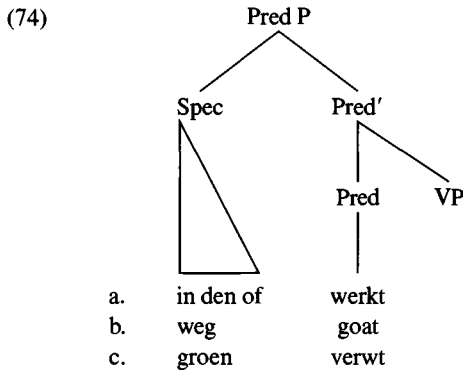
Let us assume that the subject NP *Valère* in (72) is in the subject position, [Spec, *Agr*P]. If this is correct, then the inflected verb *eet* (‘has’) cannot possibly occupy the position under *Agr*s, since under a head-initial approach [Spec, *Agr*P] and *Agr*s are adjacent. *Eet* in (72) is either in its base position, or perhaps has moved to an intermediate functional head. The same argument can also be made in terms of Pollock’s (1993) proposal: if the subject NP in (72) occupies the specifier position of the highest functional projection, say MoodP, V cannot occupy the head position of the same functional projection since then the two would have to be adjacent.

The non-adjacency of inflected V and subject NP in (72) forces us to conclude that the inflected V does not move to the head whose specifier is occupied by the subject. The subject NP occupies a specifier of some functional projection which itself dominates the projection whose head hosts the verb. Under the universal base hypothesis, pre-verbal constituents intervening between the subject position and the inflected V occupy a scrambled position. For the present stage of the argument I assume that scrambling of NPs is movement to the specifier of a functional head and that intervening adverbs may adjoin to functional projections (cf. Laenzlinger 1993 on adjunction). Observe that the kind of leftward movement required would be pervasive in the syntax of SOV languages: it not only moves NPs but it also moves adverbs, PPs, participles and small-clause predicates:

- (73) a. da Valère in den of werkt.
 that Valère in the garden works
 ‘that Valère is gardening’
 b. da Valère weg goat.
 that Valère away goes

- 'that Valère is going away'
 c. da Valère die kasse groen verwt.
 that Valère that cupboard green paints
 'that Valère is painting the cupboard green'

Zwart (1993) and Koster (1993b) propose that predicative elements such as PPs (*in den of*, 'in the garden'), particles (*weg*, 'away') and adjectival predicates of small clauses (*groen*, 'green') move leftward to occupy a specifier of a predicate phrase which dominates VP. The adjacency between the predicate phrase and V suggests that V moves to [Pred].



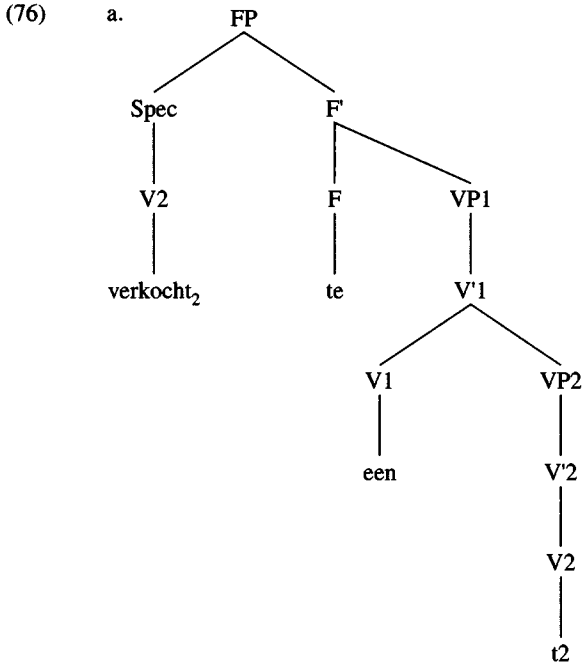
Zwart also proposes that participles which precede the inflected auxiliary move leftward to a specifier of some functional projection, whose head hosts the finite V. This analysis is attractive since it accounts for the fact that participle and V are separate units. Witness the fact that in finite clauses the inflected verb moves to C but the participle remains to the right (75a), and that in non-finite clauses participle and auxiliary can be separated by *te* (75b).

- (75)
- a. Gisteren ee Valère zenen oto verkocht.
 yesterday has Valère his car sold
 'Valère sold his car yesterday.'
- b. Mee zenen oto verkocht te een
 with his car sold to have
 'because he sold his car...'

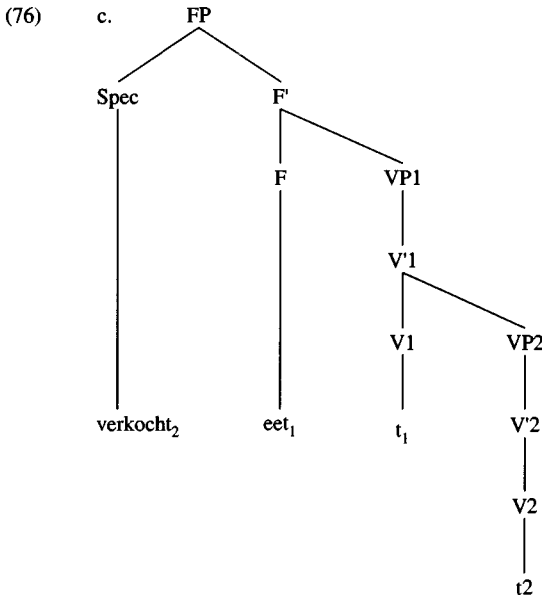
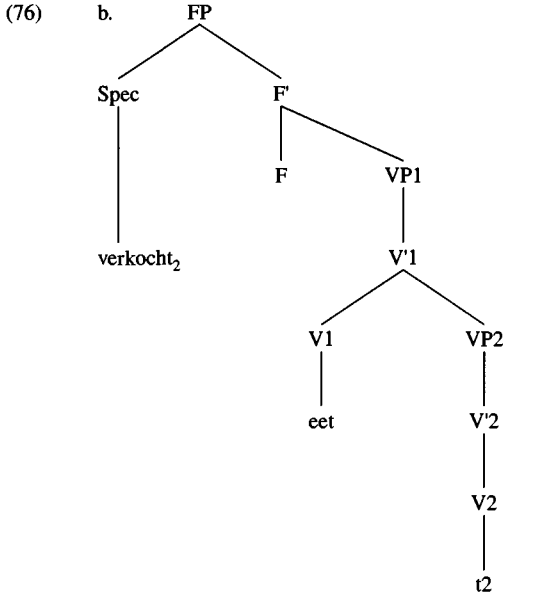
Let us first discuss (75b). Assume that *te* is a functional head, F.¹⁸ The participle *verkocht* precedes *te* and the inflected V follows it. Participle and *te* are adjacent. The functional projection whose specifier hosts the

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participle dominates VP; the structure of the non-finite clause (75b) would be as in (76a):



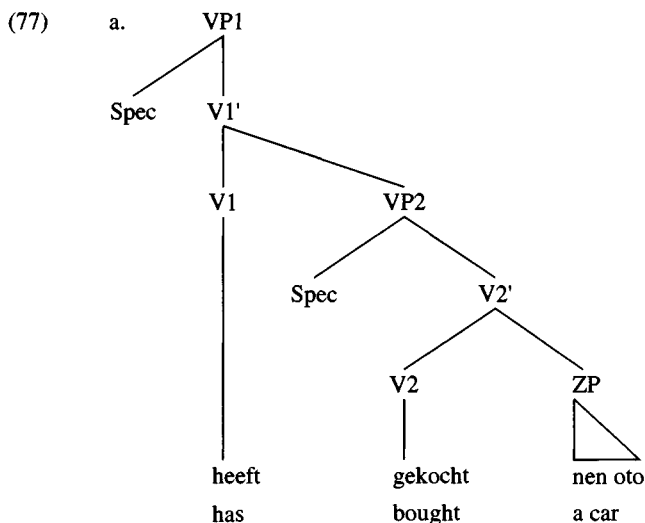
In finite clauses such as (75a) there is no element *te*. Two structures could be proposed, at first sight:



In (76b) the inflected V1 *eet* remains under V, in (76c) it moves to F, where it has a Spec-head relation with the moved participle. Both proposals are compatible with the superficial orders of constituents discussed.

Given that Dutch has overt person and number morphology, it seems intuitively more attractive to assume that Dutch has at least some form of finite verb movement, i.e. that the verbal inflection has one morphologically strong feature. Recall the discussion of English and French inflection. In French all finite verbs, lexical or auxiliary, move to Agr. In English only auxiliaries move at S-structure. The inflection of Dutch and German is notably distinct from that in Scandinavian languages where the verb form is invariant (cf. Kayne (1993) for similar views). Even if one were to argue that the V-inflection of Dutch and German is relatively weak it would be surprising that auxiliaries did not move. On the other hand, there is, to the best of my knowledge, no difference in the behaviour of finite auxiliaries and inflected verbs which could suggest that only the former move.

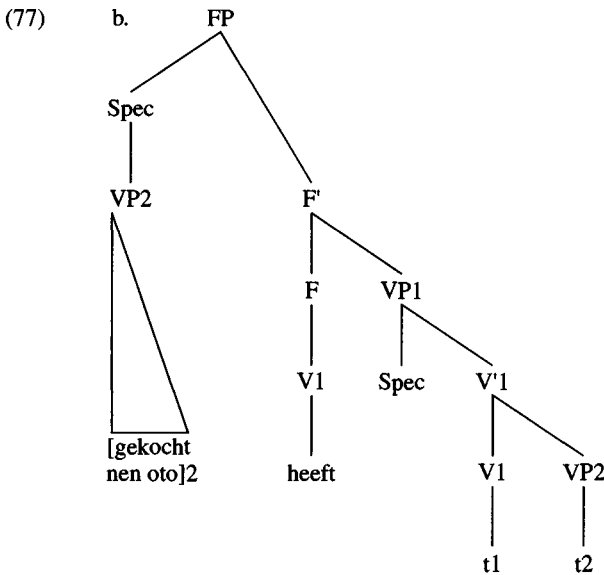
Zwart (1993) suggests that the participle moves to the specifier of a functional projection and the finite auxiliary moves to the head, creating an adjacency configuration between the participle and the head. Let us try to spell out his proposal. Assume a (partial) base structure as in (77a):



VP2 etc. stands for the extended projection of the participle, and VP1 is headed by the perfective auxiliary. In Dutch, past participles either follow the finite auxiliary or they precede it. When the participle appears to the right of the auxiliary we assume it has not moved. The complement of the participle will move leftward to [Spec,AgroP] as suggested above.

When the participle precedes the finite auxiliary V1 I propose that it is the extended projection of the participle, VP2 in my representation, which moves to the specifier of a functional projection, which I tentatively label FP, an extended projection of VP1. The suggestion that a non-finite VP2 (here headed by a participle) has to have its morphology checked by specifier head agreement is a reinterpretation of earlier proposals put forward by Fabb (1984). Fabb proposes that VPs have to be licensed by a head in the same way that NPs have to be licensed by a case-assigning head. We might reinterpret this proposal and argue that just as NPs must move to a specifier of AgrP to have their case checked, non-finite VPs have to have their 'case' checked by a relevant head (cf. Lattewitz 1994). In a similar vein, Guéron and Hoekstra (1989, 1990) propose that the predicate must be connected to T.

Following the discussion above let us also propose that the finite verb, the auxiliary, also moves to F, creating a specifier head configuration between the participle phrase and the matching auxiliary.



The complement of the participle, the NP *nen oto* ('a car'), has to move further to the left in order to get its case checked. Presumably the participial projection does not contain the relevant Agr heads to check the arguments.¹⁹

The movement of the projection of the participle would be similar to the VP topicalization:

(78) [t_j Gelezen t_i] een-k_j die boeken_i nie.

In (78) the extended projection of the participle *gelezen* is topicalized, i.e. it moves to [Spec,CP].²⁰ Following den Besten and Webelhuth (1987) we also assume that prior to this topicalization, the object *die boeken* ('those books') is scrambled out of the moved projection. The analysis raises problems though. Consider

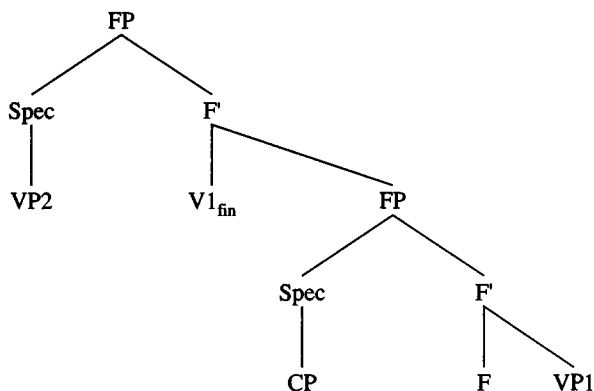
- (79) a. da Valère gezeid eet [C_P da ze ziek is]
 that Valère said has that she ill is
 b. [Gezeid [C_P da ze ziek is]] ee Valère nie.
 c. *da Valère [gezeid [C_P da ze ziek is]] eet
 d. da Valère [gezeid] eet [C_P da ze ziek is]

In (79a) the verb *gezeid* ('said') is a participle and selects a CP complement. In (79b) the participle projection is topicalized, and we see that the clausal complement is also moved along. In (79c), though, we see that movement of the participle to a sentence-internal position cannot move the clausal complement along. If *da ze ziek is* is the complement of *gezeid* and if the movement of the participle to a sentence-internal position moves the extended participial VP then we would not expect the clausal complement to be stranded in sentence-final position as in (79d). Rather, we expect to be able to generate a structure as in (79c) where the participle moves with its clausal complement.

In the restricted views of structure advocated recently (Kayne 1993), rightward movement of the clausal complement is not admitted, a solution which hence cannot be advocated for (79a). If we were to propose that the extended projection of the participle *gezeid* moves to the specifier of FP, stranding the clausal complement in sentence-final position, it will be necessary to reinterpret what looks like extraposition, i.e. rightward movement, in terms of leftward movement.

One option could be to argue that the clausal complement left-adjoins to a functional projection relatively low in the structure.

(80)

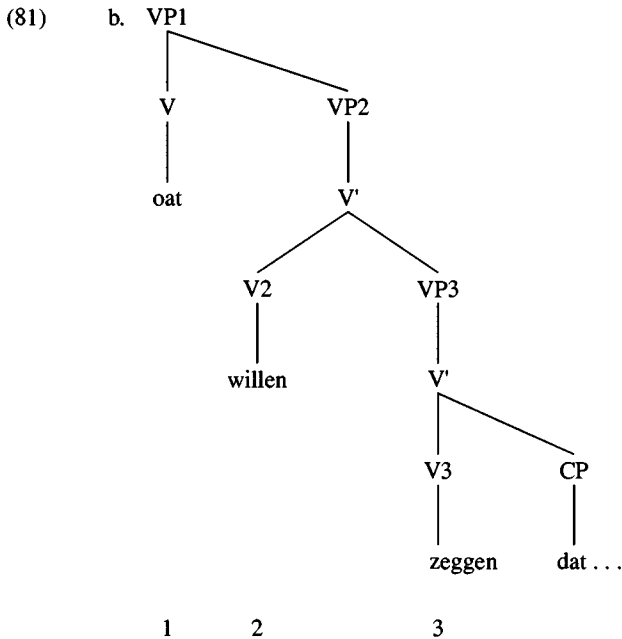


Observe that the discussion above shows that the universal base hypothesis cannot fully dispense with ‘extraposition’, a process needed by the traditional SOV approach. In (80) extraposition is not eliminated, rather it is translated into a form of leftward adjunction of the clause which will appear in final position. An alternative to the syntactic analysis above would be to continue to adopt rightward extraposition and to assume this is a PF phenomenon with no syntactic reflex. The rightward PF movement could be due to processing effects.

Another piece of evidence for the need to restate extraposition in terms of some form of movement of a complement (at S-structure or at PF) is provided by the following example of WF:

- (81) a. da Valère willen zeggen oat da ze ziek was
 that Valère want say had that she ill was

In (81a) the auxiliary *oat* ('had') selects a complement headed by *willen* ('want') which in turn selects a complement headed by *zeggen* ('say'). *Zeggen* takes a clausal complement. Under the SVO hypothesis the underlying structure of (81a) is (81b):



The superficial ordering of the verbs in (81a) is not *oat-willen-zeggen*, an order which is in fact possible, but it is *willen zeggen oat*, i.e. 2-3-1. It is not clear how this order can be achieved by mere leftward head-movement. If all V-movement involves left-adjunction then we expect that 3 will left adjoin to 2 and that the complex created by the head-to-head adjunction 3-2- will adjoin to 1 giving rise to the order 3-2-1, *zeggen willen oat*. But this order is ungrammatical in WF. One way of achieving the correct order is by moving VP2. In this case too the clausal complement CP would have to be extracted from VP2 first.²¹

The examples above show, I think, that a universal base approach to Dutch and to German leads to many important questions. For reasons of space I cannot examine all the empirical consequences of the generalized head-initial hypothesis as proposed by Kayne (1993) and elaborated for Dutch by Zwart (1993). I refer the reader to these works for further discussion. Let me just mention one other area of discussion.

For Icelandic expletive transitives, Jonas and Bobaljik (1993) argue convincingly that the indefinite subject occupies [Spec,TP]. Consider (82):

- (82) dan-der verzekerst vee studenten gisteren Valère dienen
that there probably many students yesterday Valère that
boek getoogd een
book shown have
'that many students probably showed Valère the book yesterday'

If the indefinite subject *vee studenten* ('many students') occupies [Spec,TP] in (82) then the inflected verb will not occupy T, but should be lower in the structure. If V were to be under T then the hypothesis that the indefinite subject is in [Spec,TP] in WF cannot be maintained, since it is not adjacent to the inflected V.

On the other hand, Kayne (1993) argues that the inflection system of Dutch and German is strong since there are person distinctions in the finite paradigm, and he assumes that the inflected V moves to Agrs. Consider a sentence like (83) in the light of this proposal:

- (83) da Valère dienen boek gisteren verzekerst ip gestierd eet
that Valère that book yesterday probably up sent has
'that Valère probably sent that book yesterday'

If *eet* is under the highest functional head of the traditional AgrP domain, then it is not possible to claim that *Valère*, the subject NP, is in its specifier, [Spec,AgrP], because they are non-adjacent. In such an analysis one would have to assume that by leftward movement practically the entire clause structure is moved to a domain above Agrs.

2.3 Conclusion

Since the data discussed in this book are often drawn from Germanic V2 languages we will have to refer to the clause structure of such languages. In general, I will adopt the traditional SOV with V2 approach familiar from the literature. For many aspects of the syntax of negation, both the head-final and the head-initial approach to phrase structure give the same results. Occasionally, I will refer to the alternative approach developed by Kayne (1993) and implemented by Zwart (1993).

2 *The WH-criterion and the NEG-criterion*

1 Introduction: negation and interrogation in generative grammar

1.1 Interrogative and negative sentences: some parallelisms

The distribution and interpretation of negative elements has always received a lot of attention in linguistics, and this in the domains of syntax (cf. the early work by Klima (1964), Lasnik (1974) etc.), semantics and pragmatics (cf. Horn 1989). Already in early stages of the generative tradition the analysis of negative sentences was closely related to that of interrogative sentences. In this chapter I first discuss some of the well-known empirical arguments for relating the syntax of sentential negation to that of interrogative sentences (section 1.1), I briefly review some seminal work (sections 1.2.–1.4), and then I give a first outline of the analysis (section 2).

In the present chapter, the data are mainly drawn from English. Subsequent chapters extend the database.

1.1.1 Polarity items

In English both negative elements and interrogative elements license polarity items such as *anyone* or *anything*:¹

- (1)
 - a. Did you see anyone?
 - b. I did not see anyone.
 - c. *I saw anyone.
- (2)
 - a. Who said anything?
 - b. No one said anything?
 - c. *I said anything.

For reasons of space, I will not discuss the syntax of polarity items in this study; the data above only serve to illustrate the parallelism between negative and interrogative sentences.² In the literature it is proposed that

polarity items are licensed by a c-commanding negative or interrogative element.³ In (1a), for instance, we assume that an interrogative feature on the inverted auxiliary (cf. discussion in section 2 for more precise description) will license *anyone*. Similarly, in (1b) the negative marker *not* licenses *anyone*. (1c) is ungrammatical because there is no licenser for the polarity item. In (2a) the *WH*-phrase c-commands, hence licenses, the polarity item; in (2b) *no one* in subject position c-commands the polarity item. The c-command requirement on polarity items predicts the ungrammaticality of (2d), where the polarity item occupies the subject position:

- (2) d. *Anyone did not go there.

In (2d) *anyone* is not licensed by the negative element *not* because *not* does not c-command the polarity item. Polarity items will be licensed in the subject position just in case they are c-commanded by a negative or interrogative element:⁴

- (2) e. Never will anyone do this kind of thing.
 f. Why would anyone do this kind of thing?
 g. Brendan didn't believe that anyone had seen John. (cf. Duffield forthcoming)

1.1.2 Subject-auxiliary inversion

Both interrogative elements and negative elements give rise to subject-auxiliary inversion in English root sentences.

- (3) a. What did you see?
 b. Never in my life will I do that again.

There is an important asymmetry between negative constituents and interrogatives ones. Sentence-initial *WH*-constituents always trigger inversion (4); this is not the case for sentence-initial negated constituents. The negated constituents in (5) trigger inversion, those in (6) don't (cf. Rudanko 1980):

- (4) a. What did you see?
 b. *What you saw.
- (5) a. Not often does Jack attend parties.
 *Not often Jack attends parties.
 b. Not every day does Jack eat bagels.
 *Not every day Jack eats bagels.

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- (6) a. Not long ago, it rained.
*Not long ago did it rain.
b. Not far away it was raining very hard.
*Not far away was it raining very hard.
c. In no small measure it is his attitude that is blocking progress.
*In no small measure is it his attitude that is blocking progress.

Informally one essential difference between (5) and (6) is that whereas the sentences in (5) are interpreted as negative sentences, those in (6) are not. I use the term ‘negative sentence’ in an a-theoretical intuitive way. A test that is sometimes used as a diagnostic to determine if a sentence is negative or not is the following: a negative sentence can be coordinated with a tag introduced by *neither*, while a positive sentence cannot be coordinated with a *neither*-tag:

- (7) a. John hasn’t left, and neither has Mary.
b. *John has left, and neither has Mary.

Conversely, negative sentences cannot be coordinated with tags introduced by *so*, non-negative sentences can be coordinated with *so*-tags:

- (7) c. John has left and so has Mary.
d. *John hasn’t left and so has Mary.

(cf. Klima (1964), Rudanko (1980) for discussion).

Proposed negative constituents which trigger inversion have sentential scope; in other words: they express sentential negation; they introduce a negative sentence. We refer to this type of negation as sentential negation. Proposed negative constituents which do not trigger inversion do not have sentential scope. Keeping to a theory-neutral term for the moment let me refer to them as ‘local negation’ (cf. Quirk et al. 1985: 790). *WH*-constituents always trigger inversion in root sentences in English (cf. (4b)), suggesting that there is no *WH*-analogue to local negation.⁵

The contrast between sentential negation and local negation and its correlation with inversion can be illustrated in various ways. The sentences in (8) are introduced by a negative constituent which triggers inversion. I assume that the negative constituent has sentential scope: (8a) and (8b) are negative sentences : they can be coordinated with a *neither*-tag (Rudanko 1980):

- (8) a. Not often does Jack attend parties, and neither does Bill.
b. Not every day does Jack eat bagels, and neither does Bill.

The sentences in (9) are introduced by a constituent which contains a negation with local scope, there is no inversion and the negative tag with *neither* is not possible:

- (9) a. *Not long ago, John bought a house, and neither did Bill.
 b. *Not far away Jack is building a house, and neither is Bill.
 c. *In no small measure John has contributed to the change and neither has Bill.

Conversely, sentences with preposed negative constituents and with inversion do not allow for a tag with *so* (10), while those without inversion do (11):

- (10) a. *Not often does Jack attend parties, and so does Bill.
 b. *Not every day does Jack eat bagels, and so does Bill.
- (11) a. Not long ago, John bought a house, and so did Bill.
 b. Not far away Jack is building a house, and so is Bill.
 c. In no small measure John has contributed to the change and so has Bill.

Preposed negated constituents which do not trigger inversion also fail to license polarity items; those which trigger inversion license polarity items:

- (12) a. Not long ago, John met someone/*anyone interesting there.
 b. Not often do you meet anyone interesting there.

It is important to observe that the properties which sentential negatives share with interrogatives do not apply to local negation.

There is no clear split between negative constituents which always trigger inversion and others which never do. Some negative constituents may, but need not, trigger inversion. The two patterns correlate with semantic properties:

- (13) a. With no job would John be happy.
 b. With no job John would be happy.

(13a), with inversion, means that there is no job such that John would be happy with it; (13b) means that John would be happy if he did not have a job. The tags confirm that (13a) is a negative sentence and (13b) is positive:

- (14) a. With no job would John be happy and neither/*so would Mary.
 b. With no job, John would be happy and so/*neither would Mary.

Klima (1964: 301) gives the following pair:

- (15) a. In not many years will Christmas fall on a Sunday.
 b. In not many years Christmas will fall on a Sunday.

The tags confirm that (15a) is negative and (15b) is not:

- (16) a. In not many years will Christmas fall on a Sunday and neither/*so will New Year's day.
 b. In not many years Christmas will fall on a Sunday and so/*neither will New Year's day.

The different patterns correlate with a different interpretation of the PP headed by *in*: in (16a) the PP has a frequency reading, quantifying over events; in (16b) it has a referential reading, referring to a specific point in time.

We concentrate on sentential negation in this and the following chapters, we return to the contrast sentential negation vs. local negation in later sections and specifically in chapter 6.

1.1.3 *Islands and inner islands*

The syntactic similarity between negative constituents and interrogative ones is also apparent when we look at their interaction with WH-movement. Recall from chapter 1, section 1.5.3, that interrogative elements in [Spec,CP] give rise to strong island effects:

- (17) a. ?Who_i do you wonder [CP whether [IP they will fire t_i?]]
 b. *Why did you wonder [CP whether [IP they will fire John t?]]

In (17a) the interrogative element *who*, whose trace is an argument, occupies the matrix [Spec,CP]. The slightly degraded status of the sentence is due to the island effect created by *whether* in the embedded [Spec,CP]. In (17b) long construal of the moved adjunct *why* is not possible: the moved WH-phrase cannot be connected back to a trace in the embedded clause; apparently *whether* blocks the connection. The trace of *why* in the embedded domain cannot be identified in (17b). In (17a) the trace of *who* has a referential index which enables it to be identified by binding, an option not available for non-argument traces (cf. discussion in chapter 1, section 1.6 and also Rizzi 1990a).

Intervening WH-elements in A'-positions give rise to subjacency effects and they also have a blocking effect on antecedent-government by WH-constituents. Recall (chapter 1, section 1.6) that intervening negative

operators do not trigger subjacency effects (cf. (17a) and also (18a) below), but they do block antecedent-government as illustrated by the contrasts between the (a) sentences and the (b) sentences in (18)–(20). In each case the intervening negation in the (b) sentence blocks long construal of the adjunct (examples from Rizzi (1990a) who cites Ross (1983)):

- (18) a. Bill is here, which they (don't) know.
 b. *Bill is here, as they (*don't) know.
- (19) a. It is for this reason that I believe that John was fired.
 b. It is for this reason that I don't believe that John was fired.
 (Rizzi 1990a: 15, from Travis 1984; Kayne 1986: fn. 17)
- (20) a. How strongly do you believe that inflation will rebound?
 b. How strongly do you not believe that inflation will rebound?
 (example due to Ladusaw)

The same effect is illustrated in the French examples in (21):

- (21) a. Pierre est ici, ce qu'ils savent/ne savent pas.
 Pierre is here, which they know/don't know.
 b. Pierre est ici, comme ils le savent/*ne le savent pas.
 Pierre is here, as they it know/don't know.
 (Rizzi 1990a: 115: n14)

Rizzi's (1990a) account of the phenomenon illustrated above deserves extensive quotation since it will serve as the basis for the analysis of negation presented in this book:

negation appears to create opacity effects on adjunct variables, a state of affairs which is obviously reminiscent of our ... discussion of WH islands...

If negation qualifies as a typical potential A'-binder (an A'-specifier), the inner-island effect can be reduced to the ECP through relativized minimality: if a non-theta-marked element is extracted from the domain of negation, it will be unable to antecedent-govern its trace because of relativized minimality, and an ECP violation will result ...

What projection could sentential negation be a specifier of? French clearly shows that *pas* is not a spec of VP; in fact it can co-occur with a spec of VP, in a fixed order (*beaucoup pas* is ill formed):

- [22] Jean n'a pas beaucoup mangé
 'Jean has not a lot eaten' [sic]

This seems to require the articulated structure of inflectional projections argued for by Pollock (1989...), according to which Agreement and Tense head distinct functional projections, AgrP and TP...we will assume that AgrP is the highest inflectional projection; thus, *ne*, on a par with the other nonsubject clitics, is attached to Agr^o, and *pas* is the specifier of the lower inflectional head T^o.

(Rizzi 1990a: 17–18)

In a footnote (fn. 15 p. 115) Rizzi refers to the alternative view which has gained ground in the literature, namely that ‘an independent projection NegP is systematically available in negative sentences’, and ‘this projection has an A’ spec’ (1990a: 116). As we shall see below, this view is in agreement with the analyses proposed by Klima (1964) and Lasnik (1972), who also characterized a negative sentence as one in which S dominates the constituent NEG. I do not go into the structure of negative sentences in English here but return to it in chapter 3, section 1.4. Suffice it to note for the moment that *not* is an A’-element which blocks antecedent-government.

Inner island effects are not only caused by the presence of *not*.

Other negative...operators give rise to a similar pattern. Consider the following contrasts:

- [23a] It is for this reason that everyone believes that Bill was fired.
 [23b] It is for this reason that no one believes that Bill was fired.

...[23a] is ambiguous, whereas [23b] can mean only ‘This is the reason which motivates the fact that no one believes that Bill was fired,’ and not ‘This is the reason such that no one believes that Bill was fired for this reason.’

(Rizzi 1990a: 19)

To generalize the observations made here Rizzi says:

It would then seem that inner-island effects are determined by ‘affective’ operators, in Klima’s (1964) sense – that is, operators licensing negative-polarity items (see Ladusaw (1980a, 1980b) and Barwise and Cooper (1981) for a semantic characterization of the class). Non-affective operators, such as *every* and *many*, do not trigger the effect.

(1990a: 19)

So far we have identified three syntactic properties that unite affective operators: they license polarity items, they trigger subject-auxiliary inversion and they give rise to inner island effects. Rizzi (1990a) provides the following interpretation of these effects:

Under current assumption, Subject-Aux Inversion is amenable to I°-to-C° movement, a particular case of head-to-head movement. It then appears to be the case that, in English, affective operators and only affective operators can move to the spec-of-C in the syntax. We will make the conjecture that this is the syntactic reflex of a more general LF property: the canonical scope position of affective operators is an A'-specifier position (of Comp, and possibly of other categories as well). This is obviously the case of an important subclass of affective operators, WH quantifiers, whose scope position is the Spec of Comp. For non-affective operators, we keep the standard assumption that their canonical scope position is created through adjunction to IP (and possibly to other categories; see May 1985).

(1990a: 20)

Two points are worth mentioning. Rizzi distinguishes two types of A'-elements: the affective operators, which move to an A'-specifier, and other quantifiers, which attain their scope position by A'-adjunction. While both elements share the A'-status, they differ in that only affective elements are subject to a specifier head requirement. Observe that if we were to eliminate adjunction (cf. Kayne 1993), we would have to propose an alternative analysis for the non-affective quantifiers. It is likely that these will then also be interpreted in terms of specifier head agreement relations. I will not pursue this point here.

The hypothesis that the negative operator *no one* occupies an A'-position in (23b), which would account for the inner island effect, gives rise to a number of problems. Consider (24) (Rizzi's (59)):

(24) What did no one say?

The question arises how to account for the A'-status of *no one*, which in (24) occupies the subject position. Rizzi (1990a: 116, fn. 17) mentions a number of lines of analysis. One option is to account for the phenomenon in terms of multiple filling of [Spec, CP] at LF; another is to propose that the negative quantifier lowers to the specifier of NegP at LF (cf. fn. 11, p. 116), a third option, and one which I will pursue later in this work, is that the specifier of AgrP

can optionally count as an A' specifier. In such cases as [24] this option must be taken to properly assign scope to the affective operator, as the spec of C is not available...Thus, *no one* does not have to move, and it determines the inner-island effect from its S-structure position.

(1990a: 21–22)

The same proposal is also discussed in Rizzi (1991):

we can account for the fact that a negative subject induces an Inner Island (Relativized Minimality) effect on adjunct extraction (*Why did no one kill Mary* cannot mean ‘What is the reason x such that no one killed Mary for x ’). The spec of Agrs is construed with its X° in Phi features, but also, if negative, in $+neg$; as we can opt for the second construal and have the position count as an A’ Spec, adjunct movement is blocked by (an appropriate interpretation of) Relativized Minimality.

(GLOW abstracts, p. 47)

I will elaborate Rizzi’s proposal in chapters 4 and 5.⁶ In chapter 5 I examine the distinction between A-positions and A’-positions. I will suggest that the notion of A- vs. A’-position is not uniquely definable in terms of the hierarchical position of a constituent in the tree and I will provide examples of mixed positions involving negative operators.

1.1.4 Absorption

There are further syntactic phenomena that bring negative constituents in line with interrogative ones. One is illustrated in French (25):

- (25) a. Qui disait quoi?
 who said what
 For which x , y [x : a person; y : a thing] [x said y]
 b. Personne ne disait rien.
 no one *ne* said nothing
 ‘No one said anything.’
 No x , y [x : a person; y : a thing] [x said y]

(25a) illustrates WH-absorption. The sentence contains two question words, *qui/who* and *quoi/what*. The interpretation of the sentence is that of a single question, i.e. we represent its LF by means of one WH-operator which binds two variables and a typical reply will be in terms of pairing of persons with things they said. In the classical GB approach this effect is achieved, it is standardly assumed, by LF-adjunction of the non-moved WH-constituent *quoi* to the already moved *qui* in [Spec,CP] (cf. chapter 1, section 1.2.3).

(25b) illustrates what is usually referred to as Negative Concord (NC). Compare the interpretation of (25b) with (26), a case of so-called Double Negation (DN).

- (26) No one has done nothing.

In (26) there are two negative constituents, *no one* and *nothing*, which each contribute their own negative force to the clause. This results in a cancellation of the negation: the first negation takes scope over, and cancels, the second. In (25b) the two negative constituents, *personne* ('no one') and *rien* ('nothing'), do not cancel each other, rather they enter into a NC relation: they jointly express a single negation. NC can be analysed as an instantiation of absorption (Zanuttini 1989). In the case of WH-absorption one question operator binds n variables, i.e. the question operator ranges over a number of constituents; in the case of NC, one negative operator ranges over a number of variables. In the same way that languages vary as to whether they admit WH-absorption (English and French do, Italian does not), languages vary as to whether they allow for NC (French and Italian do, standard English does not, Black English and other English dialects do (cf. Labov 1972; Ladusaw 1991)).

There is an asymmetry between interrogative and negative constituents, though. In languages without NC multiple occurrence of negative constituents has a double negation effect. We shall see that even in languages with NC, multiple negative constituents sometimes fail to give rise to NC readings, leading to DN (cf. Haegeman and Zanuttini (forthcoming) and also the discussion in chapters 3 and 4). In the case of sentences with multiple WH-elements, only the absorption strategy is possible. If the absorption strategy fails (or is not available) then there is no interpretation analogous to double negation.⁷ This may be a function of the semantics of the WH-operator: we might argue that the interrogative operator intrinsically must range over a sentential domain. One way of interpreting this is to relate the presence of the WH-operator to an inflectional feature of the clausal projection as such, say T (cf. Laka 1990, Zanuttini 1991). Negative operators can range over a clausal domain, resulting in a sentential negation; but we have also identified positive sentences containing a non-clausal, local negation, i.e. sentences where the negative operator has scope over a constituent only. I return to the contrast in chapter 6. There is apparently no WH-equivalent of constituent negation, whereby the scope of the WH-operator would be restricted to a domain lower than the clause.

1.1.5 That-trace effects and LF movement

The scope properties of negative constituents are usually expressed in terms of LF movement. This type of analysis accounts for ECP effects as illustrated in (27) (cf. Rizzi 1982; Kayne 1981, 1984):

- (27) a. Je ne demande que tu dises rien.
 I *ne* demand that you say (subj) nothing
 'I don't ask that you say anything.'
 b. *Je ne demande que personne dise cela
 I *ne* ask that no one say (subj) that

In (27a) *ne* serves as a scope marker for the negative object *rien* in the embedded clause. In the classical GB approach it is proposed that in order to attain matrix scope the quantifier *rien* undergoes QR (chapter 1, section 1.2.3): it moves to adjoin to the matrix clause at LF.

- (28) [AgrP rien [AgrP je ne demande [CP que [AgrP tu dises t]]]]

(27b) is ungrammatical. The ungrammaticality of (27b) is analogous to the *that*-trace effect in (29):

- (29) a. *Who did you think that t would arrive first?
 b. Who did you think would arrive first?

In (29a) the extraction of *who* results in a configuration where the subject trace fails to be properly governed. The ungrammaticality of (27b) is accounted for in similar terms if we adopt the hypothesis that at LF *personne* ('no one') undergoes QR. This movement would lead to the following representation:

- (30) *[AgrP Personne [AgrP je ne demande [CP que [AgrP t dise cela]]]]

Anticipating the discussion in 1.1.6 below, observe that (27b) is much improved if the embedded clause has a negative object:

- (31) Je n'exige que personne dise rien.
 I *ne* ask that no one say nothing
 'I don't ask that anyone say anything.'

Apparently the licensing of the negative subject *personne* in (31) is parasitic on the LF movement of *rien*.

The French data can be replicated for Italian (cf. Rizzi 1982):

- (32) a. Non pretendo che tu dica niente.
 non I-ask that you say (subj) nothing
 'I don't ask that you say anything.'
 b. Non pretendo che nessuno dica questo.
 non I ask that no one say (subj) that
 *I don't ask that anyone say that.'
 'I don't ask that no one say that.'

- (33) Non pretendo che nessuno dica niente.
non I ask that no one say (subj) nothing
 'I don't ask that anyone say anything.'

(Rizzi 1982: 175, fn. 12)

In (32a) *niente* must have matrix scope; in (32b) *nessuno* cannot have matrix scope. As seen in (33) the addition of the negative object *niente* with matrix scope licenses a wide scope reading for *nessuno*.

Observe that the scope of the embedded negative constituent in (32a) is delimited by a strong locality requirement:

- (34) a. Non domando di poter dire niente.
non I demand to be able to say nothing
 'I don't ask to say anything.'
 b. Non domando di non poter dire niente.
non I ask to *non* can say nothing
 'I don't ask not to be able to say anything.'

In (34a) the scope of *niente* is determined by *non* in the matrix clause. In (34b) *niente* cannot have matrix scope; its scope is restricted by the *non* associated with non-finite *potere*. The contrast between (34a) and (34b) is not expected under the traditional Relativized Minimality account. Let us assume that *niente* undergoes movement at LF to the scope marker *non*. *Niente* is an argument, it receives a referential index, which allows it to connect to its trace by binding.⁸ As a consequence, we would expect that it can move across a negative island (1.1.3). Yet the intervening *non* associated with *potere* in (34b) apparently blocks association of *niente* with the matrix *non*. This suggests that movement of *niente* to the matrix *non* creates a chain which must be established by antecedent-government, an unexpected result. We return to these data in chapter 4.

If we assume that sentences with NC can be assimilated to multiple wh-questions, and that the negative constituents undergo LF movement to attain one single scope position (a proposal which I will elaborate in section 2) then we also expect this type of movement to give rise to ECP effects, as is indeed the case. To give one more example: *that*-trace effects of the type illustrated in (30)–(34) are also found in NC dialects of English. In the examples in (35a) and (35b) speakers of NC dialects will allow for the negation in the lower clause (*nothing*) to be interpreted as entering into a NC relation with the higher negation (*not* in (35a) and *nobody* in (35b)). This type of reading would be achieved by moving the lower negative constituent to the higher clause. In (35c) and (35d)

movement would have to be from a subject position giving rise to a characteristic *that*-trace effect. These examples receive a DN Reading, also in dialects which have NC.

- (35) a. I didn't say that you could buy nothing.
 b. Nobody said that John bought nothing.
 c. I didn't say that no one had called while you were out. (DN)
 d. Nobody said that no one had called while you were out. (DN)
 (Ladusaw 1992: 92–3)

1.1.6 *Connectedness effects and negation*

Negative constituents which undergo negative absorption and give rise to NC also display so-called connectedness effects (Rizzi 1982: 175; Kayne 1984: 175; Longobardi 1987). We have already illustrated connectedness effects in French (31) and Italian (33) where the subject negative phrases are licensed by LF movement of an object negative phrase. In this section I give another example.

(36a) is ungrammatical, (36b) is grammatical. Apparently the presence of the negative constituent *niente* in the matrix clause is decisive: the negative quantifier (*nessuno*) is licensed by the post-verbal negative constituent in the matrix clause.

- (36) a. *Non fa questo lavoro [per aiutare nessuno].
non does this work to help no one
 b. Non fa niente [per aiutare *nessuno*].
 (Zanuttini 1991: 166 (269), (270), adapted from Longobardi 1987)

Observe that the mere presence of a negative constituent in the matrix clause does not suffice to license a negative constituent in the adjunct clause. In (36a) the presence of *non* is not sufficient. One might claim that this is because *non* is a head and the negative constituent in the adjunct is an XP, but observe that in (37) even the presence of a negative subject, i.e. a negative XP, fails to license the negative constituent in the adjunct clause:

- (37) *Nessuno fa questo [per aiutare nessuno].
 no one does this to help no one

We also return to these data in chapter 4. Longobardi (1987) signals that the data in (36) are parallel to the licensing of *wh* *in situ* as discussed by Kayne (1981, 1984: 8.2.2.): when a *wh*-phrase violates the ECP in a construction of the type (38a), the addition of another *wh*-phrase will neutralize the violation as is shown in (38b):⁹

- (38) a. *We're trying to find out which man said that which woman was in love with him.
 b. We're trying to find out which man said that which woman was in love with which boy.

Another parallel to the pattern in (35) and (36) is the parasitic gap structure (Chomsky 1981; Kayne 1984) illustrated in (39):

- (39) a. ??Which papers did you file the abstracts [without reading t?]
 b. Which papers did you file t [without reading e?]

In (39a) extraction of *which papers* out of the adjunct clause leads to unacceptability; in (39b) the presence of a trace in the matrix clause licenses the non-overt complement, represented as *e*, in the adjunct clause. In the literature the non-overt object of *reading* in (38b) is referred to as a parasitic gap: it is a non-overt element which is parasitic on the presence of a parallel non-overt element. By analogy, we could say that in (36b) *nessuno* in the adjunct clause is a parasitic negative constituent. We discuss parasitic negation in chapter 4, section 3.1.5.2.

1.2 A first analysis in the generative tradition: Klima (1964)

Klima's work on negation (1964) offers a unified syntactic analysis which accounts for the parallelisms in the distribution and interpretation of negative and interrogative elements. I summarize those points of his analysis which will have relevance for the present book. For further discussion I refer the reader to Klima's own text.

1.2.1 Interrogative sentences

Klima (1964) proposes that

the initial expansion of S(entence) may optionally include, aside from the Predicate and the Nominal functioning as subject, also the symbol *wh*. One of the functions of *wh* is to relate questions grammatically to the declaratives that those questions correspond to. Thus, 'Will someone see something' and 'Someone will see something' are related at the level of constituent structure by the absence versus the presence of the constituent *wh*...

- [40] S → (wh) Nominal – Predicate

(Klima 1964: 250–1)

Klima's paper was written in the early stages of generative grammar, notably when the status of subordinating conjunctions such as *that* and *if* was not clearly established.

Klima proposes that WH-constituents are not base-generated as such. Rather elements such as *who* or *what* are composed of two separate components at D-structure. One is the pre-sentential WH-constituent, represented as *wh* in (40) above, and the second component is an indefinite constituent – corresponding to *something*. The latter is incorporated by the WH-constituent:¹⁰

(41) Incorporation into *wh* (optional)

wh-somebody-Predicate → wh + somebody-Predicate
 wh-Nominal-Aux-Verb-something → wh + something-Nominal-Aux-Verb

Constituent questions differ from the corresponding declaratives by the presence of the WH-constituent. This element triggers the movement of the indefinite to an initial position. In Klima's approach, WH-movement is movement of an indefinite constituent towards *wh*. In the current terminology Klima's constituent *wh* could be reinterpreted as a functional head carrying a WH-feature. An 'interrogative sentence' then is characterized by a WH-feature on a functional head.

A second difference between declaratives and interrogatives is restricted to root interrogatives: the presence of the pre-sentential *wh* triggers inversion of the auxiliary and the subject. This transformation is referred to as WH-attraction:

[42] wh-attraction

wh(+ something)	[somebody]	Nominal	[Tense-will-see-X]	Predicate	→
1	2	3	4		
wh(+ something)	Tense-will	[somebody]	Nominal	see-X	
1	3	2	4		

(where *X* contains an object Nominal if *something* is not attached to *wh*)

(1964: 253)

As is the case for constituent questions, *yes/no* questions are characterized by the presence of the pre-sentential WH-constituent. In root *yes/no* questions *wh* again triggers subject-auxiliary inversion. Klima proposes that the pre-sentential WH-constituent is deleted in root *yes/no* questions by deletion rule (43); in subordinate clauses a WH-constituent

which does not incorporate another constituent is spelt out as *whether* or *if*.

(43) wh-deletion

wh-Nominal → 0-Nominal

(1964: 253)

One problem that arises for Klima's approach is that it is hard to see how to derive sentences such as (44) with multiple WH-constituents: his analysis crucially develops the hypothesis that there is one pre-sentential WH-constituent per clause. Also, the fact that *to whom* in (44) does not undergo movement is problematic. Klima himself does not deal with multiple WH-questions.

(44) Who did what to whom?

1.2.2 Negative sentences

Klima treats negative sentences on a par with interrogative ones: negative sentences are characterized by the presence of *neg*, a pre-sentential constituent dominated immediately by S:

the reflexes of the pre-verbal particle *neg* are located within certain major constituents of the *S*(entence): (a) within the *Aux*(iliary) in sentences like 'Writers have *not* been accepting invitations', (b) as part of the subject Nominal in '*Not* much rain fell', and (c) as part of an adverb of Place in 'They went *nowhere*', (d) within a prepositional modifier in 'The writers of *none* of the reports thought so', (e) within an infinitival complement in 'I will force you to marry *no one*.' The fact that the reflexes of *neg* appear in such a variety of constituents leaves us without any reason, in the basic form of such sentences, to assign *neg* to any of these constituents. The fact that the pre-verbal particle *neg*, regardless of whether it appears ultimately as part of a Noun or adverb of Place or *Aux*(iliary), and the like, motivates the occurrence of the indefinite quantifiers *any*, *anyone*, and so on, regardless of their constituency, is an argument against attributing the origin of *neg* (that is, its derivation at the level of constituent structure) to the expansion of any one such constituent like Nominal, adverb of Place or *Aux*(iliary), in which it ultimately appears. Let us assume that *neg* appears, optionally, as part of the expansion of *S*(entence), alongside of (a) the interrogative marker *wh*, which is also optional, (b) the subject Nominal, and (c) the Predicate. By this assumption, the constituent structure of *neg* is related to that of *wh*. This relationship is not arbitrary. *Neg* is similar to *wh* both in its constituent structure and in its relationship to the symbols with which it occurs. The effect of the pre-verbal particle *neg* in motivating the occurrence of indefinites is matched by the similar

effect of *wh*, which similarly has as its scope the whole sentence. Moreover, *neg* shares with *wh* not only the possibility of attachment with a great variety of constituents, but also the capacity of motivating inversion.

[45a] Who (*wh* + someone) will accept suggestions?

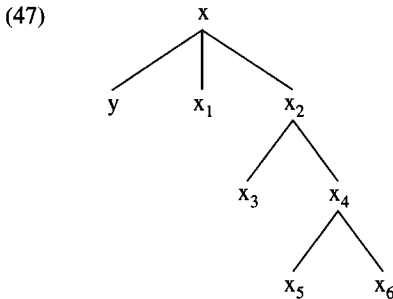
[45b] No one (*neg* + anyone) will accept suggestions

[46a] When (*wh* + sometime) will he marry again?

[46b] Never (*neg* + ever) will he marry again.

Again, as was the case for Klima's *wh*, *neg* could be reinterpreted as a NEG-feature associated with a functional head. A 'negative sentence' would formally be characterized by the feature [NEG] on a functional head.

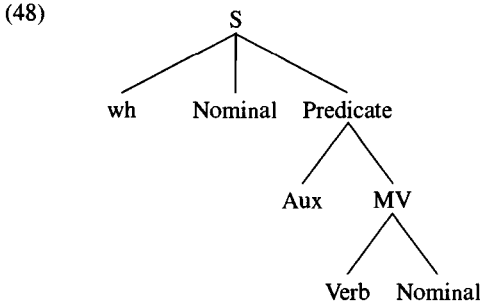
Klima defines the scope of *neg* and of *wh* in terms of the relation 'in construction with', which is the converse of the notion 'c-command' (chapter 1, 1.1.2, (5a)):



A constituent (for example, x^4 or x^5) is 'in construction with' another constituent (in this case x^3) if the former is dominated by (that is, occurs somewhere lower down the branch of) the first branching node (that is, x^2) that dominates the latter (x^3). Similarly, y is 'in construction with' x^1 as well as with x^2 since y is dominated by x (in fact, all three, y , x^1 and x^2 are 'mutually in construction'). On the other hand, y is not 'in construction with' x^3 since y is not dominated by x^2 . The rules and diagram of [47] are the same as the initial expansions in the description of the constituent structure of the S(entence).

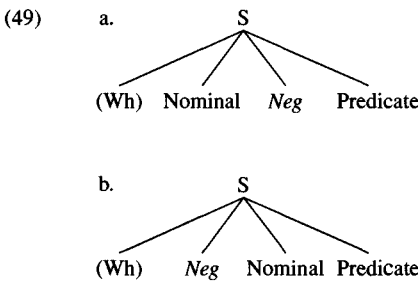
(1964: 297)

If y is in construction with x^1 , then x^1 c-commands y . On the other hand, y is not in construction with x^3 and conversely x^3 does not c-command y . In the clause structure adopted by Klima, the entire S will be in the scope of pre-sentential *wh*.



Concerning the position of *neg* Klima says:

The precise position of *neg* in the string consisting of the subject Nominal and the Predicate, is, however, not as clear as that of the interrogative marker *wh*. The latter... is described as occurring first in the string that results from one possible expansion of the *S*(entence) that is, $S \rightarrow wh\text{-Nominal-Predicate}$. The reasons for selecting initial position as basic for *wh* include the fact that in the final shape of sentences – and particularly in interrogative clauses (indirect questions) – *wh* and its attachments do in fact occur initially. The original position of *neg* appears to be one of the following (a) before the Predicate... or (b) before the whole declarative clause...



(1964: 297-8)

To account for the preposing of negative constituents, Klima generalizes the incorporation process as triggered by the pre-sentential constituents: both *wh* and *neg* incorporate indefinites:

[50] *Indef*-incorporation

$$\left\{ \begin{array}{l} wh \\ neg \end{array} \right\} X\text{-Quant-}Y \rightarrow \left\{ \begin{array}{l} wh \\ neg \end{array} \right\} X\text{-Indef} + \text{Quant-}Y$$

(1964:299)

When unattached to other lexical material NEG is spelt out as *not*. A rule of *not* placement ensures that *not* ends up in the Aux position.

The proposal allows us to generalize the rule for subject-auxiliary inversion found both with interrogatives and negatives. Both types of inversion are triggered by the relevant feature ([WH] or [NEG]).

Recall that not all constituents containing a negative marker trigger subject-auxiliary inversion.

- (51) a. Not even two years ago could you enter without paying.
b. Not even two years ago you could enter without paying.

In (51a) the negated PP has sentential scope; in (51b) it has 'local' scope. Sentential negation is represented by the pre-sentential *neg*; local negation is also represented as *neg* but local *neg* is differentiated from sentence negation by the fact that it is not immediately dominated by S. Since *neg* in (52) does not c-command any material outside the constituent labelled *Time* its scope will be internal to that constituent:

- (52) Time → (*neg*) two years ago

Klima's treatment of negation exploits the similarities between negative and interrogative sentences. Both types are ultimately reduced to the presence of a pre-sentential constituent, which incorporates indefinites to produce quantificational constituents with a negative or interrogative feature.

As was the case for interrogatives, the rule of *neg*-Incorporation is problematic when we consider examples with multiple occurrences of negation. (53a) is an example taken from Lasnik (1972). The approach is also problematic when we consider Negative Concord, illustrated in (53b)–(53d) (from Ladusaw 1991: 87; his (19b–d)):

- (53) a. Not many of the arrows didn't hit the target. (Lasnik 1972: 6)
b. No dogs didn't chase Felix.
c. No dogs didn't chase no cats.
d. No dog chased no cats. (Ladusaw 1991:87)¹¹

Klima's approach would have to be modified in order to account for the distribution of negative constituents in languages like Italian. Consider the examples in (54):

- (54) a. Maria non ha telefonato.
Maria *non* has called
'Maria did not call.'

- (54) b. Nessuno ha telefonato.
 no one has telephoned
 'No one telephoned.'
- c. Non ho mai detto niente a nessuno.
non have never said nothing to no one
 'I never said anything to anyone.'
- d. Nessuno ha detto niente.
 no one has said nothing
 'No one said anything.'

As is known there is an asymmetry between pre-verbal and post-verbal negative constituents in Italian. I return to these data in chapter 4. At first sight Klima's account gives an interesting way to analyse the data. We might argue that *non* is the overt reflex of *neg*, and that it disappears in (54b) because *neg* had incorporated a quantifier resulting in *nessuno*. But if *non* in (54c) is the overt reflex of *neg*, and if *nessuno* is NEG + a quantifier then it is not clear how to analyse (54c): here both *neg* (i.e. *non*) and *nessuno* are present. Similarly in (54d).

1.2.3 Affective elements

Klima unifies his analysis of interrogative and negative sentences and extends it to include restrictives, conditionals and adversatives:

As for the grammatical similarities of *neg*, *wh*, and *only*, these will now be described as resulting from the presence of a common grammatico-semantic feature to be referred to as *Affect(ive)*. Any *Quant(ifier)* in construction with a constituent that contains the feature *Affect(ive)* may ultimately appear as an indefinite.

A further consequence of the presence of the feature *Affect(ive)* is that in pre-sentential position, morphemes containing that feature motivate inversion ... Thus the individual rules of inversion described by *neg*-attraction... and *wh*-attraction... are generalized and extended to pre-sentential *only* by a rule of *Affect*-attraction.

[55a] *Indef*-incorporation...

$$[Affect]^{GSF} X-Quant-X \rightarrow Affect-X.Indef+Quant-Y$$

Condition: Quant is in construction with the constituent containing Affect

[55b] *Affect*-attraction ...

$$[Affect]^{GSF} Nominal-aux^1-aux^2 = Affect-aux^1-Nominal-aux^2$$

Where the constituent containing the feature *Affect* may have other constituents incorporated into it.

Klima treats Affect, i.e. *neg* or *wh*, as an independent grammatical feature present on a D-structure morpheme. As already mentioned, in the current framework it would appear natural to assume that the feature is instantiated on a functional head.

Concerning the choice of the term ‘affective’, observe that the feature AFFECTIVE is also shared by so-called ‘affective words’ such as *doubt*, *afraid*, *unwilling*, *deny*. In the literature affective verbs are opposed to factive verbs such as *regret* (cf. Kiparsky and Kiparsky 1971). Factive verbs presuppose the truth of their complements, affective, or non-factive, verbs don’t.

- (56) a. He denies that he has been there.
b. He regrets that he has been there.

(56b) presupposes the truth of its complement, ‘he was there’; (56a) does not.

Affective verbs such as *doubt*, *deny* etc. are inherently negative. These verbs license a polarity item in a complement clause (56c). They do not license polarity items as their direct objects (56d):

- (56) c. He denies/doubts that anything happened.
d. *He denies/doubts anything.

Laka (1990) and Progovac (1991) propose that affective verbs select a complement whose C° is assigned the feature [+NEG]. The NEG-feature in C° licenses the polarity items. For the interpretation of [+NEG] in C° the reader is referred to Progovac (forthcoming). For a different approach see also Branigan (1992).

1.3 Lasnik (1972)

Lasnik’s analysis of negation elaborates the approach developed by Klima (1964), taking into account developments of the generative framework. Whereas Klima assumes a single source (pre-sentential *neg*) for *not*, Lasnik provides two positions for sentential negation: the pre-sentential position and Aux. This move allows us to derive English sentences like (53a) above, where a sentence-initial constituent with *not* co-occurs with a second occurrence of *not* associated with Aux. Again, Lasnik’s analysis is not obviously equipped to deal with NC between multiple negative constituents.

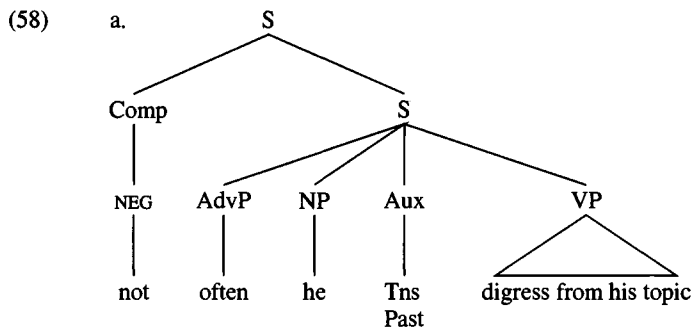
An interesting property of Lasnik's analysis and one that we will pursue below is the intimate link he establishes between the sentential operators and the functional heads *Comp* – i.e. *C* in our framework – and *Aux* – i.e. the functional heads that make up the *I* complex in our framework. *WH* and *NEG* are features associated with the heads of the clausal projections, *C* being the head of *CP*, and *I* being the head of *IP*. Moreover, subject-auxiliary inversion, a process triggered by the presence of the *WH*- or *NEG*-features leads to the movement of *I* to *C*. In his analysis of interrogative sentences, to which I return in section 2, Rizzi (forthcoming) relates the feature [*WH*] directly to the (embedded) *C*-node and to the (root) *I* node.

Lasnik proposes that the pre-sentential constituents *WH* and *NEG* are generated under *COMP* (1972: 19). This option seems entirely natural in the case of interrogatives where the presence of the *WH*-feature determines the shape of the complementizer: an embedded *COMP* which is [+*WH*] and which is not associated with an indefinite constituent is realized as *whether* or *if*; a *COMP* which lacks the interrogative feature is realized as *that*. It is perhaps less obvious how to relate *C* with *NEG*. The more natural head to relate to *NEG* seems to be *I*, i.e. *AUX* in Lasnik's framework (for the relation between *NEG* and *C* see also Progovac forthcoming).

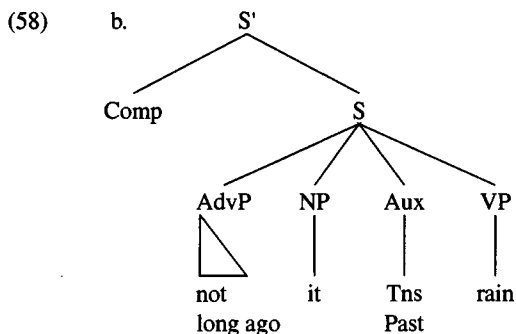
In order to distinguish between negative elements that trigger inversion (*not often* in (57a)) and those that don't (*not long ago* in (57b)) Lasnik follows Klima (cf. above) and proposes that the two be assigned different structures in terms of the position of *not*. In *not long ago* (57b) *not* is not the pre-sentential particle, i.e. is not generated under *COMP*, but is a part of the constituent with which it is associated at *D*-structure. Its scope is restricted to that constituent. *Not* in *not often* (57a), on the other hand, would be generated under *COMP* and *often* moves towards the initial position and then combines with *not*.

- (57) a. Not often does he digress from his topic.
 b. Not long ago it rained.

The structure of (57a) would be (58a); subject-auxiliary inversion is triggered by *NEG* under *COMP*:



The structure of (57b) is (58b): as Comp does not dominate NEG, there is no trigger for subject-auxiliary inversion.



If the NEG-feature is base generated at the clausal level, it takes clausal scope. If it is base generated at a constituent level, it takes local scope. At S-structure, Lasnik assumes that NEG and the preposed AdvP in (58a) form one constituent. It is not obvious how this effect can be achieved:

It is my intuition that strings such as *not many men*, *not often* are surface structure constituents. I have no conclusive syntactic arguments that this is the case, but I will assume that they are constituents by some stage in the derivation. To produce such derived structures, I propose that there is a late rule, perhaps more an 'adjustment rule' than a transformation, that rebrackets sentences with initial *not*. By the operation of this rule, which I will call *Not Adjustment (NA)*, *not* is incorporated into the first constituent to its right.

(Lasnik 1972: 12–13)

The consequences of the proposal developed in Klima and subsequently elaborated in Lasnik's approach is that we need a rather powerful adjustment rule to generate sentences such as:

(59) Under no circumstances will I do it.

If these are analogous to the examples above then we have to conclude that underlyingly the negative feature has to be separated out from the preposed constituent.

(60) NEG under any circumstances

The lowering of NEG in (60) will have to reach into the complement of the preposition. Under an approach in which the PP *under any circumstances* raises to NEG, the amalgamation also gives rise to problems.

2 The *AFFECT-criterion*

Section 1 above is a non-exhaustive survey of the parallelisms between interrogative sentences and negative sentences, and of some of the early generative literature on negation. We have identified a trend towards unifying the approach to interrogative and negative sentences. Many of the proposals cannot be implemented without modification in the current framework, but the leading idea, that negative sentences and interrogative sentences are related, is worth pursuing, it seems to me. In the next section I will develop this line of enquiry.

2.1 *Spec-head agreement and the AFFECT-criterion*

Affective elements like interrogative *who* and negative *no one* are usually generated as D-Structure constituents which are associated with an affective feature, such as [WH] or [NEG]. The idea that there is an independent feature [WH] or [NEG] in the clause is also maintained; such a feature is associated with a functional head. In order to account for the syntactic phenomena described in section 1 and involving affective operators such as WH-constituents and NEG-constituents, Rizzi (forthcoming) proposes that affective elements are subject to a licensing requirement stated in terms of Spec-head agreement. This requirement is formulated in Haegeman (1992b) as the *AFFECT-criterion*:

- (61) *AFFECT-criterion*
- a. An *AFFECTIVE* operator must be in a Spec-head configuration with an [*AFFECTIVE*] X^o
 - b. An [*AFFECTIVE*] X^o must be in a Spec-head configuration with an *AFFECTIVE* operator.

As the reader will observe, the AFFECT-criterion can be subsumed under the more general checking requirements in the Minimalist Program discussed briefly in chapter 1, section 1.4.1.2. Affective lexical items have morphological features that have to be checked against features in the functional head positions. What is characteristic of the AFFECT-criterion is that it concerns the checking of an operator feature, i.e. an A'-feature.

2.2 *The WH-criterion (May 1985; Rizzi 1990b, forthcoming)*

2.2.1 *Introduction*

One instantiation of the AFFECT-criterion is the WH-criterion, first proposed in May (1985) and elaborated and discussed in detail in Rizzi (1990b; forthcoming):

- (62) WH-criterion (May 1985; Rizzi forthcoming: 2)
- a. A WH-operator must be in a Spec-head configuration with an X° with the feature [WH];
 - b. An X° with the feature [WH] must be in a Spec-head configuration with a WH-operator.

The following definitions obtain:

- (63)
- a. WH-operator: a WH-phrase in a scope position.
 - b. Scope position: left-peripheral A'-position, i.e. an adjoined position [YP, XP] or a specifier position [Spec,XP].

In Rizzi's approach the WH-feature, which characterizes a sentence as interrogative, is located on the C of embedded clauses.¹² In root clauses the WH-feature is associated with an inflectional head. In a split-Infl approach WH could be associated with T, or perhaps with the functional head which carries Mood features (Pollock 1993). Recall that Lasnik (1972) already associated operator-related features such as [WH] and [NEG] with Comp, i.e. C in our framework, and with Aux, i.e. I, or T and Agr, in the current approach.

The WH-feature is also associated with the WH-constituent. Unlike Klima and Lasnik, who postulated a single occurrence of WH, Rizzi postulates at least a double occurrence of the feature: the feature is instantiated on the clausal head, and the feature is also instantiated on a phrase. The relevant head and the phrase must then be checked against each other. One immediate advantage of this approach is that it allows

for multiple occurrences of WH-constituents, a phenomenon which Klima's or Lasnik's approach was not able to deal with.

2.2.2 The level of application of the WH-criterion

Rizzi develops his analysis against the background of the classical GB-model, with the three level syntax. The WH-criterion must be satisfied at LF at the latest, but, as will be illustrated by the discussion of (64), it applies as early as S-structure in English. Consider the data in (64a)–(64c):

- (64)
- a. *I wonder you saw who.
 - b. I wonder who you saw.
 - c. *She thinks where Mary went.

In (64a) and (64b) *wonder* selects an interrogative CP, i.e. a CP whose head C has the feature [+WH]. (64a) violates clause (62b) of the WH-criterion: the head carrying the WH-feature does not have a matching specifier. Observe that by the functional definition of the WH-operator (63), the fact that *who* remains in its base position in (64a) as such does not give rise to a violation of the WH-criterion: by the definition *who* in (64a) is not an operator. (64b) is grammatical: WH-movement has moved *who* to [Spec,CP], where it has the required Spec-head relation with the WH-head, C. (64c) is ungrammatical because the WH-operator *where* in the lower [Spec, CP] does not have a Spec-head relation with a WH-head: *think*, unlike *wonder*, does not select an interrogative CP.

(64d) is a root interrogative: the WH-operator *who* has moved to [Spec,CP]. Following Rizzi, we assume that in root clauses the WH-feature is located on a functional head of the Infl system: I-to-C movement in (64d) creates the desired Spec-head relation. (64e) is ungrammatical: the WH-phrase *who* in [Spec,CP] qualifies as an operator and it is not in a Spec-head relation with a head which carries a WH-feature.

- (64)
- d. Who did she meet at the airport?
 - e. *Who she met at the airport?

2.2.3 The functional definition of operators

Consider the multiple WH-interrogatives in (65):

- (65)
- a. I wonder what you gave to whom.
 - b. What did you give to whom?

- c. I wonder which of the students borrowed t from you which of the theses.

(Rizzi forthcoming: 10)

In each of the examples one WH-element occupies [Spec,CP], the second one does not occupy [Spec,CP].

Consider (65a), an example of an embedded multiple WH-question. At S-structure the WH-criterion is met. *What* is in [Spec,CP]. By the functional definition (63) *what* is a WH-operator; it has a Spec-head relation with the WH-head, C. With respect to the WH-element *in situ*, *to whom*, Rizzi appeals to the functional definition (63):

the WH-element *in situ* is in an A-position, therefore it does not qualify as an operator under the functional definition [63], hence clause [62a] of the WH-criterion does not apply to it and no violation is produced at SS.

(Forthcoming: 8)

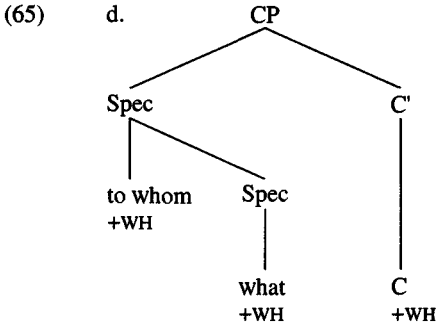
At LF *to whom* raises to a scope position:

It is also necessary to assume that the functional definition ... holds at DS and SS, whereas at LF it is superseded by a stronger principle according to which all elements endowed with intrinsic quantificational force are operators at this level, and must be moved in an appropriate scope position ... This principle is best to be restricted to non-discourse linked WH-phrases along the lines of Pesetsky (1987).

(Rizzi forthcoming: 22, fn. 5).

The second passage is slightly misleading, it seems to me, in that it suggests that the movement of WH-phrases is triggered solely by their quantificational force. On the other hand, in the earlier discussion cited above, Rizzi (1990a) proposes that quantifiers and affective operators are subject to two distinct mechanisms: both must end up in an A'-position, but the former are adjoined to IP (or AgrP), so the latter must be in a specifier position. In the present book I restrict the discussion to operators, leaving the requirements on quantifiers in more general terms out of the picture.

Following Lasnik and Saito (1984) let us assume that WH-raising adjoins the WH-constituent to [Spec,CP] at LF (cf. chapter 1, section 1.7).



WH-absorption factors out the WH-feature from the multiple specifiers to yield one instance of interrogative force to the clause.

I propose that WH-absorption is a by-product of the WH-criterion. At LF all WH-operators must meet the WH-criterion. If there is only one functional head which is marked [+WH], all WH-operators must have a Spec-head relation with that unique head with the relevant feature. I would like to propose, though, that the Spec-head relationship is bi-unique, i.e. that each head has one specifier. This proposal is also in line with recent developments in the theory of phrase structure (Kayne 1993). Because of the bi-uniqueness of Spec-head relation multiple specifiers are not licit, they will undergo absorption and merge to be amalgamated into one specifier. The actual process of absorption can be represented by coindexation (cf. May 1985), subsequent to multiple adjunction to [Spec,CP].

In an economy-based approach WH-absorption could also be seen as a result of Full Interpretation (cf. chapter 1, 1.2.4.2): WH-constituents are intrinsic operators; we assume that operators can only be interpreted when associated with a scope position, specifically WH-operators must be associated with [Spec,CP]. WH-constituents which have not moved to [Spec,CP] in the syntax must be associated with that position at LF; otherwise these WH-constituents will remain uninterpretable as operators and the representation will contain uninterpreted symbols.

(65b) is parallel to (65a). (65c) is an instance in which one WH-constituent meets the specifier head requirement, the other one, *which of the theses*, has been shifted to a right-peripheral position. (65c) is compatible with the WH-criterion if we take into account the functional definition of operator in (63): specifically, the definition is stated in terms of left-peripheral positions. According to the traditional approach to

heavy NP shift (chapter 1, section 1.5.2), the moved WH-phrase in (65c), *which of the theses*, is in a right-peripheral position, hence it is not an operator by the functional definition.¹³

Consider also (65e):

(65) e. *She will meet whom at the airport?

(65e) is ungrammatical, unless it has an echoic reading. Following the discussion above, it is not the fact that *whom* is *in situ* which gives rise to the ungrammaticality. At S-structure, by (63) *whom* is not an operator, it does not violate clause (62a) of the WH-criterion. We might assume that the Infl node (*will*) of (65e) does not carry the WH-feature. This means that the S-structure of (65e) does not violate clause (62b) of the WH-criterion either. However, following Rizzi we assume that *who* will have to be interpreted as an operator at LF. By (62a) it has to attain a Spec-head relation with an X° which has the matching WH-feature. If there is no head with such a feature, then the LF representation of (65e) cannot meet the WH-criterion. Alternatively, we might propose that there is a WH-feature associated with *will* at S-structure in (65e). But then clause (62b) of the WH-criterion is already violated at S-structure: in (65e) the inflectional head which carries the relevant feature will not have a matching specifier. I-to-C movement does not create the desired configuration either:

(65) f. *Will she meet whom at the airport?

2.2.4 *Non-overt operators in root yes/no questions*

There are a number of additional points that have to be mentioned about the implementation of the WH-criterion. Consider (66):

(66) a. Have you seen him?

In this particular example, I-to-C movement has moved the finite V into C, and with it, we assume its WH-feature. However, there is no overt operator which satisfies the specifier head requirement. In order to account for this let us assume that in (66a) the WH-criterion can be satisfied by a non-overt operator with the relevant feature:

(66) b. OP[WH] have you seen him?

This type of analysis is reminiscent of Klima's approach where it is proposed that the element WH is deleted when it has not incorporated any lexical material. The null operator is not syntactically inert: evidence for a

zero *wh*-operator is found in Germanic V2 languages like Dutch and German.¹⁴ Languages like Standard Dutch and Standard German require the finite verb of the root clause to be in second position. This is generally the case, except in root *yes/no* questions where the finite verb occupies the first position:

- (67) a. Komt hij morgen? (Dutch)
 comes he tomorrow
 ‘Is he coming tomorrow?’
 b. Kommt er morgen? (German)
 comes he tomorrow
 ‘Is he coming tomorrow?’

These data do not violate the V2 requirement under the assumption that a zero operator fills the sentence-initial position, and this zero operator will at the same time fulfil the *wh*-criterion. Recall the discussion of (65f), repeated here as (66c):

- (66) c. *Will she meet whom at the airport?

By analogy with (66a), we might argue that *will* carries the feature [*wh*] and that it satisfies the *wh*-criterion by virtue of a specifier head relation with a non-overt *yes/no* operator in [Spec,CP]:

- (66) d. *_{[CP OP [will]_[IP she t meet whom at the airport?]]}

This representation has to be excluded. The ungrammaticality of (66d) follows from constraints on *wh*-absorption. At LF *whom* will have to undergo *wh*-raising and be absorbed by the *yes/no* operator OP in [Spec,CP]. We know that absorption between an overt *yes/no* operator and a *wh*-constituent is excluded in English.¹⁵

- (66) e. *I wonder whether she will meet whom at the airport.

In (66e) *whether* is a *yes/no* operator; it occupies [Spec,CP] and has a Spec-head relation with the embedded C°, which carries the *wh*-feature. At LF *whom* would have to raise to adjoin to *whether*, but this is not possible apparently. A similar explanation would account for the ungrammaticality of (66f) where we assume that *if* is the C° head carrying the *wh*-feature. Again *if* has a non-overt *wh*-operator as its specifier, and again absorption of *whom* is excluded:

- (66) f. *I wonder [_{CP OP [C° if] [_{IP she will meet whom at the airport]]}}

The intervention of the non-overt WH-operator in (66g) gives rise to island effects: long construal of *why* is not possible:

- (66) g. *Why did they wonder [_{CP} OP [if] [_{IP} John was fired t]]

2.2.5 Operator chains and the WH-criterion

The grammaticality of (68a) shows that the intermediate trace of *who* cannot itself count as an operator. If it did, the sentence should be ungrammatical, since *think* does not select an interrogative complement, and *that* is incompatible with the WH-feature:

- (68) a. Who do you think [_{CP} t [_C that] [_{IP} Mary will invite t]]

The same conclusion is reached, inversely, from (68b): if the trace of the operator *who* were interpreted as a WH-operator then we would expect it to satisfy the WH-criterion, contrary to fact (for some complicating factors for this approach cf. Rizzi 1992b, Reis and Rosengren 1992, for further discussion see chapter 4).

- (68) b. *Who do you wonder [_{CP} t' [_C + WH] [_{IP} Bill saw t?]]
 c. *Who I wonder [_{CP} t' [_C + WH] [_{IP} Bill saw t]]

(68) suggests that a chain headed by the WH-operator *who* cannot satisfy the WH-criterion. In (68b), *who* is moved to the matrix [Spec,CP] via the embedded [Spec,CP]. In (68c) *who* is topicalized in the matrix clause, but it moves via the embedded [Spec,CP]. These data cannot lead us to conclude that the operator chain cannot ever satisfy the WH-criterion. The German data of partial WH-movement discussed by McDaniel (1989) show that the WH-criterion has to be stated in terms of operator CHAINS.

- (69) a. Mit wem glaubst du dass Hans t gesprochen hat?
 with whom believe you that Hans talked has
 b. Was glaubst du mit wem Hans t gesprochen hat?
 what believe you with whom Hans talked has
 c. Ich weiss nicht was Hans glaubt mit wem Jakob t gesprochen
 I know not what Hans believes with whom Jakob talked
 hat.
 has

In (69a) *mit wem* ('with whom') moves to the matrix [Spec,CP], the inflected verb *glaubst* ('believe') moves to C, creating the required Spec-head relation. In (69b) *was* marks the scope of the WH-constituent, *mit wem*. The contentive WH-operator *mit wem* occupies a lower [Spec,CP]

position. In (69c) *was* occupies the specifier position of the WH C° of the embedded clause. Rizzi (1992b) proposes that *was* is an expletive operator which is associated with a contentive operator. The *head* of the operator CHAIN satisfies the WH-criterion. Observe that *was* itself serves as the relevant specifier for the WH-head.

- (62) a.' The head of a WH-operator chain must be in a Spec-head configuration with an X°-WH.

The A'-CHAIN formed by *was* and the contentive operator contains two operators: (i) the expletive operator *was*, and (ii) the contentive operator *mit wem*. According to the functional definition *mit wem* is an operator: it is a WH-phrase in a left-peripheral A'-position. We return to A'-CHAINS of this type in chapter 4.

2.2.6 Dynamic agreement

(70) might suggest that in French, the WH-criterion fails to apply at S-structure.

- (70) a. Tu as vu qui?
you have seen whom
b. Qui tu as vu?
who you have seen

In (70a) the inflected auxiliary and the WH-constituent (*qui*) do not occupy the respective head and specifier positions which the WH-criterion would lead us to expect. In (70b) on the other hand, the WH-element occupies a specifier position but the inflected auxiliary has not undergone I-to-C movement. However, we should not deduce that the WH-criterion applies as late as LF in French. The following data from embedded clauses show that it applies at S-structure.

- (70) c. Je me demande qui ils ont invité.
I myself ask who they have invited
'I wonder whom they have invited.'
d. *Je me demande (que) ils ont invité qui.

WH-movement is obligatory in embedded sentences; following the discussion so far, I assume that the movement of the WH-operator *qui* in (70c) provides the appropriate WH-specifier for the embedded C [+WH]; the ungrammaticality of (70d) follows from (62b).

But if (70c) and (70d) support the hypothesis that the WH-criterion applies at S-structure in French, then what about (70a) and (70b)? Let us

first look at (70b). WH-movement has applied: *qui* occupies [Spec,CP] but I (the inflected V) has not moved to C. Rizzi proposes that in French 'a WH-operator can endow a clausal head of the WH-feature under agreement' (forthcoming: 13). This type of agreement is referred to as 'dynamic agreement':

(71) Dynamic agreement: % (French: +, English –)

Op	X	→	Op	X
	WH		WH	WH

(70b) satisfies the WH-criterion at S-structure: *qui* has a Spec-head relation with C, to which it has assigned the feature [WH] by dynamic agreement. As the English equivalent of (70b) is ungrammatical, we assume that dynamic agreement fails to apply to English.

In (70a) dynamic agreement operates at LF, after LF movement of *qui* to [Spec,CP]. The WH-operator endows C with the relevant feature. The question arises if the WH-criterion is met at S-structure in (70a). Rizzi's analysis implies that the WH-feature is not present on the functional head I. If WH were present on I at S-structure, then the WH-criterion would be violated since I does not have an S-structure WH-specifier. Thus at S-structure (70a) is not identified as a question, it has the S-structure of a declarative and becomes interrogative at the interpretive level.

Because English lacks dynamic agreement the equivalents of (70a) and (70b) are ungrammatical:

- (72) a. *Who you have seen?
 b. *You have seen whom?

2.2.7 Parametric variation

There is variation in the way in which the WH-criterion is met. In languages such as English and French only one WH-constituent is fronted to satisfy the WH-criterion. Other languages have multiple movement (cf. also chapter 1). (73) illustrates Russian.

- (73) Kto cto kogda skazal? (Wachowicz 1974, Rudin 1988: 446)
 who what when said
 'Who said what when?'

Languages with multiple fronting include, among others, Polish, Serbo-Croatian, Czech, Bulgarian, Hungarian and Romanian (cf. Brody 1990, 1991, Rudin 1988, Puskas 1992, Toman 1981). In these languages, when a

sentence contains more than one WH-phrase, all the WH-phrases have to be moved to the beginning of the sentence.¹⁶ Following Rizzi's approach we would be led to conclude that in languages with multiple movement the functional definition of a WH-operator is apparently always overridden by the intrinsic definition.

The question arises what distinguishes languages with multiple fronting from those without. An Earliness account (discussed in chapter 1, 1.7.2) is not obviously compatible with a conception of grammar in which principles of economy and last resort play an important part. In such views syntactic movement only takes place when necessary, and is postponed as late as possible. One option would be to say that in languages with multiple movement, the functional definition of WH-operators (63) is always superseded by the intrinsic definition. Alternatively, we might say that the functional definition is a last resort device which is costly. If the grammar of a language allows multiple movement then it can dispense with the functional definition.

We have already discussed one type of cross-linguistic variation with respect to the application of the WH-criterion. In some languages one WH-element is moved to satisfy the criterion, in other languages all WH-elements must move. Another option is represented by Chinese and Japanese. In these languages there is no overt WH-movement. (74) illustrates Japanese.

- (74) a. John-ga dare-o butta ka siranai.
 John who hit Q know not
 'I don't know who John hit.'

Recall that Rizzi assumes that WH-constituents which remain *in situ* in English move at LF and adjoin to the specifier of CP. He proposes that languages may vary parametrically with respect to the level of application of the WH-criterion. In languages without overt movement the WH-criterion applies as late as LF.

2.2.8 Alternative analyses

In the previous section we relate the cross-linguistic variation with respect to WH-movement to the implementation of the WH-criterion. Some languages lack overt WH-movement. In those languages the WH-criterion applies as late as LF. Some languages have overt WH-movement; there the WH-criterion applies as early as S-structure. The difference between languages where one WH-constituent moves and the others stay *in situ*,

and languages with multiple movement relates to the role of the functional definition of the WH-operator (63). In languages with multiple WH-movement, the functional definition of the WH-operator (63) is always superseded by the intrinsic definition. As mentioned in chapter 1 alternative proposals have been formulated in which the WH-criterion generally applies at S-structure. I briefly discuss these here.

2.2.8.1 Watanabe

Watanabe (1991) argues that in languages without overt WH-movement in the syntax there is covert WH-movement. An empty WH-operator is moved to the specifier of CP and the WH-criterion is satisfied at S-structure. The Japanese example (74a) with the WH-constituent *dare-o* ('who') *in situ*, would have the representation (74b), where OP has been extracted from the WH-phrase.

- (74) b. [CP OP_i [John-ga [dare t_i -o] butta] ka] siranai.
 John who hit Q know not

The WH-criterion is satisfied by the Spec-head relation between OP and the WH-feature on C°. In this approach the WH-criterion applies universally at S-structure.

2.2.8.2 Brody (1993b)

Brody (1993b) proposes a representational framework in which syntactic relations are encoded at one level of representation. He discusses the following examples:

- (75) a. Who wondered who bought what?
 b. Who denied the claim that Mary bought what?
 c. Who went there before Mary met who?

In this theory [the radical minimalist approach (LH)] lexical material must be in the same position at LF as it is at PF. Thus the LF structures of [75] will be those in [76], where SM is the empty expletive functioning as a scope marker for the WH-in-situ:

- [76a] SM/x Who wondered who bought what/x
 SM/x Who denied the claim that Mary bought what/x
 SM/x Who went there before Mary met who/x

Recall that the empty scope marker in these structures is an expletive element, different from the contentive category that occurs in cases of 'overt operator movement' of the standard framework. Thus the difference between the two types

of chains could be characterized by reference to whether the head of the chain is an expletive or a contentive element. This would recreate the overt vs. LF movement distinction.

Alternatively, we could distinguish primary and secondary WH-chains in the following way. There is a spec-head requirement imposed on a +WH C: its spec position must be filled by a WH-phrase. Primary WH-chains are headed by a WH-phrase that satisfies this condition. Other WH-chains are secondary. Thus in English all WH-phrases in SPEC-CP are heading primary WH-chains and all WH-in-situ are in secondary WH-chains. ... Subadjacency could be stated as a constraint on primary chains only.

(Brody 1993b: 41-2)

To account for the distribution of WH-phrases Brody proposes the following principle:

(77) Transparency

The contentive category in the chain must be in the highest position licensed by morphology. (1993b: 86)

English and Japanese then differ in that a +WH C in the former but not in the latter language licenses a contentive WH-phrase in its spec position. In Japanese type languages the +WH C licenses only an expletive element, a 'pure' WH-operator, in the sense of Watanabe (1991) ... The English +WH C can license only one WH-phrase while in a multiple WH-movement languages like Hungarian it has the ability to license more than one. Notice that the relevant chain structure is universal: all WH-phrases are in a chain that links a +WH CP spec position and an A-position.

(1993b: 87)¹⁷

The non-overt expletive in (76) has the same role as the overt expletive operator *was* in the German examples of partial WH-movement (69b,c). The CHAIN headed by the non-overt expletive satisfies the WH-criterion (62a'): the head of the CHAIN is in a Spec-head relation with the WH-feature on *did* in C.

If we adopt a formalism like that proposed by Brody, we can dispense with the functional definition of operators. WH-phrases *in situ* are related to a non-overt expletive which satisfies the WH-criterion. I assume that the empty expletive is an expletive operator and represent it as OP.

(78) OP_j when_i did you buy what_j t_i

OP_j and *what_j* form a CHAIN. In a multi-level framework, we could propose that at LF *what_j* moves to OP_j as a form of expletive replacement

(cf. chapter 1, 1.7.4). I will pursue the role of chains/CHAINS and their relation to the AFFECT-criterion in chapter 4.

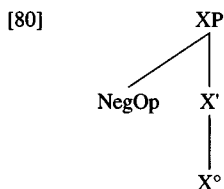
2.3 *The NEG-criterion (Haegeman and Zanuttini 1991)*

Based on the negative inversion data in English, Rizzi (forthcoming) proposes to extend the application of the Spec-head requirement to negative constituents. He discusses the following examples:

- (79)
- a. I would do that in no case.
 - b. *In no case I would do that.
 - c. In no case would I do that.

Rizzi says:

It seems quite natural to try to relate this case to the obligatory application of I to C in questions. The relation between questions and negatives in this context is strengthened by the observation that negation patterns with the WH operators in the selection of a special inflection in the languages discussed in Haik (1990) ... Moreover, questions and negative operators pattern alike in blocking adjunct extraction ... such a blocking effect is due to the fact that these operators differ from other operators in that they fill an A'-specifier position at LF. I would now like to state this scope requirement as resulting from the fact that such affective operators must fulfil at the appropriate level of representation an appropriate generalization of the WH criterion: informally, affective operators must be in a spec-head configuration with a head marked with the relevant affective feature...



(Rizzi forthcoming: 11)

The well-formedness condition which determines the distribution and interpretation of negative elements is formulated as the NEG-criterion (Haegeman and Zanuttini 1991 and forthcoming) and reads as follows:

- (81) NEG-criterion
- a. A NEG-operator must be in a Spec-head configuration with an X° [NEG];
 - b. An X° [NEG] must be in a Spec-head configuration with a NEG-operator.

Where the following definitions obtain:

- (81) c. NEG-operator: a negative phrase in a scope position;
 d. Scope position: left-peripheral A'-position [Spec,XP] or [YP,XP].

(79c) is one example where the NEG-criterion gives rise to syntactic movement analogous to that of the WH-criterion. Recall, though, that not all negative constituents trigger inversion. Anticipating the discussion in chapter 6 I propose that negative constituents such as *not long ago* etc. (cf. section 1.1.2 above) which fail to trigger inversion do not qualify as operators. On the basis of tags with *neither/so* we can establish that negative constituents which fail to trigger inversion have local scope and fail to negate the sentence in which they occur. Negative sentences are sentences which minimally have a NEG-feature associated with a functional head of the extended projection of V, i.e. of the clausal domain.

2.4 The FOCUS-criterion

In Rizzi (1990b, forthcoming) the application of the AFFECT-criterion is explicitly restricted to the domain of affective operators, i.e. negative and interrogative operators. It is quite likely, though, that the domain of application of the criterion is much larger than proposed there. In work on Hungarian, Brody (1990) shows that focussed constituents are subject to a similar requirement for the specifier head configuration. He formulates the following well-formedness condition:

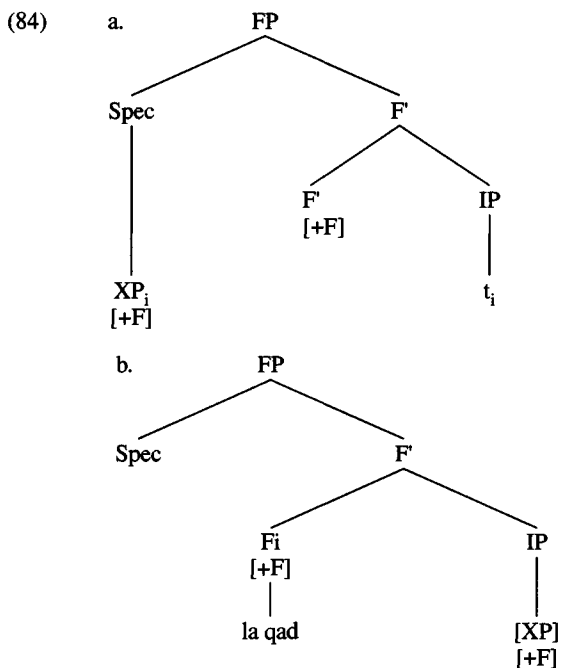
- (82) a. At S-structure and LF the spec of an FP must contain an +f phrase
 b. At LF all +f phrases must be in an FP

(1990: 208)

and he stresses the parallelism with the well-formedness condition on WH-elements. The same analysis is extended to Modern Greek in work by Tsimpli (forthcoming). For interesting discussion of Focus see also Agouraki (1993). The implementation of the FOCUS-criterion to other languages is subject to further study. Let me just point out some examples from recent work. Ouhalla (forthcoming) discusses the distribution of focussed phrases in classical Arabic, where the following judgements hold:

- (83) a. ?allaf-at Zaynabu QUASIIDATAN (*laa kitaban).
 wrote-3fs a poem not a book
 'Zaynab wrote a poem.'
- b. QUASIIDATAN ?allaf-at Zaynabu (laa kitaaban/*laa ?alquat).
 a poem wrote-3fs not a book/not read
 'It was a poem Zaynab wrote (not a book).'
- c. (La) qad ?allaf-at Zaynabu quasiidatan.
 FM wrote-3fs a poem
 'Zaynab did indeed write a poem.'

In (83a) *quasiidatan* ('a poem') is focussed, but it cannot receive contrastive focus, as indicated by the fact that a contrastive discourse continuation is not possible. For contrastive focus two strategies are available: either the focussed phrase is preposed (83b) or it is *in situ* and there is a focus marker sentence-initially (83c). Ouhalla (forthcoming) proposes a structure like that in (84), where the clausal domain is dominated by a functional projection FP, focus phrase, whose head contains the head-marking focus. (84a) is the structure for (83b), with the preposed constituent in [Spec,FP], (84b) is the structure for (83c) with the focal phrase *in situ*:



In Classical Arabic either one or the other strategy is adopted: either the focussed phrase is preposed, or, alternatively, the F head is overtly realized. Preposing a focussed phrase to a specifier of an overtly realized head is ungrammatical. Ouhalla proposes that this follows from the constraint in (85):

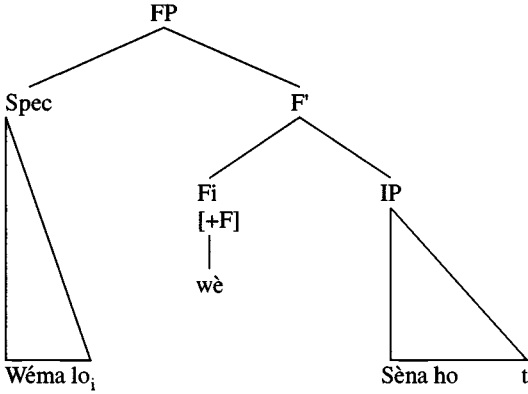
- (85) Identification requirement.
Grammatical features must be identified.

Where identification of the head feature F is achieved either by preposing as in (84b) or by the realization of the head (84c). Since each of these strategies is sufficient to identify the F feature on the functional head, the most economical derivations will be those in which only one of the two strategies is adopted. The application of movement where the head is overtly realized would be less economical and hence ruled out. In its strictest interpretation this view would predict that there are no languages in which focussed elements are preposed while the focal head is overtly realized. This prediction is falsified, for instance, by the data discussed in Aboh (1993). Aboh studies the West African dialect Gun, spoken in Benin. The following data bear on the discussion:

- (86) a. Sèna ho wéma lo (Aboh: 1993: 4)
Sèna buy book the
b. Wéma lo (wè) Sèna ho
book the wè Sèna buy

In (86a) the sentence displays SVO order, in (86b) the direct object *wéma lo* is preposed, and it is optionally, and for some speakers obligatorily, followed by *wè*, a focus marker. Aboh (1993) interprets the data in (86) in terms of an instantiation of the FOCUS-criterion. (86b) has the representation (87):

(87)



If his analysis is on the right track, then (86b) is counterevidence against a strict interpretation of Ouhalla's identification principle: in (86b) preposing occurs simultaneously with the overt realization of the head. Significantly, though, the head *wè* in Gun does not only appear with focussed phrases. It also appears with preposed WH-constituents.

- (88)
- a. *ètè wè Djan zé?* (Aboh 1993: 11)
 what *wè* Djan take
 'what does Djan take?'
 - b. N cambio do *fitè wè Djan yi.*
 I ask that where *wè* Djan go
 'I ask where Djan goes.'

As is the case in Hungarian (Puskas 1992, cf. chapter 1, fn. 3), the landing site of WH-movement is not [Spec,CP]. In Gun, C is realized by *do* in (88b), the preposed WH-phrase lands to its right, and to the immediate left of *wè*. The landing site of WH-movement is also the specifier position of F. In Gun (and indeed in other African languages) the morpheme *wè* which spells out the head [+F] also spells out the head which carries the feature [+WH]. We could say that *wè* is underspecified for the features [+F] and [+WH]. Maybe *wè* simply carries that 'operator' feature. If this is the case, we could argue that simply spelling out *wè* is not sufficient to identify the functional projection as a focal projection, *wè* also would allow one to identify it as an interrogative projection. In an informal sense we could say that Gun *wè* is a weak head, while Classical Arabic (*la*)*qad* is a strong focus head.

A further extension of the use of the type of criterion proposed here is elaborated by Sportiche (1992) who argues that clitics are heads and that

they too give rise to a well-formedness condition imposing specifier-head agreement relations:

- (89) Clitic-criterion
- a. A clitic must be in a spec/head relationship with a [+F] XP
 - b. A [+F] XP must be in a spec/head relationship with a clitic
- (Sportiche 1992: 25)

where [+F] XP is an XP with a particular property, which Sportiche suggests might be 'specificity'. I do not develop this proposal here.¹⁸

3 Scope of the present study

In the present study I examine the implementation of the NEG-criterion in a number of languages.

In chapter 3 we see that like the WH-criterion the NEG-criterion gives rise to NEG-movement at S-structure, including multiple movement. This chapter is based on data from West Flemish.

In chapter 4 we extend the data base and examine sentential negation in a number of Germanic languages (German, Dutch, Afrikaans and English) and in Romance languages (Italian, Spanish, Portuguese and French). Inspired by Brody's discussion, we will pursue an analysis in which the NEG-criterion applies universally at S-structure and which dispenses with the functional definition of the negative operator.

Chapter 5 examines the consequences of the theory of negation developed here for the definition of A- and A'-positions. We also refine our account of negation in West Flemish. The chapter makes extensive use of the concept 'extended projection' (Grimshaw 1991, cf. chapter 1, 1.4.2).

Chapter 6 speculates on the contrast between sentential negation and local negation.

3 *NEG-movement and the NEG-criterion*

1 Introduction

1.1 *Aim and scope*

This chapter illustrates the application of the NEG-criterion, introduced in chapter 2, to West Flemish (WF), a dialect of Dutch. WF is of interest because the NEG-criterion applies in full at S-structure, which leads to overt movement of negative constituents, NEG-movement, and also to multiple NEG-movement.

The chapter is organized as follows. Section 1.2 offers a brief introduction to the syntax of WF. Section 2 is a fairly detailed description of sentential negation in this language. In section 3 we interpret the data presented in section 2 in the light of the NEG-criterion. The characteristic property of WF with respect to the syntax of negation is that the NEG-criterion triggers movement of the negative operator in a way analogous to WH-movement. We refer to this movement as NEG-movement. The NEG-criterion also gives rise to multiple NEG-movement. In section 4 we examine the asymmetries between the NEG-criterion and the WH-criterion in WF. In section 5 we consider the implication of our analysis for the structure of non-finite clauses. We will see that constituents which are often labelled VPs are extended projections of VP. The final section of this chapter discusses the distribution of the negative head *en*.

1.2 The syntax of WF: a brief survey

1.2.1 SOV and V2

WF is a Germanic language whose basic structure is like that of Standard Dutch and Standard German. Specifically, WF is an SOV language subject to the V2 constraint. These properties are illustrated in (1):

- (1)
- a. *da Valère gisteren dienen boek kocht*
that Valère yesterday this book bought
'that Valère bought this book yesterday'
 - b. *Kocht Valère gisteren dienen boek?*
bought Valère yesterday this book
'Did Valère buy this book yesterday?'
 - c. *Valère kocht gisteren dienen boek.*
Valère bought yesterday this book
'Valère bought this book yesterday.'
 - d. *Dienen boek kocht Valère gisteren.*
this book bought Valère yesterday
 - e. *Gisteren kocht Valère dienen boek.*
 - f. *Wa kocht Valère gisteren?*
what bought Valère yesterday
'What did Valère buy yesterday?'

The embedded clause in (1a) is introduced by the complementizer *da* ('that'); the finite verb *kocht* ('bought') occupies the sentence-final position. (1b) is a root *yes/no* question: the finite V *kocht* occurs sentence-initially. (1c)–(1f) are root clauses with V2: in (1c) the subject *Valère* precedes the finite V, in (1d) the object NP *dienen boek* ('that book') is the first constituent of the sentence, in (1e) the time adjunct *gisteren* ('yesterday') occupies the sentence-initial position, and in (1f) the first constituent of the clause is an interrogative element, *wa* ('what').

The WF data in (1) are like those in Standard Dutch and in Standard German, discussed in chapter 1, section 2. I adopt the traditional SOV with V2 analysis outlined in chapter 1: in root clauses (1b)–(1f) the finite V moves to C. [Spec,CP] may be occupied by another constituent, and indeed must be occupied by such a constituent in non-interrogative root clauses. Given that there is only one [Spec,CP] position available, the finite V under C can be preceded by one constituent only.¹

- (2) a. * $[_{CP}$ Valère $[_{CP}$ *gisteren* $[_{C^{\circ}}$ kocht] [dienen boek]].
 Valère yesterday bought that book
 b. * $[_{CP}$ *Gisteren* $[_{CP}$ Valère $[_{C^{\circ}}$ kocht] [dienen boek]].

Following the discussion of the WH-criterion in chapter 2, I assume that in (1b) $[_{Spec,CP}]$ is occupied by a non-overt WH-operator.

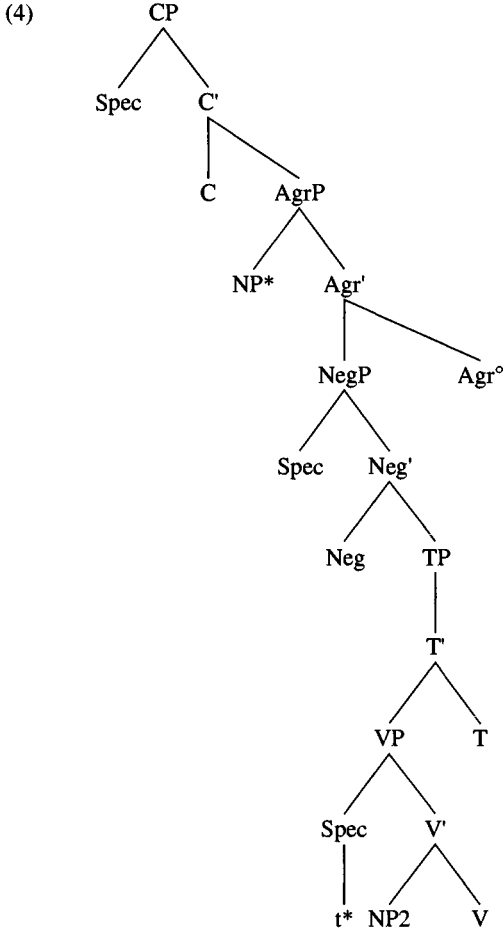
- (2) c. $[_{CP}$ $[_{Spec}$ OP_{WH}] kocht $[_{IP}$ Valère *gisteren* dienen boek]]?

1.2.2. *The split-Infl hypothesis*

In WF the Agr morphology can be distinguished from the T morphology (3); we assume that T and Agr head independent projections.

- | | | |
|-----|------------------|------------------------------|
| (3) | a. Present tense | b. Past tense |
| | ik werk-en | ik werk-tigd-en ² |
| | I work-1sg | I work-past-1sg |
| | gie werk-t | gie werk-tigd-e |
| | zie werk-t | zie werk-tigd-e |
| | wunder werk-en | wunder werk-tigd-en |
| | gunder werk-t | gunder werk-tigd-e |
| | zunder werk-en | zunder werk-tigd-en |

If the functional projections which make up the clausal domain are head final, and adopting the V-movement approach to inflectional morphology (Baker 1985, Belletti 1990, cf. chapter 1, section 1.4.1.1), the clause structure of WF could be represented as in (4):



(4) is compatible with the idea that the V-stem incorporates to the inflectional heads. The movement of V to T and Agr would be string-vacuous, since V moves rightward. NegP is relatively low in the structure. For our purposes, it is important to note that NegP dominates TP.

If we maintain the idea that the functional projections are head-final, it is hard to provide empirical evidence, it seems to me, to show how high V moves at S-structure, or indeed if the verb moves at all. I return to this point in section 6.

2 The expression of negation in WF

There are a number of ways of expressing sentential negation in WF, some of which the language shares with Standard Dutch or Standard German, others specific to the dialect. I first provide an informal description of sentential negation in finite clauses. In section 3 I provide an analysis of these data in terms of the NEG-criterion. I turn to non-finite clauses in section 5.

The expression of negation in WF has similarities with that in French in that (i) WF uses the bipartite negation productively (cf. 2.1) and (ii) it exhibits Negative Concord (2.2). The following sentences exemplify the most important ways of expressing sentential negation in WF. Each item will be discussed in some more detail in subsequent sections:

- (5)
- a. da Valère die boeken *(*nie*) an zen voader getoogd (*en*)-oat³
that Valère those books not to his father shown *en*-had
'that Valère had not shown these books to his father'
 - b. da Valère ier *niemand* (*en*)-kent
that Valère here no one *en*-knows
'that Valère does not know anyone here'
 - c. V2: Valère (*en*)-kent ier *niemand*
 - d. da Valère ier *niemand nie* (*en*)-kent
that Valère here no one not *en*-knows
 - e. da Valère *an niemand niets* gezeid (*en*)-eet
that Valère to no one nothing *en*-said has
'that Valère did not tell anyone anything'
 - f. da Valère woarschijnlijk *an niemand niets nie* (*en*)-zegt
that Valère probably to nobody nothing not *en*-says
'that Valère probably does not say anything to anyone'

(5a) illustrates the expression of sentential negation by the negative adverb *nie* (cf. section 2.1.1) and it also shows that *nie* may co-occur with a negative head *en* (section 2.1.2). Sentential negation can also be expressed by a negative quantifier such as *niemand* ('no one') (5b), which can be accompanied by the negative head. Moreover, unlike Standard Dutch and Standard German,⁴ WF exhibits Negative Concord (NC) which means that several negative constituents in a clause do not cancel each other out, but jointly express a single negation. As shown in the examples NC may obtain between a negative quantifier of the type *niemand* and the negative adverbial *nie* (5d), it may also obtain between

several such negative quantifiers (5e,f), whether accompanied by *nie* (5f) or not (5e), and the negative head is again optional in sentences with NC.

2.1. The bipartite negation

2.1.1. *Nie*

The first type of sentential negation in WF is expressed by means of the adverb *nie*, which is the equivalent of Standard Dutch *niet* and Standard German *nicht*. *Nie* has a fixed position in the middle field, the domain between the subject and the verb: unlike negative time adverbs like *nooit* ('never'), for instance, *nie* cannot occur in the sentence-initial position of root clauses and it cannot precede NP arguments.⁵ I assume that *nie* is a maximal projection and that it is the WF equivalent of French *pas* and that it occupies [Spec, NegP]. I will elaborate this point below.

- (6)
- a. da Valère woarschijnlijk *nie* nor us (en)-goat
that Valère probably not to house (en) goes
'that Valère probably does not go home'
 - b. **Nie* (en)-goat Valère nor us.
not (en) goes Valère to house
 - c. *Nooit* (en)-goat Valère nor us zonder geld.
never (en) goes Valère to home without money
'Valère never goes home without any money'
 - d. *da Valère *nie* die boeken gelezen eet
that Valère not those books read has

Alternative analyses for the distribution of *nie* could be considered. Concerning the position of *nicht*, in German, Bayer proposes the following analysis:

We will assume that *nicht* is a syncategorematic expression . . . which in the unmarked case adjoins to V°. The element NEG and V together form a new V. It appears that a negative quantifier must be c-command [sic] by this negative verb. C-command is to be understood in the strict sense . . .

[7] x c-commands B iff the first branching node dominating x also dominates B and x does not dominate B nor B dominate x.

(Bayer 1990: 17)

Bayer's discussion above strongly suggests that he considers NEG as a head, since it adjoins to V° to form another V°. Following recent proposals in the literature (Pollock 1989) we might assume that *nicht* is

the negative head, Neg^o, which projects a NegP and to which we return at length in section 2.1.2. However, this analysis is difficult to reconcile with examples such as (8) (Bayer's (7d)):

- (8) Intem das keine keischheid nichd dabei sein muss.⁶
 in that no chastity not thereby be must
 'since chastity does not have to be involved'

In (8) the R-pronoun *dabei* ('thereby') intervenes between *nichd* and *V sein*. This would imply that the complex head dominating V^o and Neg^o must also be able to dominate PP material, as Bayer himself points out in his footnote 2 where he says that

An exception is that [*nichd*] must adjoin to [PP + V] when the PP is subcategorized by V. I have nothing to say about this peculiarity.

(1990: 22)

The data in Bayer's paper are too limited to allow further speculation on Bavarian, but clearly Bayer's analysis of *nichd* as Neg^o which is incorporated into a [V^o Neg + V] complex will not do for WF *nie*. First, the data suggest strongly that Neg^o in WF is spelt out as the negative clitic *en*. On the other hand, analogously to the Bavarian data, an approach in terms of incorporation would mean that in (9) the complex head dominating *nie* + V would also have to dominate phrasal material:

- (9) a. da Valère woarschijnlijk *nie* styf drunke was
 that Valère probably not very drunk was
 'that Valère probably was not very drunk'
 b. da Valère woarschijnlijk *nie* nor us goat
 that Valère probably not to house goes
 'that Valère probably does not go home'
 c. da Valère woarschijnlijk *nie* doarover wil klapen
 that Valère probably not there about wants talk
 'that Valère probably does not want to discuss that'
 d. da Valère doa_i woarschijnlijk *nie* t_i over wil klapen
 that Valère there probably not about wants talk
 'that Valère probably does not want to discuss that'
 e. da Valère woarschijnlijk *nie* vrie ketent me dat us is
 that Valère probably not very happy with that house is
 'that that house probably does not please Valère very much'
 f. da Valère doa_i woarschijnlijk *nie* vrie ketent t_i me is
 that Valère there probably not very happy with is
 'that that probably does not please Valère very much'

In (9a) an AP intervenes between *nie* and the V; in (9b) the intervening element is a PP. In (9c) we see that the intervening constituent is a so-called R-PP. In (9d) the R-pronoun *doa* has been extracted from the PP. In this example a trace will intervene between *nie* and V. In (9e) again an AP intervenes, this time with a complement PP. In the corresponding (9f) *doa*, the R-pronoun, has been extracted from the AP. If we were to follow Bayer's analysis of Bavarian *nichd* and assume that *nie* and V form a complex V° , then we would have to say that the complex head V° can dominate phrasal material of different categories, including traces of phrasal material. However, while the extraction of the head of a complex head is admitted in the literature as a type of excorporation,⁷ extraction of non-head material out of complex X-nodes is not standardly assumed. It could be argued that *nie/nicht* can occupy two positions: when *nie/nicht* is adjacent to V it is a head which incorporates to V, when it is separated from V by phrasal material, *nie/nicht* could be said to be adjoined. When *nie/nicht* is adjoined to a projection of V, it must be at least of the X' level. In fact if we restrict movement and adjunction to X° or XP, then the adjoined variant of *nie/nicht* would have to be an XP. But it is not clear at that point why we could not generalize the adjunction analysis and always treat *nie* as a maximal projection.

Since we have to admit that WF *nie* is a maximal projection external to VP in at least some cases, I propose that in all its occurrences *nie* is a maximal projection.

Examples like (10) where the complements of V are separated from V by *nie* are derived by leftward scrambling of the complements:

- (10)
- a. da Valère [_{NP_i} dienen und] nie t_i kent
 that Valère that dog not knows
 'that Valère does not know that dog'
 - b. da Valère [_{PP_i} tegen zenen gebeur] nie t_i klaapt
 that Valère against his neighbour not talks
 'that Valère does not talk to his neighbour'
 - c. da Valère [_{NP_i} dienen boek] [_{PP_j} an zen voader] nie t_j t_i toogt
 that Valère that book to his father not shows
 'that Valère does not show his father that book'

The hypothesis is compatible with the observation that VP-associated material may also precede sentential adverbials such as *woarschijnlijk* ('probably') outside VP.⁸

- (11) a. da Valère [_{NP_i} dienen und] *woarschijnlijk* nie t_i kent
 that Valère that dog probably not knows
 ‘that Valère probably does not know that dog’
 b. da Valère [_{PP_i} tegen zenen gebeur] *woarschijnlijk* nie t_i klaapt
 that Valère against his neighbour probably not talks
 ‘that Valère probably does not talk to his neighbour’
 c. da Valère [_{NP_i} dienen boek] [_{PP_j} an zen voader]
 that Valère that book to his father
woarschijnlijk nie t_j t_i toogt
 probably not shows
 ‘that Valère probably does not show his father that book’

In the next section we see that the assumption that *nie* might be a Neg^o head is even more problematic because WF has another negative head *en* which has exactly the distribution which one would expect.

2.1.2 *The negative head and NegP*

2.1.2.1 *The negative clitic en*

In finite clauses, the negative marker *nie* in WF may optionally be doubled by a negative clitic. The use of *en* is rather archaic and rarer with younger speakers. Speakers in their thirties have clear intuitions about the use of *en* – though they often do not use it very frequently themselves. The omission of *en* is probably due to the influence of the standard language.⁹

When *nie* has sentential scope, the finite V may have *en* prefixed to it. (12) exemplifies the examples in (9) with the *en*-clitic, (13) those in (10):

- (12) a. da Valère *woarschijnlijk nie* styf drunke *en*-was
 b. da Valère *woarschijnlijk nie* nor us *en*-goat
 c. da Valère *woarschijnlijk nie* doarover *en*-wil klapen
 d. da Valère doa_i *woarschijnlijk nie* t_i over *en*-wil klapen
 e. da Valère *woarschijnlijk nie* vrie ketent me dat us *en*-is
 f. da Valère doa_i *woarschijnlijk nie* vrie ketent t_i me *en*-is
- (13) a. da Valère [_{NP_i} dienen und] nie t_i *en*-kent
 b. da Valère [_{PP_i} tegen zenen gebeur] nie t_i *en*-klaapt.
 c. da Valère [_{NP_i} dienen boek] [_{PP_j} an zen voader] nie t_j t_i *en*-toogt

En is cliticized to the finite V, it may very marginally prefix to past participles (14), it co-occurs with a subjunctive (15), and it is not acceptable with infinitives without *te* (16) or with *te* (17):

- (14) a. da-se nie geweest *en*-eet
 that she not been *en* has
 'that she has not come'
 b. ??da-se nie *en*-geweest eet
- (15) a. k wense da-se da nie *en*-dede
 I wish that she that not *en* did
 'I wish she would not do that'
 b. t-*en*-woare da-se nie tus *en*-woare
 it *en* were that she not at home *en* were
 'unless she were not in'
- (16) a. da Valère nie *en*-wilt werken
 that Valère not *en* wants work
 'that Valère does not want to work'
 b. da Valère nie wilt (**en*)-werken
 that Valère not wants *en* work
 c. [Nie (**en*)-werken] willen ze al
 not *en* work want they all
- (17) a. k'goan preberen van nie te loate (**en*) te (**en*) zyn
 I go try of not too late *en* to *en* be
 'I'll try not to be late'
 b. k'goan preberen van nie te loate (**en*) te (**en*) zyn
 c. Me zie nie an tyden (**en*) te (**en*) zyn
 with her not on time *en* to *en* be
 'Because she was not on time'

Imperatives also allow *en*:

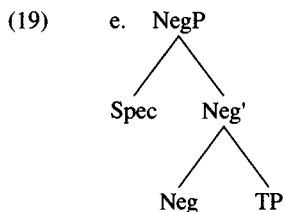
- (18) a. *En*-doet da nie.
en do that not
 'Don't do that.'
 b. *En*-zegt dat an niemand.
en say that to no one
 'Don't tell anyone.'

Zanuttini (forthcoming a) postulates a correlation between NegP and TP: whenever TP is absent from the structure NegP is too. The empirical evidence used is based on the structure of imperatives in Italian:

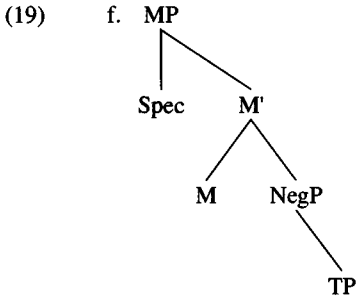
- (19) a. Prendilo!
 take-it

- b. *Non prendilo!
- c. Non lo prendere!
non it take
- d. Non prenderlo!
non take it

Zanuttini (forthcoming a) argues that in Italian imperatives such as (19a) involve an impoverished structure. These imperatives cannot be negated, witness the ungrammaticality of (19b), and the negative imperative is formed by means of special morphology: in (19c) and (19d) a negative imperative is expressed by means of an infinitive. Kayne (1992) and Zanuttini (forthcoming a) argue that the imperative in (19a) and (19b) lacks TP. If NegP has to be licensed by TP, the fact that there is no negative form of (19a) would be due to the absence of TP. In order to express the dependence between NegP and TP one could adopt a structure where NegP dominates TP:



Assuming that the functional projections of the clausal system are organized as in (19e) (Belletti 1990, also Pollock 1993) then we could propose that the reduction of clauses operates in a stepwise fashion from top to bottom (Rizzi 1993a). The idea would be that we can, for instance, skip NegP and leave TP, but not the opposite: if a clause lacks a lower projection it will of necessity lack the higher projection. If the imperatives in (19a) are truncated structures which lack TP, they will also lack NegP. Hence the language has to have recourse to an alternative strategy. For (19c) and (19d) we might propose that there is a non-overt Modal element with imperative force, high in the clausal structure (cf. Kayne 1992).¹⁰



For the WF imperative things are not so clear. The imperative morphology looks like the morphology of the inflected verb, i.e. it has the *-t* ending characteristic of the second-person indicative. However, the imperative is not exactly like the finite inflection. This is shown by the fact that while overt pronominal subjects are possible in imperatives, the clitic variant of the subject is not possible:

- (20) a. Goa (*je) (gie) mo!
 you (*clitic) you but
 'Do go!'

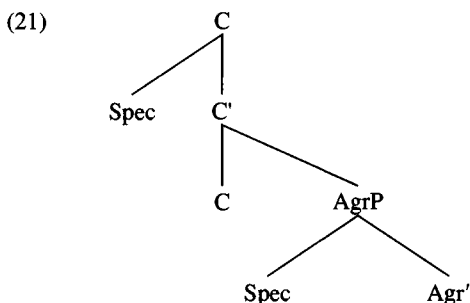
These data suggest that the imperative lacks some of the properties of the finite clauses, illustrated in (20b) and (20c).

- (20) b. da-se zie weg goat
 that-she she away goes
 c. dan-ze zunder weg goan
 that-they they away go

In (20b) and (20c) the complementizer shows overt inflection (*da* is singular, *dan* is plural) and it also hosts a clitic which is doubled by an overt pronoun (cf. Haegeman 1992a on clitic doubling). In (20d) and (20e) the inflected V has moved under C. Again subject clitics are allowed. I assume that this is due to the Agr features of C:

- (20) d. Goa-se zie weg?
 goes-she she away
 'Does she go away?'
 e. Goan-ze zunder weg?
 go-they they away
 'Do they go away?'

The absence of clitics in imperatives suggests that Agr in C is absent. One can state this in terms of the absence of Agr features on C (cf. Rizzi 1990a). Alternatively, adopting the proposal put forward by Shlonsky (1992) in which CP is decomposed into CP and AgrP, one could say that the imperative C does not select AgrP.



Further research has to establish the interaction between Agr, clitics and negation.

Returning now to the main issue of the chapter, the data suggest very strongly that WF negation is close to French negation:¹¹ *pas* would be the equivalent to *nie* and *ne* to *en*:

- (22)
- a. Jean (*ne*) mange *pas* de chocolat.
 Jean *ne* eats not of chocolate
 'Jean does not eat any chocolate.'
 - b. Pourquoi (*n'*) est-il *pas* venu?
 why *n'* is he not come
 'Why did he not come?'

WF *en* is prefixed to the finite V. In French the head status of *ne* is illustrated by the fact that it moves to C with the finite V (cf. (22b)). Similarly WF *en* is carried along by the movement of the finite V to C and *en* does not count as a phrasal constituent of the type to satisfy V2.¹² (23a) satisfies V2: *Valère* being the first constituent; (23b) with no constituent preceding *en-eet* is interpreted as an interrogative.

- (23)
- a. Valère *en-eet nie* s'oavends.
 Valère *en* eats not evening's
 'Valère does not eat in the evening.'
 - b. *En-eet* Valère *nie* s'oavends?
en eats Valère not evening's
 'Does Valère not eat in the evening?'

Nie is unlike *en* in that it stays in a fixed position and does not move with the finite V:

- (23) c. **Nie* (*en*)-eet Valère s'oavends
 not *en* eats Valère evening's

En incorporates to the inflected V (i.e. V with its tense and Agr inflection). While in both WF and French *en* is optional in finite clause, it is marginally possible on participles in WF but excluded on participles in French. *En* is ungrammatical in WF infinitivals; in French the infinitival context sometimes forces the presence of *ne*:

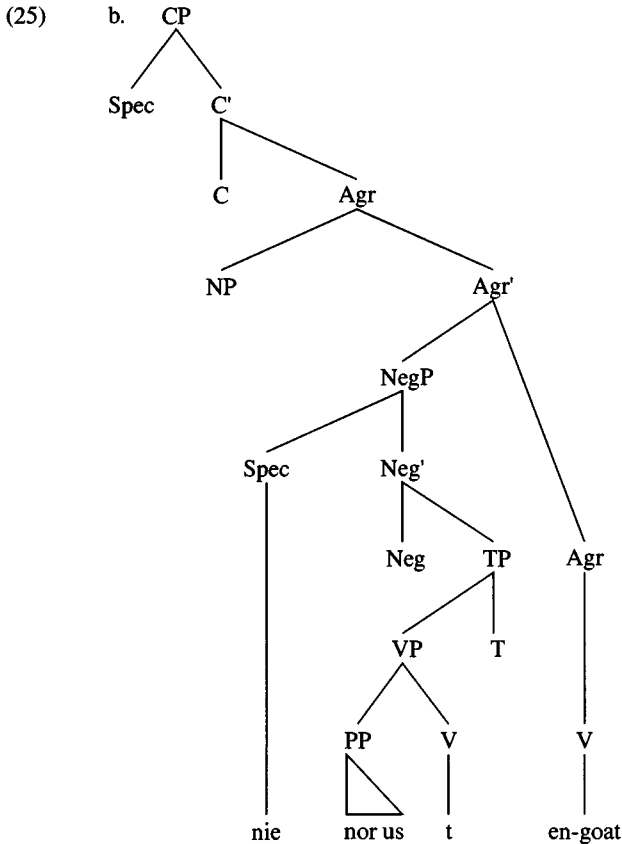
- (24) *(*Ne*) pas manger de chocolat est bien pour la peau.
ne not eat chocolate is good for the skin
 'Not to eat chocolate is good for the skin.'

This suggests that French infinitival clauses have a NegP. For WF one might at first sight conclude that infinitivals lack NegP, but we will see that this assumption is incompatible with the data (cf. section 5).¹³ I return to the distribution of *en* in finite and non-finite clauses in sections 5 and 6.

2.1.2.2 NegP

I propose that *en* in WF heads NegP, and that *nie* occupies its specifier. Following both Belletti (1990) and Pollock (1993) we assume that NegP dominates TP in WF: in a classical framework where the bare V moves to the functional heads to pick up the inflection (25a) would have the partial structure in (25b).

- (25) a. da Valère woarschijnlijk nie nor us *en*-goat
 that Valère probably not to home *en*-goes
 'that Valère probably does not go home'



In (25b) the V-related functional projections TP and AgrP are head-final. We also assume that because WF has overt person and number morphology V moves in the syntax. V moves to T, to pick up Tense inflection, to Neg to pick up the negative clitic *en* and finally to Agr to pick up the agreement features for person and number. As *en* prefixes to the V, we might argue that NegP is head-initial. In negative sentences without an overt negative head we assume that Neg^o is not phonetically realized. WF *nie* or French *pas* occupy [Spec,NegP].

This analysis is in line with that by Ouhalla (1990: 191):

the conclusion which seems to emerge is that generally sentence negation is expressed in terms of a NegP category which consists of a head element and a specifier. Variation among languages is restricted to whether both or either of the two elements of NegP is realised lexically. In languages like Turkish and Berber

the head is realised lexically while the specifier is realised as an empty operator. In languages like German, Swedish and Colloquial French it is the specifier which is realised lexically, while the head is realised as an abstract morpheme. Finally, in languages like Standard French both the head and the specifier are realised lexically.

Ouhalla's discussion explicitly postulates that the projection NegP is universally associated with negative sentences. Cross-linguistic variation relates to the realization of the specifier and the head of NegP:

These three-dimensional cross-linguistic differences are what Zanuttini (1989) refers to as 'three strategies for marking sentential negation' in Romance. Languages where negation is expressed in terms of a pre-verbal element, e.g. Portuguese, Spanish, Catalan, Standard Italian, are those where the head, but not the specifier of NEGP, is realised lexically. On the other hand, languages where negation is expressed in terms of a post-verbal element, e.g. the Occitan dialects, the Franco-Provençal dialects, are those where the specifier, but not the head of NEGP, is realised lexically. Finally, languages where negation is expressed in terms of both a pre-verbal and a post-verbal element, e.g. Standard French and a variety of Piedmontese, are those where both the specifier and the head of NEGP are realised lexically. These differences are also likely to be the ones which have characterised the 'three stages' of historical development in Romance. At one stage or the other either the head or the specifier of NEGP is realised lexically, with an intermediary stage where both elements are lexically realised.

(Ouhalla 1990: 1912, fn. 5)

My own account is largely in agreement with Ouhalla's discussion though there will be differences (cf. chapter 4). I propose that the syntax of negation be treated in parallel with that of interrogatives and that parallel with the WH-criterion we postulate the NEG-criterion. The NEG-criterion requires a Spec-head relation between a negative operator and a head with the feature [NEG]. This does not commit us to saying that each negative sentence must contain a NegP. In the case of the WH-criterion, Rizzi (forthcoming) does not postulate that the Spec-head relation between the WH-operator and the WH-head be realized on a specific WH-projection. Rather, the WH-feature is hosted by I or by C. It is conceivable that the NEG-feature is also parasitic on another functional head. When a language has an overt negative head, Neg^o itself projects into a functional projection NegP; on this assumption WF *en* heads NegP. The overt realization of the negative head *en* on its own is not sufficient for the expression of sentential negation in WF or in French:

- (26) a. da ze nor us *(nie) en-goat
 that she to home not *en* goes
 b. Jean *ne* mange *(pas) de chocolat
 Jean *ne* eats not of chocolate

In (26a) *nie* must be present; otherwise the sentence is ungrammatical, exactly in the same way that (26b) without *pas* is ungrammatical. In the next section we shall see that it is not *nie* as such which must be present with *en*. What is required is that the negative head, *en*, co-occur with a negative constituent with sentential scope. In (26c) *en* co-occurs with *niemand* ('no one') and the sentence is grammatical. The relations between *en* and the negative constituent will be discussed in section 3.

- (26) c. da Valère *niemand en*-kent
 that Valère no one *en* knows
 'that Valère does not know anyone'

The negative heads in WF and in French differ from the negative head in Italian which does not require the presence of an additional negative constituent:

- (26) d. Giovanni non è venuto.
 Giovanni *non* is come
 'Giovanni has not come.'

We discuss sentential negation in Romance languages in chapter 4.

2.1.3 Negative constituents

In addition to the bipartite negation *nie . . . en* WF expresses sentential negation by means of a negative constituent such as *niemand* in (27a) or *nooit* in (27b). These negative constituents may also be doubled by *en*. The present discussion is descriptive. We turn to the distribution of the relevant negative constituent in section 3 below (see also chapter 5):

- (27) a. da Valère *niemand (en)*-kent
 that Valère nobody *en* knows
 'that Valère does not know anyone'
 b. da Valère *nooit* nor us (*en*)- goat
 that Valère never to house *en* goes
 'that Valère never goes home'

As mentioned, WF is like French where *ne* requires the presence of a negative constituent, be it *pas* or some other negative constituent:

- (28) a. Jean ne connaît personne/*Marie.
Jean *ne* knows no one/*Marie
'Jean does not know anyone.'
b. Jean ne viendra jamais/*aujourd'hui.
Jean *ne* will come never/*today
'Jean will never come.'

The question arises whether constituents such as *niemand* ('no one'), *niets* ('nothing') or *nooit* ('never') are negative quantifiers or whether they are negative polarity items. Based on the arguments developed in Zanuttini (1991) I would like to argue that these elements are not polarity items but negative quantifiers (cf. also Acquaviva 1993, Rizzi 1982).

One argument against interpreting negative elements such as *niemand*, *niets*, *nooit*, etc. as negative polarity items is that the negative items under examination express negation without there being any other overt negative element, a head or a phrase, present, a property not shared by negative polarity items such as English *anything*:

- (29) a. K'een niets gezeid.
I have nothing said
b. I have said anything.

In (29b) *anything* cannot have the negative polarity reading because there is no licensing negative element present in the sentence.

The negative element can be modified by adverbs such as *oast* ('almost'), a property not shared by negative polarity items:

- (30) a. K'(en)-een oast niets nie gezeid.
I *en*-have almost nothing not said
'I said almost nothing.'
b. *I didn't say almost anything.
c. I said almost nothing.

Negative constituents can also be used on their own as a negative answer to a question:

- (31) a. Wad ee-j gekocht?
what have you bought
'What did you buy?'
b. Niets.
nothing

In English negative polarity items cannot be used in this way, while negative quantifiers can:

- (32) a. What did you buy?
b. *Anything/ nothing

One might still argue that the evidence above can be reconciled with the idea that *niemand*, *niets* etc. are NPIs and argue that there is a non-overt negative head present in (31b) in WF. But the question then arises why the same analysis could not render *anything* grammatical as a reply in (32b).

The availability of the same negative quantifiers with non-sentential scope would also be hard to account for. While the negative head *en* must co-occur with a negative element, be it *nie* or a quantifier, the negative quantifiers need not co-occur with *en*. *En* is obligatorily absent when negative quantifiers do not take sentential scope. Consider (33) and (34):

- (33) a. da Valère [_{AP} ketent [_{PP} me zenen kado]] was
that Valère contented with his present was
'that Valère was pleased with his present'
b. da Valère [_{PP} me zenen kado] ketent was
- (34) a. da Valère [_{PP} me niets] ketent (en)-was
that Valère with nothing contented (*en*)-was
'that Valère was not pleased with anything'
b. da Valère ketent [_{PP} me niets] (**en*)-was

(33) illustrates a positive sentence. The complement of the adjective *ketent* ('contented') may occur to the right or to the left of the adjective. (34a) is a negative alternative: the complement of the adjective contains a negative quantifier *niets* ('nothing'), and the negative head *en* is present. The negative PP *me niets* must obligatorily move leftward. If the negative constituent is not moved this has two effects: (i) the negative head *en* is no longer licensed, and (ii) the negative constituent *me niets* cannot receive an operator interpretation. One option is that (34b) would be read as a denial of (33). Alternatively it will be interpreted in the sense that Valère is pleased with almost nothing. Anticipating the analysis, I assume that when a negative constituent does not have sentential scope it is not associated with a sentential NegP. If negative quantifiers like *niets* and *niemand* are NPIs and have to be licensed by a negative head, (34b) is problematic. (35) illustrates the same phenomenon:

- (35) a. da Valère ketent was me zenen kado
 that Valère pleased was with his present
 'that Valère was pleased with his present'
 b. da Valère ketent (*en)-was me niets
 that Valère pleased *en*-was with nothing
 'that Valère was pleased with nothing'

In (35a) a PP complement of the adjective *ketent* ('contented') has been extraposed. When the complement is negative (35b), the effect of extraposition is that (i) the negative head *en* is no longer licensed and (ii) the negative constituent is not interpreted as a sentential operator. The extraposed negative constituent *me niets* will either receive a denial reading or else (35b) will be taken to mean that he is pleased with very little.

It would be wrong to conclude that the negative operator which licences *en* must always occupy a sentence-internal position, though. In (36) the negative complement of the adjective is moved to [Spec,CP];¹⁴ the finite verb, with *en*, is moved to the position C, and *en* is licensed.

- (36) Me niets (en)-is Valère ketent.
 with nothing *en*- is Valère contented
 'Valère is not pleased with anything.'

In section 3 we account for the distribution of *en* and the negative constituents in WF in terms of the NEG-criterion.

2.2 Negative Concord

2.2.1 Negative Concord involving *nie*

In addition to the examples with one negative constituent and optional *en*, WF also exhibits NC. NC is achieved only in specific configurations; if the configurational requirements are not met a DN reading is obtained (see Chapter 2, section 1.1.4). In (37a) *niemand* ('no one') precedes *nie* with a NC reading as the favoured interpretation. A DN reading is only marginally possible with focal stress on *niemand* and a pause to precede *nie*. In (37b) *niemand* follows *nie* and the interpretation is that of DN.

- (37) a. da Valère woarschijnlijk *niemand nie* (en)-kent
 that Valère probably nobody not *en*-knows
 'that Valère probably does not know anyone'

- (37) b. da Valère woarschijnlijk *nie niemand* (en)-kent (*NC, ^{OK} DN)
 that Valère probably no one not *en*-knows
 ‘that Valère probably doesn’t know nobody, i.e. Valère knows
 someone’

Recall that *nie* has a fixed position in the clause and does not undergo movement. I assume that it is like French *pas*, and that it is base-generated in [Spec, NegP]. The order in (37a) is achieved by scrambling: *niemand* is extracted from VP and is moved to the left of *nie*. In (37b) arguably *niemand* has not been scrambled. Here the DN reading is the only one available. Focal stress cannot restore NC. We conclude as a first approximation that only negative constituents which have been scrambled out of their dominating VP and precede *nie* in linear order give rise to NC.¹⁵

The same effect is observed with a PP complement of an adjective:

- (38) a. da Valère *van niemand nie* ketent (en)-was.
 that Valère of no one not contented *en*- was
 ‘that Valère was not pleased with anyone’
 b. da Valère *nie* ketent *van niemand* (en) -was.
 that Valère not contented of no one *en*-was
 ‘that Valère was not pleased with no one’ (DN, *NC)
 (i.e. he was pleased with someone)
 c. da Valère *nie van niemand* ketent (en)-was.
 that Valère not of no one contented *en*- was
 ‘that Valère was not pleased with no one’ (DN, *NC)
 (i.e. he was pleased with someone)

It is not sufficient that the negative constituent *van niemand* be scrambled out of its base position: in (38c) the PP has been scrambled leftward, but not occurring to the left of *nie*, it still gives rise to DN.

2.2.2 Negative Concord involving other constituents

Consider (39):

- (39) a. da Valère an niemand niets gezeid (en)-oat.
 that Valère to nobody nothing said *en*-had
 ‘that Valère had not said anything to anyone’
 b. da Valère nooit an geen mens niets gezeid (en)-oat
 that Valère never to no person nothing said *en*-had
 ‘that Valère had never told anything to anyone’

- (39) c. da Valère nooit van niemand ketent (en)-was
 that Valère never of no one contented *en*- was
 'that Valère was never pleased with anyone'

In the examples above the NC relation is established between a number of negative constituents. *En* is optionally present. We can also insert *nie* which always occurs to the right of the negative constituents entering into a NC relation. In other words, for a number of negative constituents to enter into a NC relation with *nie* they must all move leftward out of VP.

- (40) a. da Valère an niemand niets *nie* gezeid (en)-oat
 that Valère to nobody nothing not said *en*-had
 'that Valère had not said anything to anyone'
 b. da Valère nooit an geen mens niets *nie* gezeid (en)-oat
 that Valère never to no person nothing not said *en*-had
 'that Valère had never told anything to anyone'
 c. da Valère nooit van niemand *nie* ketent (en)-was.
 that Valère never of no one not contented *en*-was
 'that Valère was never pleased with anyone'

If one of the negative constituents follows *nie* this leads to a DN reading:

- (41) a. da Valère an niemand *nie* niets gezeid (en)-oat
 'that Valère said nothing to no one'
 b. da Valère nooit an geen mens *nie* niets gezeid (en)-oat
 'that Valère never said nothing to anyone'
 c. da Valère nooit *nie* van niemand ketent (en)-was
 'that Valère wasn't ever pleased with no one'

It appears then that negative constituents entering into an NC reading in WF are subject to configurational constraints similar to those imposed on the negative constituent which acts as the licenser of *en*: they must move leftward.

2.2.3 Summary

WF has a bipartite sentential negation consisting of the negative head *en* and another negative XP. We proposed informally that the co-occurring negative constituent serves to license *en*. Only negative operators with sentential scope license *en*. We have also seen that negative operators either scramble to the left of the VP or they are moved to [Spec,CP].

WF exhibits NC between negative XPs with sentential scope. For a negative constituent to enter into a NC relation it will have to scramble.

In the next section we account for these data in terms of the account of negation developed in chapter 2.

3 The NEG-criterion

3.1 *The bipartite negation*

In chapter 2 I formulated a proposal to account for the distribution and interpretation of negative elements in terms of the NEG-criterion, repeated here as (42):

- (42) NEG-criterion (Rizzi forthcoming; Haegeman and Zanuttini 1991)
- a. A NEG-operator must be in a Spec-head configuration with an X^o [NEG].
 - b. An X^o [NEG] must be in a Spec-head configuration with a NEG-operator.

the following definitions were used:

- (43)
- a. NEG-operator: a NEG-phrase in a scope position.
 - b. Scope position: left-peripheral A'-position (an XP-adjoined position or a specifier position).

Below I summarize the crucial data concerning the distribution of the negative head *en* in WF. (44) exemplifies embedded clauses; (45) illustrates root clauses: the inflected V moves to C.

- (44)
- a. *da ze nie* [ketent me euren kado] *en-was*
that she not contented with her present *en-was*
'that she was not pleased with her present'
 - b. *da ze* [_{PP}*me niets*] ketent *en-was*
that she with nothing contented *en-was*
'that she was not pleased with anything'
 - c. **da ze* [ketent me niets] *en-was*
that she pleased with nothing *en-was*
 - d. **da ze* ketent *en-was* [_{PP}*me niets*]
that she pleased *en* was with nothing

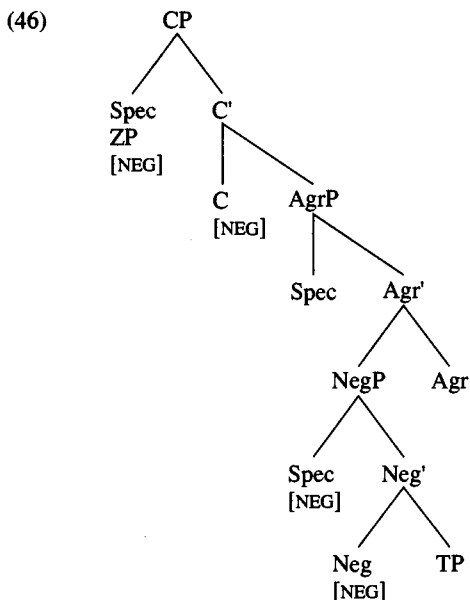
- (45) a. *Z' en-was me niets ketent.*
 she *en* was with nothing pleased
 'She was not pleased with anything.'
- b. [_{PP} *Me niets*] *en-was ze ketent.*
 with nothing *en* was she pleased
 'She was not pleased with anything.'

WF *en* is like French *ne*, the head of NegP. *En* has to be licensed by a co-occurring negative constituent. One option is illustrated in (44a): *en* is accompanied by *nie*, the WF equivalent of French *pas*. Another option is for *en* to be licensed by another negative constituent, such as the PP complement of the adjective *ketent* ('contented'), *me niets* in (44b). We have seen in section 2.1 above that in this case the negative operator which licenses *en* must be moved out of its base position. In (44c) *me niets* has not been scrambled and the sentence is ungrammatical. We have also seen that it is not enough that the negative constituent should *not* occupy its base position: an extraposed negative constituent cannot license *en* (44d). In root clauses the finite V is under C. In (45a) the negative constituent has scrambled to the left of the adjective, in (45b) it occupies [Spec, CP]. The distribution of the negative operators and their relation with the negative head follow from the NEG-criterion (42).

By hypothesis, the negative operator *nie* in (44a) is base-generated in [Spec, NegP] and will have a Spec-head relation with the trace of the moved negative head *en*, which, itself, is incorporated to the finite V.

The obligatory scrambling of negative VP constituents (cf. (44b) and (45a) vs. (44c) and (44d)) follows from the NEG-criterion. As a first approximation I propose that such negative constituents move to the [Spec, NegP]. I refer to this type of movement as NEG-movement, parallel to WH-movement. I refine this proposal in chapter 5.

Negative constituents in their base position (44c) or extraposed negative constituents (44d) will not satisfy the NEG-criterion. They do not occupy a left-peripheral A'-position.¹⁶ On the other hand, in root clauses negative constituents in [Spec, CP] (45b) will enter into a Spec-head relation with C: the negative head will also end up under C, given that it is incorporated by the finite V which moves to C. In (46) I summarize the way the criterion is satisfied in WF:



The reader will remember that examples like (47) are acceptable as long as *en* is not present:

- (47)
- a. *da ze ketent [PP me niets] was*
that she contented with nothing was
'that she was pleased with nothing'
 - b. *da ze ketent was [PP me niets]*
that she pleased was with nothing

These examples are grammatical in two interpretations. One is that the negative constituent *me niets* is echoic and that the sentences are interpreted as denials. (47a) could be a denial of (48a); (47b) of (48b).

- (48)
- a. *da ze ketent me dienen boek was*
that she contented with that book was
'that she was pleased with that book'
 - b. *da ze ketent was me dienen boek*
that she pleased was with that book
'that she was pleased with that book'

I assume that such denials are the negative analogues of echo questions, illustrated in (49).

- (49) She said what?

Alternatively, the negative constituent is interpreted with local scope: ‘she is happy with very little’, ‘(even) when she has nothing, she is happy’. In this case the negative constituent is not a sentential operator. I return to local negation in chapter 6.

The WF data suggest that the NEG-criterion must be satisfied in full at S-structure. Note specifically that the functional definition of operators given in (43) seems to be superseded by the intrinsic definition: the negative constituent cannot remain in the argument position. I return to this in section 3 below and in chapter 4.

Consider the data in (50):

- (50) a. *Niets en-peinzen-k da Valère keut.*
 nothing *en* think I that Valère knows
 ‘I think that Valère knows nothing.’
 b. **K’en-peinzen-k ik da Valère niets keut.*
 I *en* think I that Valère nothing can
 c. **Niets peinzen-k da Valère en-keut.*

In (50a) the negative operator *niets* (‘nothing’) originates in the lower clause: it is the object of *keut*, and it reaches the specifier-head configuration with the negative head by moving to the [Spec,CP] of the root clause.¹⁷ This interaction between root and non-root level is not surprising: we find the same pattern for the application of the WH-criterion:

- (51) Who do you think that they will invite?

In (51) *who* originates as the object of *invite*, and it triggers the inversion of the matrix Aux, thus rendering the root clause interrogative.

In (50b) the negative head *en* is incorporated to the matrix V, the negative operator occupies a position in the lower clause. The structure will violate the NEG-criterion. While one could conceivably argue that *niets* occupies [Spec,NegP] in the lower clause, with the negative head being non-overt, and satisfies (42a) of the NEG-criterion, it is clear that the negative head in the matrix domain cannot satisfy the NEG-criterion (42b).

In (50c) the negative constituent *niets* originates in the embedded clause. It has moved to the specifier of the matrix CP. In this particular instance the negative head *en* is associated with the embedded clause, but the configuration is ruled out. At first sight this follows in an unproblematic way from the NEG-criterion, since *niets* would not have the required Spec-head relation with *en*. Note though that we also must

exclude a derivation according to which, before moving to [Spec, CP], *niets* moves through the lower [Spec, NegP] and the chain of the moved operator satisfies the NEG-criterion:

- (52) a. **Niets_i peinzen-k da Valère* [_{NegP} *t_i en-keut*]

Clearly, this is not possible in WF.

The ungrammaticality of (52a) suggests that the trace of a negative operator cannot satisfy the NEG-criterion, at least not in WF. Observe that under a checking approach as that developed in the Minimalist Program this is rather surprising. Recall that in the Minimalist Program (Chomsky 1993) it is proposed that movement is driven by morphology; specifically, a constituent will have to move to check its (strong) feature(s) at S-structure. A typical example is the movement of the subject NP which has to check its Agr features in the subject position:

- (52) b. I think [_{CP} [_{AgrP} John will leave first]]

In (52b) *John* moves to the lower [Spec, AgrP] to check its Agr features. But observe that further movement of a subject NP is allowed:

- (52) c. Who do you think [_{CP} [_{AgrP} *t* will leave first]]

In (52c) *who* first moves to the lower [Spec, AgrP], where its features are checked and then it moves to the matrix [Spec, CP]. The pattern in (50c) seems to be parallel, but we observe that a negative constituent cannot move further after having checked its feature. This suggests that an approach in terms of feature checking cannot replace the approach in terms of criteria. We return to some aspects of this problem in chapter 4 (section 3.1.4).

3.2 Negative Concord

In order for a negative constituent to enter into an NC relation with *nie* it must move to its left (53a). In its base position (53b), in some VP left-peripheral position (53c), or extraposed (53d), the negative constituent *van niemand* cannot enter into an NC reading.

- (53) a. da Valère *van niemand* nie ketent en-was
 that Valère of no one not pleased *en* was
 ‘that Valère was not pleased with anyone’

- (53) b. da Valère *nie* ketent *van niemand* (en)-was
 that Valère not contented of no one *en* was
 ‘that Valère was not pleased with no one’ (DN, *NC)
 (i.e. he was pleased with someone)
- c. da Valère *nie van niemand* ketent (en)-was
 that Valère not of no one contented *en* was
 ‘that Valère was not pleased with no one’ (DN, *NC)
 (i.e. he was pleased with someone)
- d. da Valère *nie* ketent (en)-was *van niemand*
 that Valère not contented *en* was of no one
 ‘that Valère was not pleased with no one’ (DN, *NC)

The data are accounted for if we assume that the NEG-criterion is satisfied in full at S-structure. *Van niemand* (‘of no one’) is intrinsically a negative operator and must be in a Spec-head relation with *en*. It will have to scramble. For (53a) I tentatively propose that *van niemand* adjoins to NegP. I assume that an adjoined position can also satisfy a Spec-head relation. Recall that Kayne (1993) argues against adjunction. I return to this issue in chapter 5, where I will refine the analysis using the notion of extended projection (cf. chapter 1, 1.4.2).

NC is a by-product of the NEG-criterion, in the same way that WH-absorption is a by-product of the WH-criterion. In order to be interpretable, negative operators have to have a Spec-head relation with a negative head; under the reasonable assumption that each head can only have one specifier, multiple negative specifiers undergo NEG-absorption so as to be interpretable as one single specifier. Negative operators also enter into NC with *nie*. All the negative operators entering into NC with each other and with *nie* must scramble. As a first approximation let us say that they recursively adjoin to NegP in order to meet the NEG-criterion.

- (54) a. da Valère an niemand niets *nie* gezeid (en)-oat
 that Valère to nobody nothing not said *en* had
 ‘that Valère had not said anything to anyone’
- b. da Valère nooit an geen mens niets *nie* gezeid (en)-oat
 that Valère never to no person nothing not said *en* had
 ‘that Valère had never told anything to anyone’
- c. da Valère nooit van niemand *nie* ketent (en)-was
 that Valère never of no one not contented *en* was
 ‘that Valère was never pleased with anyone’

Consider (55):

- (55) a. da Valère *an niemand niets* gezeid (*en*)-oat
 that Valère to nobody nothing said *en* had
 ‘that Valère had not said anything to anyone’
- b. da Valère *nooit an geen mens niets* gezeid (*en*)-oat
 that Valère never to no person nothing said *en* had
 ‘that Valère had never told anything to anyone’
- c. da Valère *nooit van niemand* ketent (*en*)-was.
 that Valère never of no one contented *en* was
 ‘that Valère was never pleased with anyone’

In these examples the negative marker *nie* is absent. The negative constituents move obligatorily: *van niemand* in (55c) moves out of its base position.

- (55) d. *da Valère *nooit ketent van niemand* (*en*)-was
 that Valère never contented of no one *en* was
 ‘that Valère was never satisfied with no one’

Regardless of the presence of *nie*, negative operators with sentential scope must satisfy the NEG-criterion (clause (42a)) at S-structure: they must attain a Spec-head configuration with a negative head. All negative elements move to achieve a Spec-head relation with one head, and NEG-absorption takes place.

The distribution of negative constituents in WF is reminiscent of the distribution of WH-constituents in languages like Hungarian or the Slavic languages we discussed in chapter 1. In these languages all WH-constituents move to attain a Spec-head relation with the WH-head at S-structure. Analogously, all the negative constituents in WF move to attain a Spec-head relation, i.e. there is multiple NEG-movement, analogously to multiple WH-movement.

4 Asymmetries between the NEG-criterion and the WH-criterion

4.1 *The problem*

In this book I develop an analysis of the syntax of negation which assimilates negative sentences with interrogative ones. I account for the distribution and interpretation of interrogative and negative constituents in terms of a general well-formedness condition, the AFFECT-criterion,

instantiated as the WH-criterion in interrogative sentences and as the NEG-criterion in negative sentences. In section 3 I have illustrated the application of the NEG-criterion to WF. There are a number of asymmetries in the application of the WH-criterion and the NEG-criterion in WF. These asymmetries will be discussed in this section. Compare (56) and (57):

- (56) a. *da Valère ketent van niemand en-was
 that Valère contented of no one en was
 b. *da Valère ketent en-was van niemand
 c. Van niemand en-was Valère ketent
 d. da Valère van niemand ketent en-was

- (57) a. *Valère is [_{AP} ketent van wien] geweest?
 Valère is pleased of whom been
 b. *Valère is ketent geweest [_{PP} van wien]?
 c. Van wien is Valère ketent geweest?
 ‘Who has Valère been pleased with?’

(56) illustrates the application of the NEG-criterion. Clause (42b) of the criterion concerns the licensing of the head: the negative head must be ‘licensed’ by a negative operator in its specifier position. This can be achieved in one of two ways: either by moving the negative operator to adjoin to NegP (but cf. chapter 5 for a refinement) or by moving it to the root [Spec,CP]. (56a) and (56b) are ungrammatical because the negative head is not licensed by a negative operator.¹⁸

The specifier head requirement also applies to the licensing of the WH-head which must have a WH-operator as its specifier. The data in (57) are symmetric to those for the NEG-criterion, with the one proviso that the WH-criterion can only be satisfied at the CP level.¹⁹ In both cases, though, it is clear that the relevant clause of the criterion applies at S-structure: neither the negative operator (56a) nor the interrogative element (56b) can be left in their base positions.²⁰

I propose that WH-absorption and NC are analogous phenomena:

- (58) a. T-(en)-ee niemand niets gezeid.
 it en has no one nothing said
 ‘No one has said anything.’
 There is no x [x: a person] and y [y: a thing] [x said y]

- b. *Wien eet-er wa gezeid?*
 who has there what said
 'Who said what?'
 For which x [x: a person] and y [y: a thing] [x said y]

In (58a) the two negative operators *niemand* and *niets* jointly express a single negation. Similarly in (58b) the two interrogative elements *wien* and *wa* jointly contribute interrogative force to the sentence. (58b) is one question: a single question operator binds two variables.

(59) brings out an asymmetry between the two instantiations of the AFFECT-criterion: the negative constituents which enter into an NC relation must undergo NEG-movement to satisfy the NEG-criterion at S-structure:

- (59) a. *da Valère [PP van niemand] nie [AP ketent t] (en)-is (NC)*
 b. *da Valère nie [AP ketent van niemand] (en)-is (DN)*
 that Valère not pleased of no one en is
 'that Valère is not pleased with no one'

An extraposed negative constituent will not enter into NC with *nie*:

- (59) c. *da Valère nie ketent is [PP van niemand] (DN)*

In the case of multiple WH-questions, one WH-operator must attain the Spec-head relation with the WH-head at S-structure, the remaining WH-elements can remain in their base positions ((60a) and (60b)) or can be extraposed ((60c) and (60d)). It is not possible to move more than one element to achieve the Spec-head relation at S-structure (60e/f). Long-distance relations are possible: in (60b) and (60d): a WH-constituent in the embedded clause can absorb with a matrix WH-operator.

- (60) a. *Wien ist er tmeest ketent van wien geweest?*
 who is there the most contented of whom been
 'Who was most satisfied with whom?'
 b. *Wien peinz-je dat er tmeest [AP ketent van wien] geweest is?*
 who think you that there the most pleased with whom been is
 'Who do you think was most pleased with whom?'
 c. *Wien ist er tmeest ketent geweest van wien?*
 who has there the most contented been of whom
 d. *Wien peinz-je dat er tmeest ketent geweest is [PP van wien]?*
 e. **Van wien wien is ter tmeest ketent geweest?*
 f. **Van wien wien peinz-je dat er tmeest ketent geweest is?*

The ungrammaticality of multiple WH-movement in (60e) and (60f) is due to an independent property of WF: WF is a V2 language: the finite V in root clauses can only be preceded by one constituent. The V2 constraint and the ban on adjoining to CP await an explanation.

The WH-phrases in (60a)–(60d) undergo absorption: (60a)–(60d) illustrate questions where one interrogative operator binds two variables. The typical reply to a question like (60a) will be one in which we have paired answers. WH-absorption affects both WH-phrases, even though in (60a) and in (60b) *van wien* ('of whom') is in its base position and in (60c) or (60d) it has been extraposed.

In the next sections I review some ways of dealing with the asymmetries between NEG-movement and WH-movement in WF.

4.2 *The functional definition (Rizzi: forthcoming)*

One option to account for the contrast between the application of the WH-criterion and the NEG-criterion is to follow Rizzi (forthcoming) and to adopt the functional definition of the notion operator:

- (61) a. WH-operator: a WH-phrase in a scope position.
b. Scope position: a left-peripheral A'-position (XP-adjoined or Spec).

Under this definition (60a)–(60d) are compatible with the WH-criterion: the WH-constituent *van wien* is not in a left-peripheral scope position,²¹ hence does not qualify as an operator. This means that the WH-phrase is not subject to the specifier-head requirement. Along the lines sketched in chapter 2 we assume that at LF the functional definition of operator is superseded by the intrinsic definition and that WH-raising applies.

Under this view the obligatory NEG-movement at S-structure could follow from the fact that the functional definition of negative operators is not available at that level. This view could be interpreted in terms of Pesetsky's (1989) Earliness Principle, introduced also in chapter 1, section 1.7.2.

4.3 *Earliness*

In previous work (Haegeman 1992b) I accounted for the asymmetry between negative and WH-constituents in WF in terms of the Earliness Principle (Pesetsky 1989).

- (62) Earliness Principle (cf. chapter 1 (60))
 Satisfy grammatical requirements as early as possible in the hierarchy of levels: DS > SS > LF > LP.
 (Pesetsky, *GLOW Newsletter*: 1989: 48).

For WF negative and interrogative sentences the Earliness proposal would work as follows. Questions are syntactically restricted by the V2 constraint: only one constituent can occupy [Spec,CP] and attain the Spec-head relation with the WH-feature on C. Adjunction to CP or to [Spec,CP] is not possible. Hence one WH-phrase moves at S-structure, the others move at LF. Because WF has the possibility of scrambling generally available (cf. chapters 5 and 6) all negative constituents can reach the Spec-head relation at S-structure if they undergo NEG-movement, and by Earliness, if they can satisfy the criterion as early as S-structure, they must. The prediction of this analysis is that languages with relatively free reordering possibilities in the syntax will have to satisfy the conditions that can be satisfied via scrambling²² as early as S-structure.

4.4 *Procrastinate*

On the other hand, I have already pointed out that an Earliness account is diametrically opposed to recent proposals in the literature and developed in the Minimalist Program (Chomsky 1993) as discussed in chapter 1 of this book. Recall that in the Minimalist Program movement may take place before Spell-out (roughly equivalent to S-structure) and after Spell-out (roughly LF). All syntactic operations are guided by principles of economy. Derivations must be as economical as possible. The assumption is that overt movement, i.e. movement before Spell-out, is more costly than non-overt movement, i.e. movement after Spell-out. By economy of derivation movement will be postponed as late as possible ('Procrastinate').

Under Chomsky's Minimalist approach syntax is morphology-driven. Movement of a constituent will be done in order to check morphological features. For NEG-movement in WF we could say that the NEG-feature of the negative quantifier is strong and has to be checked before Spell-out: negative features will be checked by a Spec-head relation with a negative head. As we pointed out in section 3.1, though, it is not obvious that an account in terms of the satisfaction of criteria can be translated into a

checking account. Notably, a constituent which has had its features checked can move on (cf. (52b), (52c)), while this is not the case for the negative constituent (52a).

With respect to WH-movement, we might say that the WH-feature is strong, that one WH-phrase moves overtly and that for the WH-phrases which don't move to [Spec,CP] there is non-overt movement of a null operator.

4.5 Radical Minimalism

Another option in the spirit of Minimalism is to follow Brody's (1993b) analysis in which the scope of a WH-constituent is defined in terms of chains created by movement headed by the WH-constituents in [Spec,CP] or by CHAINS headed by an expletive scope marker for those WH-constituents which are not in a scope position at S-structure:

- (63) OP_i Wien_j eet-er t_j woa_i gewerkt?
 who has there where worked
 'Who worked where?'

In (63) *wien* ('who') has moved to attain the relevant scope position at S-structure; *woa* ('where') is sentence internal and is assigned scope by a chain headed by an abstract scope marker, which I interpret as an expletive operator.

The difference between WH-movement and NEG-movement in WF could then be related to the conditions on the realization of the NEG-chains and those that govern the realization of WH-chains (cf. chapter 1, 1.7.3 for discussion).

It is clear that an explanation for the asymmetry between NEG-movement and WH-movement has to be integrated into a more general approach to syntax: the choice between Earliness and Procrastinate, for instance, is a theory-driven choice.

5 Infinitival clauses and NegP in WF

In this section we will see that infinitival negative clauses contain NegP. The data also confirm earlier proposals that constituents which have often been labelled VP are VPs dominated by V-related functional projections. In Grimshaw's (1991) terminology, so-called VPs are not perfect VP projections but extended VPs (cf. chapter 1, section 1.4.2).

I return to these notions in chapter 5. The main difference between NegP in infinitivals and NegP in finite clauses is that in the former Neg^o cannot be overt.

5.1 *Functional projections and non-finite clauses*

5.1.1 *Infinitives*

Consider (64):

- (64)
- a. da Valère prebeerdige [_{CP} van nie dul ip Marie (*en) te (*en) zyn]
that Valère tried [of not angry on Marie *en to en be*]
'that Valère tried not to be angry with Marie'
 - b. da Valère prebeerdige [_{CP} van ip niemand dul (*en) te (*en) zyn]
that Valère tried [of on no one angry *en to en be*]
'that Valère tried to be angry with no one'
 - c. *da Valère prebeerdige [_{CP} van dul ip niemand (*en) te (*en) zyn]
 - d. da Valère prebeerdige [_{CP} van ip niemand nie dul (*en) te (*en) zyn]
that Valère tried [of on no one not angry *en to en be*]
'that Valère tried not to be angry with anyone' (NC)
 - e. da Valère prebeerdige [_{CP} van nie ip niemand dul (*en) te (*en) zyn]
that Valère tried [of not on no one angry *en to en be*]
'that Valère tried not to be angry with no one' (DN)
 - f. da Valère prebeerdige [_{CP} van nie dul (*en) te (*en) zyn ip niemand]
that Valère tried [of not angry *en to en be on no one*]
'that Valère tried not to be angry, with no one'
'that Valère tried not to be angry with no one' (DN)

The distribution and interpretation of negative constituents in the bracketed infinitival clauses above is parallel to that in finite clauses, but the negative head is non-overt. In (64a) sentential negation is expressed by *nie*. In (64b) *ip niemand* ('with no one'), the negative PP complement of the adjective *dul* ('angry'), must move leftward. If it remains in its base position (64c) its interpretation will be echoic. In (64d) the negative PP enters into an NC relation with *nie*, and again it must move leftward. If it does not move (64e) we have a DN reading. In (64f) an extraposed negative constituent cannot enter into an NC relation with *nie*. In one reading of this sentence the negative constituent is taken as a reinforcement in which case it is preceded by a pause; alternatively, it has an echoic reading.

All the data in (64) are like those described in sections 2 and 3 above with respect to finite clauses and the most economical way to deal with them is by adopting the view that infinitival clauses contain NegP, with the proviso that the head of NegP must be non-overt. If we maintain this proposal, then the obligatory leftward movement of negative constituents follows from the NEG-criterion.

We need to address the question why Neg° cannot be overt in infinitival clauses. This phenomenon is in contrast with both French and Italian, to which we return in chapter 4.

- (65) a. Pierre dit *(ne) pas manger.
 Pierre says *ne* not eat
 'Pierre says not to eat.' (Pollock 1989: 413)
- b. Non parlargli sarebbe un errore.
non talk-to-him would be an error
- c. *(Non) parlare a nessuno sarebbe un errore.
non talk to no one would be a mistake

The distribution and interpretation of negative constituents in infinitival clauses introduced by *van* suggest that such infinitival clauses contain NegP (64). If NegP dominates TP, such clauses also contain TP, and in fact the presence of clitics in the non-finite clauses in (64g) shows that non-finite clauses are extended projections of VP containing a number of functional projections above NegP (cf. Haegeman 1993b,c).

- (64) g. da Valère prebeerdige van t an niemand nie te togen
 that Valère tried of it to no one not to show
 'that Valère tried not to show it to anyone'

Similar conclusions can be drawn for other extraposed infinitivals without complementizers (66) and for infinitival clauses introduced by *mee* ('with') (67).²³ The latter are of interest because they allow an overt nominative subject in WF (cf. Haegeman 1986 and 1992a).

- (66) a. da Valère beloofd eet [_{CP} nie dul ip Marie (*en) te (*en) zyn]²⁴
 that Valère promised has [not angry on Marie *en* to *en* be]
 'that Valère has promised not to be angry with Marie'
- b. da Valère beloofd eet [_{CP} ip niemand dul (*en) te (*en) zyn]
 that Valère promised has on no one angry *en* to *en* be
 'that Valère has promised to be angry with no one'
- c. *da Valère beloofd eet [_{CP} dul ip niemand (*en) te (*en) zyn]

- d. da Valère beloofd eet [_{CP} ip niemand nie dul (*en) te (*en) zyn]
that Valère promised has on no one not angry *en* to *en* be
'that Valère has promised not to be angry with anyone' (NC)
- e. da Valère beloofd eet [_{CP} nie ip niemand dul (*en) te (*en) zyn]
that Valère promised has not on no one angry *en* to *en* be
'that Valère has promised not to be angry with no one' (DN)
- f. da Valère beloofd eet [_{CP} nie dul (*en) te (*en) zyn ip niemand]
that Valère promised has not angry *en* to *en* be on no one
'that Valère has promised not to be angry with no one' (DN)

- (67)
- a. [_{PP} Mee [_{CP} Valère nie dul ip Marie (*en) te (*en) zyn]] . . .
[with [Valère not angry on Marie *en* to *en* be]]
'With Valère not being angry with Marie . . . '
 - b. [_{PP} Mee [_{CP} Valère ip niemand dul (*en) te (*en) zyn]] . . .
[with [Valère on no one angry *en* to *en* be]]
'With Valère not being angry with anyone . . . '
 - c. * [_{PP} Mee [_{CP} Valère dul ip niemand (*en) te (*en) zyn]] . . .
 - d. [_{PP} Mee [_{CP} Valère ip niemand nie dul (*en) te (*en) zyn]].
With Valère on no one not angry *en* to *en* be
'With Valère not being angry with anyone . . . '
 - e. [_{PP} Mee [_{CP} Valère nie ip niemand dul (*en)te (*en) zyn]] . . .
[with [Valère not on no one angry *en* to *en* be]]
'With Valère not being angry with no one . . . ' (DN)
 - f. [_{PP} Mee [_{CP} Valère nie dul (*en) te (*en) zyn ip niemand]] . . .
with Valère not angry *en* to *en* be on no one
'With Valère not being angry, with no one . . . '
'With Valère not being angry with *no one*.'

Again such non-finite clauses may also contain clitics:

- (66) g. da Valère beloofd eet [_{CP} t an niemand nie te zeggen]
that Valère promised has it to no one not to say
'that Valère has promised not to tell anyone'
- (67) g. [Mee Valère t an niemand nie te zeggen], (en)-wisten-k ik t nie.
with Valère it to no one not to say (*en*) knew I I it not
'Because Valère had not told anyone about it, I did not know.'

The scope of the negation in the non-finite clause is restricted to the non-finite domain:

- (68) a. da Valère nie prebeerdige [van ip niemand dul te zyn]
that Valère not tried [of on no one angry to be]
'that Valère did not try not to be angry with anyone'

- b. Marie (en)-ee nie beloofd [van nie tegen em te klapen]
 Marie (*en*) has not promised [of not to him to talk]
 ‘Marie did not promise not to talk to him.’
- c. [Mee Marie da nie te zeggen] (en)-wisten-k ik et nie
 with Marie that not to say (*en*) knew I it not
 ‘Since Marie did not tell me, I did not know.’

NC obtains between negative operators which enter into a Spec-head relation with one head with the NEG-feature. NC is not possible between negative operators which have Spec-head relations with distinct heads. Hence NC is not possible between two NegPs belonging to distinct clauses. In (68) there is no NC between a negative operator in the matrix domain and another one in the embedded domain.

5.1.2 VP topicalization and VPR

The analysis for extraposed infinitival clauses carries over to the construction usually referred to as VP topicalization.

- (69) a. [Nie tegen Marie klapen] durven-k ook.
 not against Marie talk dare I also
 ‘I also dare not to talk to Marie.’
- b. [Tegen niemand klapen] durven-k ook.
 against no one talk dare I also
 ‘I also dare not to talk to anyone.’
- c. [Tegen niemand nie klapen] durven-k ook. (NC)
- d. [Nie tegen niemand klapen] durven-k ook. (DN)
- e. [Nie klapen tegen niemand] durven-k ook. (DN)

The bracketed sentence-initial constituent in (69) is often referred to as VP. However it can contain *nie* which we take to occupy [Spec, NegP]. Moreover, as is the case in other finite clauses, negative constituents must scramble to the left of *nie*. This shows that the constituent contains at least NegP. The scope of the negative constituents is limited to the proposed constituents, which is as expected under an analysis where NegP is associated with the negative operator. If NegP dominates TP, then we are forced to assume that the topicalized constituent also contains TP. Data from the distribution of clitics provide further evidence that such proposed infinitivals are dominated by functional projections which are higher than NegP:

- (69) f. [T an Valère al geven] meug-je nie.
 it to Valère al give can you not
 'You should not give it all to Valère.'

Consider (70) which illustrates Verb Projection Raising (cf. Haegeman and Van Riemsdijk 1986; Haegeman 1992a):

- (70) a. da Valère oa willen [nie tegen Marie klapen]
 that Valère had wanted not against Marie talk
 'that Valère had wanted not to talk to Marie'
 b. da Valère oa willen [tegen niemand klapen]
 that Valère had wanted against no one talk
 'that Valère had wanted not to talk to anyone'
 c. da Valère oa willen [tegen niemand nie klapen]
 that Valère had wanted against no one not talk
 'that Valère had wanted not to talk to anyone' (NC)
 d. da Valère oa willen [nie tegen niemand klapen]
 that Valère had wanted not against no one talk
 'that Valère had wanted not to talk to no one' (DN)
 e. da Valère oa willen [nie klapen tegen niemand]
 that Valère had wanted not talk to no one
 'that Valère had wanted not to talk to no one' (DN)

The distribution of the negative elements suggests that the bracketed constituent in the examples in (70) is not simply a VP, but must be minimally NegP. The obligatory scrambling of negative constituents within the bracketed constituent follows from the NEG-criterion, as before. The scope of negative constituents within a raised 'VP', as well as that of a topicalized 'VP' is restricted to the non-finite domain.

The idea that constructions subject to VPR are functional projections of the clausal type is in line with, though not identical to, a suggestion by Vanden Wyngaerd (1989b). Again the presence of clitics in such constituents confirms this idea.²⁵

- (71) dan ze oan willen [ze Valère al weregeven]
 that they had wanted them Valère all back give
 'that they had wanted to return them all to Valère'

Infinitival projections involved in extraposition, so-called VP topicalization and VPR all involve functional projections of the clausal type. The negation data show that NegP, hence TP, must be present, the clitic data favour an analysis in terms of AgrP.

As expected, a negative operator in a projection which has undergone VPR cannot enter into Negative Concord with a negative operator outside it:

- (72) a. da Valère niemand nie (en)-durft ip zen appartement vroagen
 that Valère no one not *en* dares to his flat invite
 'that Valère does not dare to invite anyone to his flat'
- b. da Valère nie (en)-durft [niemand (nie) ip
 that Valère not *en* dares no one to
 zen appartement vroagen]
 his flat to ask
 'that Valère does not dare not to invite anyone to his flat'

In (72a) the negative complement of the lower infinitival projection, *niemand* ('no one') has scrambled into the matrix domain. It has reached a specifier-head configuration with the matrix negative head, and enters into an NC reading with *nie*. In (72b) the negative complement has also scrambled, but it has not reached the matrix NegP, rather it has a Spec-head relation with the NegP in the infinitival domain. *Niemand* can enter into an NC relation with *nie* in the infinitival domain, but it cannot enter into an NC relation with matrix *nie*. This follows from the analysis developed here. NC is a by-product of the NEG-criterion. Negative operators undergo absorption because they all function as specifiers to the same operator. In (72a) *niemand* and *nie* both have a Spec-head relation with the matrix negative head (which can be spelt out as *en*) and absorption is required to preserve the one-to-one relation between specifier and head. In (72b) matrix *nie* has a Spec-head relation with the matrix negative head, and *niemand* has a Spec-head relation with the Neg in the infinitival domain. If, as I propose, absorption applies to operators which have a Spec-head relation with the same head then we do not expect absorption to take place in (72b).

The NEG-criterion must be satisfied at S-structure. It follows that LF movement to the matrix domain cannot be invoked to assign matrix scope to *niemand* in (72b). The analysis proposed here will have consequences for the analysis of the VPR data. In Haegeman and Van Riemsdijk (1986) it was proposed that VPR created scope islands, i.e. that LF movement could not extract constituents from the infinitival domain created by VPR. If we assume that the NEG-criterion applies at S-structure in WF then the negation data in (72) do not offer evidence for

such a view. Even if LF movement out of the infinitival domain were possible, it would not suffice to satisfy the NEG-criterion.

5.1.3 *Clitic climbing and NegP*

Consider the examples of VPR in (73). In (73a) the clitic object *ze* occupies a position inside the infinitival domain, of which it is an argument; in (73b) it occupies a position outside it.

- (73) a. da Valère oa willen [z'an niemand nie togen]
 that Valère had want them to no one not show
 'that Valère had wanted not to show them to anyone'
 b. da ze Valère oa willen [an niemand nie togen]
 that them Valère had want to no one not show
 'that Valère had wanted not to show them to anyone'

(73) illustrates VPR. The bracketed constituent is an extended projection of VP, i.e. a VP dominated by associated functional projections. Given that the clitic can occur inside this structure (73a), I propose that the structure is AgrP (cf. Haegeman 1993a,b,c for discussion, see also chapter 5). In (73b) the clitic object of *togen* has been extracted from the infinitival clause and moved to the higher clause. One might interpret this as a form of clitic climbing, but this would be in sharp contrast with clitic climbing in Romance which is excluded from negative infinitivals (Kayne 1989, 1991a):

- (74) a. Gianni non li vuole vedere.
 Gianni *non* them wants see
 'Gianni does not want to see them.'
 b. Gianni vuole non vederli.
 Gianni wants *non* see them
 'Gianni wants not to see them.'
 c. *Gianni li vuole non vedere (cf. Kayne 1989: 243, his (13, 14))
- (75) a. Jean a fait manger la soupe à l'enfant.
 Jean has made eat the soup to the child
 'Jean has made the child eat the soup.'
 b. Jean l' a fait manger à l'enfant.
 Jean it has made eat to the child
 'Jean made the child eat it.'
 c. ??Jean a fait ne pas manger la soupe à l'enfant.
 Jean has made *ne pas* eat the soup to the child
 'Jean made the child not eat the soup.'

- d. *Jean l' a fait ne pas manger à l'enfant.
 (Kayne 1989, Zanuttini 1991: 31)

Clitic climbing in Italian is blocked by an intervening negative head; similarly in French (cf. also Guasti 1992). If clitic movement is head-to-head movement, the intervening Neg° head blocks antecedent-government of the trace by the moved clitic, resulting in an ECP violation. The WF data seem at first sight surprising: the clitic object would escape from a constituent containing NegP. In order to interpret the apparent clitic climbing in (73b) we should also consider the following data:

- (73) c. da Valère oa willen [Marie die boeken nie geven]
 that Valère had wanted Marie those books not give
 'that Valère had wanted not to give those books to Marie'
 d. da Valère Marie_i oa willen [_i die boeken nie geven]
 that Valère Marie had wanted those books not give

Comparing the position of the NP *Marie*, the indirect object of *geven*, in (73c) and (73d) we observe that in (73d) the NP has been moved out of the non-finite constituent. The movement of such a constituent is achieved by scrambling, a type of XP-movement. In WF scrambling can be shown to be A-movement of the type of object shift in Scandinavian (cf. Haegeman 1993a, b, c, Vikner 1991). By definition, this type of movement is unimpeded by intervening (negative) heads, since it concerns movement of a maximal projection. The negative X° cannot block antecedent-government of the trace of the moved constituent. In Haegeman (1993a,b,c) I show that WF clitic movement trades on XP movement: clitics first move as parts of maximal projections to reach the higher case position, and then the clitic is extracted from the maximal projection and moves leftward to a functional head. Some discussion of these phenomena is given in chapter 5 below. If clitic movement is initially XP-movement, then obviously we do not expect that an intervening negative head blocks the movement.

5.2 Participles

I have already mentioned that the negative head *en* is overt in finite clauses and non-overt in non-finite clauses:

- (76) a. da Valère nie te loate en-was
 that Valère not too late *en* was
 ‘that Valère was not late’
 b. da Valère prebeert van nie te loate (*en) te (*en) zyn
 that Valère tries of not too late *en* to *en* be
 ‘that Valère tries not to be late’

Surprisingly, the negative head *en* can also marginally appear on participles:

- (77) a. da Valère doar nie geweest en-eet
 that Valère there not been *en* has
 b. ??da Valère doar nie en-geweest eet
 c. *da Valère doar nie en-geweest en-eet

Observe that only one occurrence of *en* is allowed: (77c) with *en* both on the participle and on the finite V is excluded. It is not clear how one can account for these data. One option is to say that *geweest*, the participle, is incorporated to the finite V by a form of Verb Raising, and that the complex participle-V moves to the negative head.

- (77) d. da Valère doa nie [en [_V° geweest eet]]

The overt realization of the negative head on the participle is dependent on the finite auxiliary: in (77e) the auxiliary is non-finite and *en* is ungrammatical.

- (77) e. mee Valère doa nie (*en) geweest te een
 with Valère there not (**en*) been to have

In (77e) the participle cannot incorporate to a finite inflection, which could account for the ungrammaticality of *en*. The incorporation analysis is not unproblematic, though. In (78) the inflected verb *eet* (‘has’) can still be excorporated from the verbal complex V° and move to C. In such instances, *en* can, again very marginally, remain stranded on the participle. It is hard to see how the verb can move across *en* without violating the Head Movement Constraint (chapter 1, section 1.6):

- (78) ??Valère eet doa nie en geweest
 Valère has there not *en* been

I leave these data for future research.

6 The realization of *en*

6.1 The classical analysis

We have seen in section 5 that Neg^o is spelt out overtly in the finite clauses but that it can never be overt in infinitival clauses. It is not clear how to account for this contrast. As demonstrated in section 5, in non-finite clauses negation can be expressed by *nie*, which we take to be in [Spec, NegP] and negative operators in non-finite clauses show exactly the same distribution as those in finite clauses, suggesting that they are subject to the NEG-criterion. The simplest account would be that proposed above which postulates that finite negative clauses as well as non-finite negative clauses have a NegP.

One possibility which one might pursue to account for the distribution of *en* is to propose that in finite clauses V moves to Agr, through Neg^o and that this movement renders the overt realization of *en* possible, while in non-finite clauses V does not move to Agr (cf. Rizzi 1993a). If one adopts the SOV hypothesis for WF and if one assumes that the functional projections which constitute the clausal domain are head-final, then the movement of V to Agr will not have an overt reflex:

- (79) [AgrP [NegP [TP [VP V] T] Neg] Agr]

The contrast exhibited between finite and non-finite clauses in WF would be similar to that in French, in that in French too V moves higher in finite clauses than in infinitival clauses:

- (80) a. Jean ne mange pas de chocolat.
 Jean *ne* eats not chocolate
 b. *Ne* pas manger de chocolat.

However, in French the negative head is overt in infinitivals and is independent of the movement of V. I leave these problems for future study.

Observe that on the view outlined above infinitival *te* cannot be equated with the functional head Agr.

- (81) Valère goa preberen van nie (*en) te (*en) eten.
 Valère goes try of not *en* to *en* eat
 'Valère is going to try not to eat.'

If *te* were the realization of Agr then the fact that the infinitive follows *te* in (81) would mean that V has moved to Agr and our explanation for the impossibility of *en* in infinitivals would be lost. *Te* could be a realization of T, or of the infinitival functional head Inf.

Another option could be that while finite clauses contain NegP with a negative head, non-finite clauses in fact lack NegP. The question then arises how to account for the appearance of *nie* in infinitival clauses and also for the obligatory scrambling of negative operators in non-finite clauses. One possibility could be that in non-finite clauses the NEG-criterion is satisfied by dynamic agreement: the negative operators move to a scope position and assign the NEG-feature to a functional head, say T. In this way [NEG] would be parasitic on another functional head, in the same way that Rizzi (forthcoming) proposes that [WH] is associated with a functional head. This proposal would imply that sentential negation is not always associated with the projection NegP and that *nie* does not always occupy [Spec,NegP]. However, if such a strategy is available in non-finite clauses, one might also expect it to apply to finite clauses. This would mean that only sentences with overt *en* have a NegP.

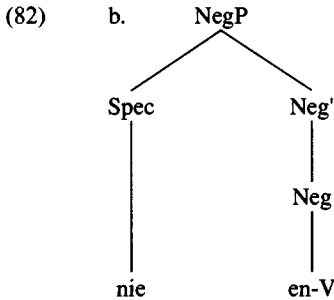
6.2 *The universal base hypothesis*

Throughout this chapter I have been assuming the classical analysis of WF in terms of an SOV base structure with head-final functional projections. In chapter 1, section 2, I discussed the universal base hypothesis (Zwart 1993, Kayne 1993) which proposes that the head of a projection is always initial, i.e. that heads precede the complements in the base. Complement-head orders are derived by leftward movement of the complement. If such an analysis is applied to WF then we cannot maintain the discussion of the syntax of negation unmodified. In what follows I will point out the major consequences of the alternative analysis and hope to return to the issue in future work.

If we continue to assume that *nie* occupies [Spec,NegP], then *en* cannot occupy Neg^o at S-structure.

- (82) a. da Valère nie tegen Marie en-klaapt
 that Valère not against Marie *en* talks
 'that Valère does not talk to Marie'

In (82a) *nie* is separated from *en* by an intervening PP, *tegen Marie*. If *nie* were in [Spec,NegP] and *en* were under Neg°, then they should be adjacent:



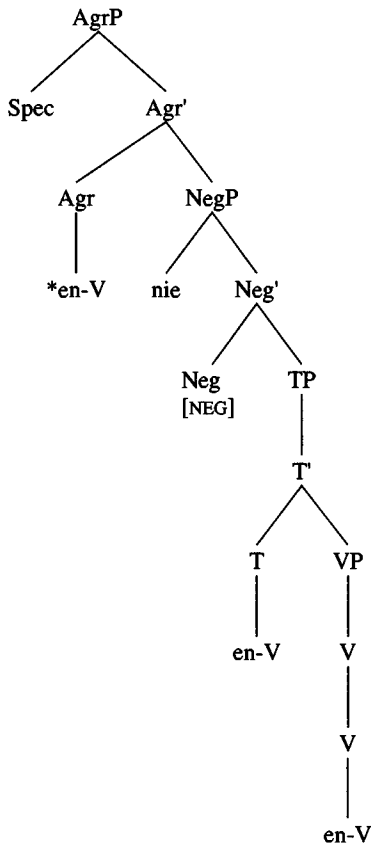
One possibility is that *nie* does not occupy [Spec,NegP] but that it occupies the specifier of some higher functional projection; alternatively *en* is base-generated as a prefix on V and the negative V has not moved as far as Neg°. The first analysis would have far-reaching consequences. Consider the example in (83).

- (83) da Valère Marie die boeken gisteren verzekeerst
 that Valère Marie those books yesterday probably
 nie al gegeven (en)-eet
 not all given *en* has
 'that Valère probably did not give Marie all those books yesterday'

If *nie* occupies the specifier of a functional projection dominating NegP, this could be MoodP (Pollock 1993), SigmaP (Laka 1990), PolP (Culicover 1991), TruthP (Zanuttini 1993). Let us label the projection FP. Given this hypothesis, the structure of the clause is almost completely rebuilt in a domain above FP. In particular, subject NP (*Valère*), indirect object (*Marie*), direct object (*die boeken*), as well as sentential adverbs (*verzekeerst*) and time adverbs (*gisteren*) all precede *nie* and will have to be higher in the structure than FP. Minimally, all these constituents would have to be FP adjoined. In a theory with restricted adjunction (Laenzlinger 1993, Zwart 1993) or without adjunction (Kayne 1993) one would have to postulate a number of additional functional projections dominating FP. I leave this proposal for future study.

An alternative is to propose that the verb is base generated with the negative prefix. Some suggestive support might be that Old English had negative verbs: *nulle* and *noelde* are the present and past tense of the negated *willan* ('want'), the negative forms also include an imperative, *nelle* is the singular form, *nellad* the plural. Similarly, there is a negative form of *wesan* (be), *habban* (have) and of *witan* ('know') etc. Under such a view *nie* might be in [Spec,NegP] and the negative inflected V would be under a lower head, be it a functional head such as T, or Pred (Koster 1993b, Zwart 1993) or it might be under V.

(84)



V-movement to T might be motivated by the fact that Tense is morphologically overt. Constituents intervening between the inflected V and the negation would then have to be either TP adjoined, or they might occupy a specifier of an intermediate functional projection such as PredP

(Koster 1993b, Zwart 1993). If the negative finite V cannot move as far as Neg° it is hard, though, to relate the contrast between the Spell-out conditions of Neg° with V-movement. Zwart (1993) does not discuss the syntax of negative sentences.

7 Conclusion

In this chapter we have studied the application of the NEG-criterion to WF. Like the WH-criterion, the NEG-criterion gives rise to movement and to multiple movement.

WF is similar to French in that it has a bipartite negation consisting of a negative clitic *en* and another negative constituent. Both languages also have NC. The distribution of the negative constituents in WF can be accounted for in terms of the NEG-criterion.

The obligatory scrambling of negative operators in WF is the result of the application of the NEG-criterion; NC is reinterpreted in terms of the absorption process on the scrambled negative operators.

We have also examined the asymmetries between negative sentences and interrogative sentences. While multiple WH-movement is excluded, multiple NEG-movement is mandatory. I have discussed a number of alternative approaches. The choice of analysis depends very much on the conceptual framework adopted.

Finally I have shown how the distribution of negative elements in infinitival clauses confirms that infinitival clauses are extended projections of V.

The last section of this chapter examines the distribution of the negative head *en* in WF. It is proposed that the contrast between finite clauses and infinitivals might be related to the degree of V-movement. I also speculate on the implications of the proposal that there is no directionality parameter and that the heads always precede their complements. Under such a view we might have to conclude that *en* is a prefix which forms negative verbs. The proposal leaves many interesting problems for future research.

Appendix*A note on 'expletive' en*²⁶

There are a number of examples in WF in which *en* may occur on its own. I briefly list them here, but at this stage I am not able to integrate them in the analysis. *En* is found without negative constituents in the following examples of VP deletion with *do* support:

- (1) a. k'en-doen
I *en* do
'I don't'
b. z'en-doet
she *en* does
'she doesn't'

These examples are not very productive; when the pronominal subject is replaced by an R-expression their acceptability reduces considerably:

- (1) c. ??Marie en-doet
Marie *en* does

Similarly, the past tense equivalents of (1a) and (1b) are reduced in acceptability:

- (1) d. *??k'en-degen
I *en* did
e. *?? z'en-degen
they *en* did

En is also found as a component of the conditional conjunction *tenwoare*:

- (2) a. t-en-woare da ze tus bleve
it *en* were that she home stayed
'unless she were to stay at home'

It is likely that *tenwoare* is already considered as an unanalysed element, parallel to the standard Dutch *tenzij* ('unless'). Both forms have the same structure:

- (2) b. t + en + woare
it + *en* + be: past subjunctive 3 sg
c. t + en + zij
it + *en* + be: present subjunctive 3 sg

Tavernier (1959) cites examples of what she calls 'expletive *en*' in the dialect of Ghent. The term covers the uses of *en* which are not strictly negative. *En* is found in clauses of comparison (3a), in temporal clauses introduced by *voordat* (3b), after *tenwoare* (3c):

- (3)
- a. 'kgoa 'tu zeggen gelakofda 't en-es
I go it you say like it *en* is
'I'll tell it to you the way it is.'
 - b. Zie dadier wig zat vuur dat a op u kappe en-komt.
see that you here away are before that he on your hood *en* comes
'Clear out before he gets you.'
 - c. 't en woare da me tuis en-bleeve
it *en* were that we at home *en* stayed
'unless we were to stay at home'

The WF parallels of (3) are given in (4). The judgements are my own:

- (4)
- a. *'kgoan t jun zeggen lik dat t *en* is
I go it you say like that it *en* is
 - b. ???moak da-j ier weg zyt vuor dat'je ip je
make that you here away are before that he on your
kappe en-zit
hood *en* sits
 - c. *'t en-woare da me tus en-bleven
it *en* were that we home *en* stayed

To my ear expletive *en* is no longer productive in WF.

Though I do not wish to elaborate an analysis of expletive *en* here, it is important to observe that this kind of head does not function as a negative head which has a negative operator in its specifier position. The French data in (5) confirm this point:

- (5)
- a. Comment crains-tu qu'il ne se comporte pas?
how fear you that he *ne* himself behaves not
'How much do you fear that he won't behave?'
 - b. Comment crains-tu qu'il ne se comporte?
how fear you that he *ne* himself behaves
'How do you fear that he will behave?'

In (5a) *comment* cannot be related to the lower verb *se comporter*. This is due to a Relativized Minimality effect: the manner adverb *comment* is a VP constituent. As it lacks a referential index, *comment* has to be connected to its trace by antecedent-government; the latter will be blocked by the negation. In (5b) *comment* can be construed with the

embedded clause, suggesting that the intervention of the expletive *ne* does not give rise to a blocking effect. We might conclude from these data that expletive *ne* does not license a negative operator.

The same contrast obtains in (6).

- (6) a. *Combien* crains-tu qu'elle *ne pèse pas*?
 how much fear you that she *ne* weighs not
 b. *Combien* crains-tu qu'elle *ne pèse*?

In (6a) *combien* can only be interpreted in the argumental reading, i.e. with *weigh* having a transitive sense as in 'she weighs apples'. The measure reading of *combien* as related to the verb *weigh* is excluded because the negative operator (*pas*) blocks an antecedent-government relation. In (6b), on the other hand, *combien* can well have its measure reading related to *weigh*, so this shows once again that expletive *ne* does not lead to inner islands.

The data suggest that while sentential negation is located on NegP, it is in fact the specifier which is the crucial component. In WF, and in French, a negative head as such is not sufficient to give the sentence negative force.

4 *The application of the NEG-criterion*

1 Negation in West Germanic languages¹

In chapter 2 we proposed that the syntax of negative sentences is parallel to that of interrogative sentences. Analogously to the WH-criterion we introduced the NEG-criterion:

- (1) NEG-criterion (Rizzi forthcoming, Haegeman and Zanuttini 1991)
 - a. A NEG-operator must be in a Spec-head configuration with an X° [NEG];
 - b. An X° [NEG] must be in a Spec-head configuration with a NEG-operator.

with the following definitions:

- (1)
 - c. NEG-operator: a NEG-phrase in a scope position;
 - d. Scope position: a left-peripheral A'-position (i.e. XP-adjoined or Spec).

The NEG-criterion and the WH-criterion are instantiations of a more general well-formedness condition on operators: the AFFECT-criterion. In the same way that the application of the WH-criterion gives rise to WH-movement in English and to multiple WH-movement in languages such as Hungarian (cf. chapter 2), the NEG-criterion leads to NEG-movement. We showed in chapter 2 that WF exhibits NEG-movement and multiple NEG-movement: all negative operators with sentential scope move in order to attain a Spec-head relation with a negative head in the same way that WH-constituents move to attain a Spec-head relation with an interrogative head.

Recall (chapters 1 and 2) that there are two types of cross-linguistic variation with respect to the mode of application of the WH-criterion. (i) In some languages there is overt WH-movement (English, French, etc.), in other languages (Japanese, Chinese) WH-constituents do not reach the scope position at S-structure. (ii) In some languages there is multiple

WH-movement, in others (English, French) one WH-constituent moves and the remaining WH-operators stay *in situ*.

Rizzi proposes that the WH-criterion is an LF condition but that it is parametrized with respect to the level of application: the criterion applies as early as S-structure in English and in French (cf. chapter 2), and it applies at LF in languages without overt WH-movement such as Chinese and Japanese (cf. Rizzi forthcoming). In languages such as English, where the WH-criterion applies already at S-structure but which lack multiple WH-movement, one WH-constituent moves at S-structure to license the WH-head; the functional definition of WH-operators enables the other WH-constituents to delay movement to [Spec,CP] until LF.

A number of alternative interpretations of the variation between languages with WH-movement and those without were discussed in chapter 2. One option is to argue (cf. Chomsky 1993, Watanabe 1991) that the WH-criterion universally applies at Spell-out (i.e. corresponding roughly to S-structure). Languages without overt WH-movement exhibit covert movement of an abstract WH-operator. The cross-linguistic variation between languages with overt WH-movement and those with abstract WH-movement would then have to be rephrased in terms of the availability of abstract operator movement. Another approach is to argue that in general WH-phrases which are not in [Spec,CP] satisfy the WH-criterion by the formation of a representational CHAIN with a base-generated non-overt expletive operator, which will function as a scope marker for the associated WH-operator (Aoun and Li 1993; Brody 1993b). Again one could then argue that the WH-criterion universally applies at S-structure. The parametric variation between languages such as English, in which one WH-constituent has to move, and languages like Chinese without movement, is then related to the Spell-out conditions on operator chains (cf. the discussion in chapter 2 and Brody 1993b). In English one (derivational) operator chain is headed by a contentive element, the contentive operator, the other (representational) CHAINS are headed by an expletive which acts as a place holder for the operator and which we might call an expletive operator; in languages with multiple movement each operator chain is headed by the contentive operator, i.e. the WH-constituent; in languages without overt movement like Chinese and Japanese, the operator CHAINS are always headed by the abstract expletive operator.

The present chapter examines the parametric variation with respect to the way the NEG-criterion is implemented. Rather than conceiving of the

parametric variation in terms of the level of application of the NEG-criterion, I will pursue an approach in which the NEG-criterion universally applies at S-structure and in which the cross-linguistic variation is expressed in terms of Spell-out conditions on operator chains (cf. Brody 1993b). My proposal will entail that the NEG-criterion can be satisfied by a CHAIN headed by an expletive non-overt operator. The proposal developed here is similar to that argued for independently by Acquaviva (1992, 1993, forthcoming) and by Suner (1993).

In section 1 I examine some aspects of the application of the NEG-criterion in a number of West Germanic languages. The discussion will include data from German (based on Hamann 1993) in section 1.1, from Dutch in section 1.2, from Afrikaans (Robbers 1993) in section 1.3 and from English in section 1.4. Like WF, the first three languages exhibit overt NEG-movement.² In English there is no generalized NEG-movement but the data from negative inversion lead us to conclude (cf. Rizzi forthcoming) that the NEG-criterion does apply at S-structure. The English data will provide the first evidence for the empty operator analysis: the NEG-criterion can be met by an operator CHAIN headed by an expletive operator. By adopting this hypothesis we dispense with the functional definition of negative operators. In section 2 we consider the application of the NEG-criterion in Hungarian, where the NEG-criterion is seen to apply at S-structure. Like WF, Hungarian displays multiple NEG-movement and NC. In section 3 we turn to Romance languages. We consider data from Italian, Spanish, Portuguese and French.³

In this section I examine some aspects of the syntax of sentential negation in German (Hamann 1993), Dutch (Klooster 1993), Afrikaans (Robbers 1993, also Luijks 1991) and English (cf. Acquaviva 1992, 1993, forthcoming).

1.1 Negation in German

1.1.1 NEG-movement and adjectival complementation

This section is based on work by Hamann (1993).⁴ Unlike WF, present-day Standard German lacks an overt negative head and it also lacks NC. Jespersen (1917) suggests that there is a correlation between the availability of an overt negative head and the availability of NC which might suggest that NC depends on the availability of an overt negative head. Zanuttini (1989) offers a similar account. However, there is no

general correlation between NC and the presence of an overt *Neg*^o. The Bavarian dialect of German, for instance, lacks an overt negative head and yet it has NC (Bayer 1990); in WF and in French, NC is available regardless of the overt realization of the negative head. In WF this is particularly clear in infinitival clauses where *Neg*^o must be non-overt, but where NC is generally available (cf. chapter 3, section 5). We leave the issue of what determines the availability of NC for future research.

In WF, negative constituents with sentential scope move leftward at S-structure to achieve a Spec-head relation with a head carrying the feature [NEG]. The data which provide clearest evidence for this movement are negative sentences containing APs with negative complements: a negative complement of an A must obligatorily appear to the left of the A, while the non-negative complement may also appear to its right. In German we find the same obligatory movement of negative complements in APs. A negated PP complement of an adjective cannot have sentential scope in a post-adjectival base position. Negative PPs which remain in the post-adjectival position are either totally unacceptable or they get a denial or echoic reading. Denial or echoic readings are also available for extraposed PPs; again sentential scope is not available for such elements.

Consider the position of the adjective *zufrieden* ('pleased') and its complement PP *mit seinem Auto* ('with his car') in (2), taken from Hamann (1993):

- (2)
- a. weil Peter zufrieden mit seinem Auto ist
because Peter pleased with his car is
'because Peter is pleased with his car'
 - b. weil Peter mit seinem Auto zufrieden ist
because Peter with his car pleased is
 - c. weil Peter zufrieden ist mit seinem Auto
because Peter pleased is with his car

According to Hamann (1993:1-2), the most natural order is (2b). But the complement PP *mit seinem Auto* may follow the adjective or it can extrapose.⁵ Hamann points out that (2d) where the adjectival complement contains a pronoun is fully natural:

- (2)
- d. weil Peter zufrieden mit ihm ist
because Peter happy with it is
'because Peter is happy with it'

The situation changes radically when the complement of the adjective is negative: when the negative constituent takes sentential scope it will always appear to the left of the adjective. In the examples in (3), the negative constituent *auf niemanden/nichts* ('of no one/nothing') can have sentential scope in (3b) only. In (3a) and in (3c) the negative constituent has either narrow scope or it gets an echoic reading.

- (3) a. weil Peter stolz auf niemanden/nichts ist
 because Peter proud of no one/nothing is
 b. weil Peter auf niemanden/nichts stolz ist
 c. weil Peter stolz ist auf niemanden/nichts

There is some variation as far as the position of the negative complements with non-sentential scope is concerned. While the post-adjectival position is grammatical with *stolz* ('proud'), it is less so with other adjectives.

- (4) a. weil Peter mit niemanden/nichts zufrieden ist
 because Peter with no one/nothing pleased is
 b. ??weil Peter zufrieden mit niemanden/nichts ist
- (5) a. weil Peter auf niemanden/nichts böse ist
 because Peter with no one/nothing angry is
 b. ??weil Peter böse auf niemanden/nichts ist

Hamann (1993) provides no explanation for the contrasting behaviour of the adjectives, I assume that it is tangential to our discussion. What is central is that the basic facts of WF carry over to German: in order to achieve sentential scope negative constituents move leftward: I assume that they scramble in order to attain a Spec-head relation with the non-overt negative head.

Hamann provides interesting discussion of the interpretation of negative constituents. She provides contrasting contexts which serve to bring out the relevant readings. I reproduce her discussion here:

In order to show that the wide scope reading is not possible with postposed negation we can embed the clause in a conversational background which shows the negation to be sentential negation.

- [6] [i] Ich hatte gerade ein sehr schwieriges Gespräch mit Peter über
 unseren Lösungsvorschlag.
 I had just a very difficult conversation with Peter about our new
 proposal for a solution.

- [7] [iia] Das ist immer so, weil Peter mit nichts zufrieden ist.
 that is always so, as Peter with nothing pleased is
- [iib] *Das ist immer so, weil Peter zufrieden mit nichts ist.
- [i] Ich hatte gerade ein sehr schwieriges Gespräch mit Peter über unseren neuen Mitarbeiter.
 I had just a very difficult conversation with Peter about our new collaborator.
- [iia] Das ist immer so, weil Peter mit niemanden zufrieden ist.
 that is always so, because Peter with no one pleased is
- [iib] Das ist immer so, *weil Peter zufrieden ist mit niemanden.
- [iic] Das ist immer so, *weil Peter zufrieden mit niemanden ist.

...

In the following context, an echoic answer is normal, so all three possibilities hold . . . :

- [8] [i] Warum gefiel unsere Lösung dem Peter nicht?
 why pleased our solution Peter not
 'Why did our solution not please Peter?'
- [iia] Weil Peter mit nichts zufrieden ist.
 because Peter with nothing pleased is
- [iib] Weil Peter zufrieden ist mit nichts.
- [iic] ?Weil Peter zufrieden mit nichts ist.

Notice that the last possibility in an echoic interpretation is good when *stolz* is used:

- [9] [ia] Warum ist Peter nicht stolz auf das gute Ergebnis?
 why is Peter not proud on the good result
- [iia] Weil Peter auf nichts stolz ist.
 because Peter on nothing proud is
- [iib] Weil Peter stolz ist auf nichts.
- [iic] Weil Peter stolz auf nichts ist.

(Hamann 1993: 2–3)

In addition to the echoic interpretation, negative constituents which have not attained the Spec-head relation with NEG required for sentential scope can also receive an 'anything' reading. Hamann says:

We get the 'anything' reading for all PP positions, provided the context and the adjective allows it:

- [10] [i] Warum gefiel diese miese Lösung dem Peter?
 why pleased this bad solution Peter

- [iia] Weil Peter (schon, sogar) mit nichts zufrieden ist.
'Because Peter is happy with anything.'
 - [iib] Weil Peter zufrieden ist (schon, sogar) mit nichts.
 - [iic] Weil Peter zufrieden (schon, sogar) mit nichts ist.
- [11] [i] Warum ist Peter stolz auf diese miese Ergebnis?
why is Peter proud of this bad result
- [ii] Weil Peter stolz (schon, sogar) auf nichts ist.
because Peter proud (even) on nothing is
- (Hamann: 1993: 3)

Hamann's discussion reveals the parallelisms between German and WF with respect to the expression of sentential negation: in both languages the negative constituent must move leftward to attain sentential scope. I assume that the leftward movement is due to the fact that the NEG-criterion imposes a Spec-head relation between the negative operator and a negative head. Though these data do not constitute evidence for an independent projection NegP, they minimally support the assumption that there is a functional projection whose head hosts the feature [NEG] in German, and that this head is subject to the NEG-criterion.

1.1.2 Negative operators in the split topic construction (Van Riemsdijk 1989)⁶

1.1.2.1 The data

In this section I discuss the so called 'split topic' construction in German (cf. Fanselow 1988, Van Riemsdijk 1989, Haider 1990):

- (12) a. Bücher habe ich keine mehr. (Van Riemsdijk 1989: 105)
books have I no more
'As for books, I haven't any any more.'
- b. Einen Wagen hat er sich noch keinen leisten können. (Van Riemsdijk 1989: 106)
a car has he himself yet none afford could
'As for cars, he has not been able to afford one yet.'
- c. Ein Schwimmbad hat er sich noch keins gebaut. (Van Riemsdijk 1989:109)
a swimming pool has he himself not yet one built
'As for swimming pools, he has not had one built yet.'

The sentences in (12) contain a split topic: in (12a), for instance, the topicalized constituent, *Bücher*, is associated with the negative quantifier

keine in a sentence-internal position. Let us call *Bücher* the TOPIC and *keine* the SOURCE.⁷ The split topic construction is possible with negative and with non-negative SOURCES.

Following the discussion in section 1.1.1 I assume that the negative constituents, i.e. the SOURCES, in the examples in (12) have moved to attain a Spec-head relation with a functional head carrying the feature [NEG]. Observe that in (12a) *keine* precedes *mehr*. In WF *nie meer* and *meer* seem to be in free variation in the presence of another negative constituent with sentential scope:

- (13) a. Ik en-*een* *geen* boeken (*nie*) *meer*.
 I *en* have no books not more
 'I don't have any more books.'
- b. K'*en-*een** *niemand* (*nie*) *meer* *gezien*.
 I *en* have no one not more seen
 'I did not see anyone any more.'
- c. K'*en-*een** *doa* *nooit* (*nie*) *meer* *geweest*.
 I *en* have there never not more been
 'I haven't been there any more.'

In (12a), the negative quantifier *keine* precedes *mehr*. We have seen that the NEG-criterion also applies at S-structure in German (1.1.1). We will assume that in German a phrase with a negative quantifier occupies the same position as the negative constituents, *geen boeken*, *niemand* and *nooit* in WF (13), i.e. that it has a Spec-head relation with a negative head. I assume that in German phrases containing the negative quantifiers in (12) have moved leftward in order to satisfy the NEG-criterion. If this is the case then the SOURCES in the split topic construction have the syntactic status of negative operators.

It also seems reasonable to assume that the two parts of the topicalized constituent, TOPIC and SOURCE, form one interpretative unit. Van Riemsdijk (1989: 112–13) points out, for instance, that the two components of the split topic generally (but see his note 11, p. 132) agree in number and in case. The question arises how TOPIC and SOURCE are to be related. Two options are available: either TOPIC and SOURCE are related by a derivational chain, or they are related by coindexation and form a representational CHAIN. We examine the relation between the SOURCE and the TOPIC in some more detail here.

1.1.2.2 The relation between the TOPIC and the SOURCE

Van Riemsdijk (1989) and also Fanselow (1988) point out that the relation between TOPIC and SOURCE has the properties characteristic of movement. For instance, Van Riemsdijk shows that the connection between the TOPIC and the SOURCE is sensitive to strong island effects:

- (14) a. Unbeschädigte Exemplare glaube ich, [dass ich
undamaged copies think I that I
keine mehr auf Vorrat habe]
none more in stock have
b. *Unbeschädigte Exemplare wollte er wissen
undamaged copies wanted he to
[wer keine mehr auf Vorrat hat]
know who none more in stock has

A similar observation is made by Fanselow (1988)

- (14) c. *Gänse kann ich mich nicht erinnern, wen
geese can I me not remember whom
welche angefallen haben.
which attacked have
d. *Gänse traf ich keinen Mann, der keine essen darf.
geese met I no man that none eat may

As expected, in dialects which allow extraction across WH-islands (14c) is grammatical (Fanselow 1988: fn. 23).

Interestingly, there is variation with respect to the effect of inner islands: when the SOURCE contains a quantifier like *keine* or a numeral like *zwei*, intervening negative operators such as *nicht* in (15a) and (15b) and *niemand* in (15c) and (15d)⁸ give rise to inner island effects:

- (15) a. *Unbeschädigte Exemplare glaube ich nicht dass er
undamaged copies believe I not that he
keine auf Vorrat hat.
none in stock has
b. ?*Unbeschädigte Exemplare glaube ich nicht dass er nur noch
undamaged copies believe I not that he only
zwei auf Vorrat hat.
two in stock has
c. *Unbeschädigte Exemplare glaubt niemand dass er keine
undamaged copies believes no one that he none
auf Vorrat hat.
in stock has

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- d. ?*Unbeschädigte Exemplare glaubt niemand dass er nur
undamaged copies believes no one that he only
zwei auf Vorrat hat.
two in stock has

But there are no inner island effects when the SOURCE contains *welche*:

- (15) e. Gänse denke ich *nicht*, dass er welche kaufen wird.
geese think I not that he some buy will
f. Bücher über einander würden die Männer *niemals*
books about each other would the men never
welche schreiben.
some write

We return to this contrast below.

One way of expressing the relation between the TOPIC and the SOURCE would be to assume that the TOPIC is extracted from the SOURCE. Under such an account movement properties, such as the island effects mentioned above, which characterize split topics, would follow naturally. As both Van Riemsdijk and Fanselow show, though, a movement analysis gives rise to many problems. It is not always possible, for instance, to restore the preposed TOPIC constituent to the lower SOURCE position. The following example illustrates this point:

- (16) a. Einen Wagen hat er sich noch keinen leisten können.
a car has he himself yet none afford could
b. *Er hat sich noch keinen einen Wagen leisten können.
c. *Er hat sich noch einen keinen Wagen leisten können.

In this example the TOPIC contains an indefinite article and the SOURCE contains a quantifier, *keinen*. The co-occurrence of a quantifier and an indefinite article is not grammatical in German (cf. 16b, 16c). Van Riemsdijk concludes that 'this means, of course, that there is no source from which sentences like [16a] could be derived by means of movement' (1989: 106).

Fanselow (1988) elaborates this issue and tries to capture the determiner overlap pattern in a movement analysis. He proposes that TOPIC and SOURCE are two independent constituents. The underlying structure of (17a) would be (17b) where the TOPIC is base-generated in a position adjoined to V°, and where the SOURCE contains a non-overt category *pro*:

- (17) a. Polnische Gänse kann sie keine kaufen.
 Polish geese can she none buy
 b. sie [keine pro] [_{V°} [_{NP} polnische Gänse] kaufen kann].
 (Fanselow 1988: 104)

Fanselow assumes that the NP *polnische Gänse* is adjoined to V° and that such a V°-adjoined NP cannot be referential. The V° adjoined TOPIC is not subject to the theta-criterion, since the theta-criterion applies only to referential arguments.

Fanselow's analysis captures the movement properties of the split topic, but it raises several theoretical problems. For instance, it is not clear how a maximal projection could be adjoined to V°. Also, if the TOPIC is non-referential, then it would not bear a referential index in the sense proposed by Rizzi (1990a, cf. chapter 1) and one should systematically have weak island effects, contrary to fact (cf. above). As we have already seen, only a subset of the split topic constructions, notably those in which the SOURCE contains *kein* or a numeral (*zwei*), give rise to weak island effects (cf. (15) above). Finally, it is not clear what the status of the V° adjoined trace would be.

1.1.2.3 Extraction and split topics

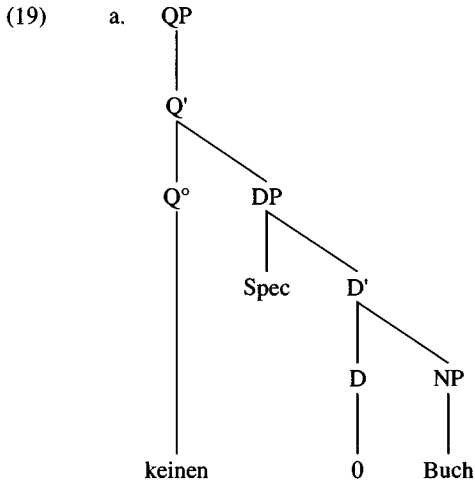
The determiner overlap in (16) leads both Van Riemsdijk and Fanselow to reject an analysis where the TOPIC is extracted from the SOURCE (Fanselow 1988: 103). In this section I examine whether one might save the movement analysis by introducing a layered structure in the SOURCE. Though the analysis is attractive, at this point it raises a number of empirical problems. I hope to return to these in future work.

First of all, note that the determiner overlap discussed concerns the co-occurrence of *kein* and *ein*; *kein* and *ein* cannot co-occur within one constituent in German. Some form of determiner overlap is attested in other Germanic languages. In WF there is variation between (18a) and (18b):

- (18) a. K' (en)-een geenen boek.
 I en have no book
 b. K'(en)-een geneenen boek.
 I en have no one book

In (18a) the quantifier *geen* is inflected (cf. the ending *-en*); in (18b) the quantifier is uninflected and is prefixed to a fully inflected determiner *eenen*. By analogy with the WF data in (18) one could argue that in

German the quantifier *kein* can co-occur with an indefinite article. We could say that the singular indefinite article may be overt or non-overt. When non-overt, the singular indefinite article is subject to an identification requirement. Let us assume that *keinen* is a head, specifically a quantifier, Q° , which heads a QP, that *ein* is a determiner which heads a DP (cf. chapter 1, section 1.4.3):



In (19a) *keinen* governs and identifies the D head of its complement, which means that D can be non-overt. By some version of economy the determiner will not be spelt out if the non-overt variant is available.

In the split topic construction, the movement of the TOPIC removes the determiner from the governing domain of the quantifier in the SOURCE and the conditions for the identification of the D° are no longer met. Hence the determiner has to be spelt out.⁹

If we admit that *kein* and a determiner can co-occur then we can derive the determiner overlap sentences like (16a) by movement. To make this analysis more concrete, assume that the movement of the TOPIC takes place in a stepwise fashion: first TOPIC moves to the specifier of the SOURCE phrase, and then it moves on to the TOPIC position. In (19b) I use coindexation simply for expository reasons; in particular, the coindexation of the TOPIC and its trace inside the SOURCE need not be interpreted as the kind of ‘strong’ referential coindexation postulated in the Relativized Minimality framework.

(19) b. [TOPIC_i] [t_i keine/zwei t_i]_j t_j

A similar analysis for the split topic construction is proposed by Haider (1989). He assumes that the SOURCE is a DP and that the extracted TOPIC moves through a specifier of the SOURCE DP. Movement through the specifier of *kein* or *zwei* might at first sight seem an unnecessary complication. However, the following data from WF suggest that this might be what is required when a complement of a quantifier is extracted:

- (20) a. da Valère gisteren vier boeken gelezen eet
 that Valère yesterday four books read has
 b. da Valère der gisteren vier*(e) gelezen eet
 that Valère there yesterday four read has

In (20a) the numeral *vier* ('four') takes an overt complement. In (20b) the complement of the numeral is a clitic *der* which has been extracted (cf. Haegeman 1993c for discussion). The movement of the clitic gives rise to a distinct morphology on the quantifier, which is now realized as *viere*. I assume that the morphological change on *viere* is a reflex of specifier-head agreement: *er* first moves through the specifier of the projection headed by *vier* (for similar data in Hebrew cf. Shlonsky 1991).

By analogy, I assume that the movement of the TOPIC through the specifier position of the SOURCE in the split topic construction triggers specifier-head agreement which is reflected in the agreement of the adjectives in (21) (cf. Fanselow 1988):

- (21) a. Ich habe kein/*keines Geld.
 I have no money
 b. Geld habe ich keines/*kein.
 c. Sie hat keine polnische*(n) Gänse gekauft.
 she has no Polish geese bought
 d. Polnische*(n) Gänse hat sie keine gekauft.

A movement derivation of the split topic construction would lead to a representation as (19c):

- (19) c. $[_{DP_i} 0 \text{ Bücher}] \dots [_{QP_j} t_i [_{Q^\circ} \text{ keine}_{j/i}] t_i] \quad t_j \text{ gelesen}$

The distinct indices *i* and *j* in (19c) highlight the two movements: (i) the quantifier moves to the specifier of NegP, and (ii) the complement DP is extracted from the quantifier phrase, i.e. the SOURCE, and moves to TOPIC. Since I assume that the moved phrase agrees with the quantifier (cf. above) the indices *i* and *j* are to be equated. The coindexation by specifier-head agreement is reciprocal, i.e. the moved phrase assigns its features to Q° but at the same time it inherits one or more features of Q° .

In particular, I assume that the moved TOPIC in (19c) inherits the operator feature associated with *kein* and acquires operator status. I assume that the operator feature on the TOPIC turns the TOPIC into an operator, i.e. a non-argument. The TOPIC will have to antecedent-govern its trace. Hence the strong island effects, and the inner island effects. I assume that the same analysis applies when the SOURCE contains a numeral.

Recall that there is a difference between SOURCES with *kein* and numerals on the one hand, and SOURCES with *welche* on the other: topicalization out of a SOURCE with *welche* is subject to WH-island effects, but it is not subject to inner island effects. In other words, it seems that the island effects in this case are due to subadjacency, but they are not ECP violations caused by lack of antecedent-government of non-argument traces. At this point I do not really see how to capture this difference but I would like to make some suggestions. The status of *welche* seems to me to be crucial in this respect.

Consider the data in (22) taken from Van Riemsdijk (1989: 110):

- (22)
- a. Unbeschädigte Exemplare habe ich kaum noch welche.
undamaged copies have I hardly still any
[welche = some]
 - b. Hast du welche?
have you any
[welche = some]
 - c. Hast du *(irgend)welche unbeschädigte(n) Exemplare?
have you any undamaged copies
 - d. Welche unbeschädigten Exemplare hast du?
which undamaged copies have you

Van Riemsdijk says:

It appears from these facts that the word *welch-* is dependent in its meaning on the syntactic context in which it occurs. It can have the meaning of the existential quantifier, but only when it is part of an elliptic NP. When it is part of an NP with a lexically realized N' it has the meaning of 'which', or, if the other meaning is to be preserved, *welch-* must be preceded by *irgend-*.

(1989: 110)

I would like to offer the following speculative remarks. The difference between *welche*, on the one hand, and the quantifiers such as *kein* and *zwei* on the other, is essentially that the latter are scope-taking elements, they are operators, while *welche* is not. *Welche* is dependent on the context; *welche* is perhaps interpreted as a bound variable or alternatively

as a polarity item: it is dependent on some other operator in the context and it does not have the operator feature. This would mean that if a TOPIC is extracted from a projection whose head is *welche*, specifier-head coindexation between the moved TOPIC and the head *welche* will not transfer an operator feature to the TOPIC. The TOPIC will be able to retain its argument status; it has the referential index associated with the SOURCE. The operator feature not being present, no inner island effects are noticed. The TOPIC can bind the trace in the SOURCE. The strong island effects are violations of subadjacency but not of the ECP. I hope to pursue this issue in future work.

Let us return for a moment to (19c) which represents the split topic construction as the result of movement. Recall that in fact the indices *i* and *j* are equated so we end up with the following representation:

- (19) d. Topic_{*i*} [QP_{*i*} [Spec t_{*i*}] [Q° *i*] [DP t_{*i*}]] t_{*i*}

In the case in which the SOURCE contains a quantifier like *kein* or *zwei* we argued that the moved TOPIC acquires operator status. I also assume independently that the negative constituent is an operator (cf. section 1.1.1). If this is true then the chain in (19d) is problematic: if TOPIC_{*i*} is an operator and QP_{*i*} is also an operator then we have a chain containing two operators. Another way of looking at this is to say that we have in fact an operator chain, which merges a topic chain and a negative operator chain.¹⁰ I will return to the representation in (19d) and the problems it raises in the discussion below (section 3.1).

1.1.2.4 Empirical problems for the movement analysis

An extraction analysis for split topics proposes that the TOPIC originates as a constituent of the SOURCE. The determiner overlap is then reinterpreted in terms of the Spell-out conditions on the indefinite article. However, as pointed out by Eric Haeberli, p.c., such an account is problematic for the data in (23) (cf. Van Riemsdijk 1989):

- (23) a. Eine Lösung hat er eine bessere als ich.
 a solution has he a better than me
 b. Ein Beweis der dritten Konjunktur ist bis jetzt kein
 a proof of the third conjecture is so far no
 definitiver gefunden worden.
 definitive found been

If we were to restore the TOPIC to its presumed extraction site in the SOURCE we create the following ungrammatical sequences:

- (23) c. *eine bessere eine Lösung
 d. *kein definitiver ein Beweis der dritten Konjunktur

Though it might be argued that determiner overlap should be allowed for, in view of similar data in (18) from WF, the sequence adjective-determiner is not attested in that language:

- (18) c. *K'een geen nieuwen eenen boek.
 I have no new a book'

I hope to return to this issue in future research.¹¹

1.1.2.5 Base-generated chains?

If we reject a movement analysis of the kind proposed in section 1.1.2.4, while retaining the idea that TOPIC and SOURCE are coindexed, then we end up minimally with the representation in (19e):

- (19) e. TOPIC_i SOURCE_i t_i

The analysis leaves it open whether TOPIC originates in a lower position (cf. Fanselow 1988) or is base-generated in the left-peripheral position. The chain < TOPIC_i, SOURCE_i, t_i > is headed by the TOPIC operator; it also contains the SOURCE, which I propose is also an operator when it is negated or quantified. In order to account for the inner island effects in (15) we would have to say that the nature of the chain < TOPIC_i, SOURCE_i, t_i > is determined by the intrinsic operator features of SOURCE. If the SOURCE is a syntactic operator, the CHAIN link < TOPIC_i, SOURCE_i > is a non-argument CHAIN link and it is established by antecedent-government relations; if the SOURCE is an argument without operator feature, then the CHAIN link can be established by binding.

In section 3.1 we will come across similar kinds of non-argument chains headed by a topic operator which c-commands a coindexed negative operator.

1.2 NEG-movement in Dutch

The syntax of negation in Dutch is like that in WF and German. I assume that *niet* ('not') occupies [Spec,NegP].

- (24) a. dat Jan niet boos op Marie is
 that Jan not angry with Mary is
 'that Jan is not angry with Mary'

The behaviour of negative complements of APs again provides evidence for NEG-movement. Non-negative complements of an adjective may follow the adjective (24b), they may precede it (24c), and they may extrapose (24d):

- (24) b. dat Jan boos op Marie is
 that Jan angry with Marie is
 c. ??dat Jan op Marie boos is
 d. dat Jan boos is op Marie

In (24e) the negative complement of the adjective *boos* ('angry') takes sentential scope and it moves to the left. If it remains to the right of the adjective the negative complement will have a denial reading (24f). The same applies to the extraposed negative constituent in (24g).¹²

- (24) e. dat Jan op niemand boos is
 that Jan on no one angry is
 f. *dat Jan boos op niemand is
 that Jan angry with no one is
 g. dat Jan boos is op niemand

1.3 NEG-movement in Afrikaans (Robbers 1993)

Robbers (1993) offers a range of data from Afrikaans which confirm that there too the NEG-criterion applies at S-structure. (25) is from Robbers (1993: 3):

- (25) a. Jy weet dat hy tevrede met Jan is.
 you know that he satisfied with Jan is
 'You know that he is satisfied with Jan.'
 b. %Jy weet dat hy tevrede met niemand is nie.
 you know that he satisfied with nobody is not
 c. Jy weet dat hy met niemand tevrede is nie.
 you know that he with nobody satisfied is not
 'You know that he isn't satisfied with anyone.'

Robbers (1993) comments:

An argument in favour of a NegP . . . is the fact that n[=negative, LH]-words cannot stay within the V . . . If n-words do stay within the VP the result is marginally grammatical and the negative constituent has an echoic ring to it. This is illustrated by the examples in [25]. The PP *met Jan* is the complement of *tevrede*. When the noun is an n-word and it stays within the VP, it cannot express sentential negation . . .

An n-word can only express sentential negation when it is moved, presumably to the spec-position of NegP.

(Robbers 1993: 3)

Robbers interprets these data in terms of the NEG-criterion: the negative operator moves to attain a Spec-head relation with a NEG-head.¹³

1.4 *The NEG-criterion in English*¹⁴

1.4.1 *Negative inversion*

In this section we turn to English, another language where the NEG-criterion must apply at S-structure.

- (26)
- a. John does not eat chocolate.
 - b. On no account will I go there.
 - c. *On no account I will go there.

Let us assume that in (26a) *not* is the specifier of NegP; the NEG-criterion is satisfied at the level of S-structure: *not* is the required negative operator in [Spec,NegP]. In (26b) the preposed negative constituent *on no account* triggers subject-auxiliary inversion. Rizzi (forthcoming) proposes that the movement of the auxiliary is triggered by the NEG-criterion (cf. discussion in chapter 2). If we assume that the NEG-criterion applies at S-structure, then the ungrammaticality of (26c) follows: the negative operator *on no account* does not have a Spec-head relation with a head carrying the feature [NEG].

The question arises, though, how exactly the NEG-criterion is satisfied in (26b). One option is to argue that in (26b) the Spec-head relation between the preposed operator and the head is achieved by dynamic agreement (cf. chapter 2, 2.2.6): the preposed negative operator assigns the NEG-feature to the head.

- (27) a. [On no account] [will] . . .
 NEG
 ————— > NEG

Apparently the NEG-feature is selective for certain types of heads. If NEG were unselective one might expect (26c) to be grammatical: dynamic agreement could endow the non-overt functional head whose specifier is occupied by the negative operator, be it a topic head, or a focus head, or even C, with the relevant feature, contrary to fact.

- (27) b. *On no account [C] he will go there
 NEG
 ————— > NEG

English sentences with preposed negation and with subject-auxiliary inversion are negative sentences in an intuitive sense. They can be coordinated with *neither*-tags (28a) and they do not take *so*-tags (28b):

- (28) a. On no account should you go there, and neither should Mary.
 b. *On no account should you go there, and so should Mary.

The preposed operator licenses negative polarity items:

- (28) c. On no account should you do anything.

The question arises whether such negative sentences contain a NegP. One option is to say that they don't and that the NEG-feature created by dynamic agreement is parasitic upon another functional head, here the C-I complex. Laka (1990, forthcoming), Zanuttini (1991) and Duffield (forthcoming) among others postulate that there is a correlation between negation and tense. We might suggest that in examples such as (26b) the NEG-feature is assigned to T. In this respect the NEG-feature would be similar to the WH-feature. Such an account would mean that not every negative sentence contains NegP.

The reader will have observed that the analysis outlined here has at least one important drawback. In interrogatives in English we proposed that dynamic agreement is not available (chapter 2, section 2.2.6). There would then be an important asymmetry for negative sentences. It is not clear how to differentiate the two kinds of operations.

An alternative option is to argue that negative sentences always have a NegP, i.e. that sentential negation is encoded by the projection of Neg°. (26b) would then have a NegP with non-overt Neg°. On its way to C the auxiliary transits through Neg° and picks up the NEG-feature. Rizzi

(forthcoming) allows for this option, which will turn out to be compatible with the analysis of negation outlined below.

From the negative inversion data we conclude that in English the NEG-criterion applies at S-structure. If we wish to restrict the use of dynamic agreement then we also conclude that such sentences have a NegP with abstract Neg^o. Let us now turn to other negative sentence types in English.

1.4.2 *Post-verbal negative constituents*

1.4.2.1 The functional definition of the negative operator

Consider (29):

(29) a. John said nothing.

In (29a) *nothing* is post-verbal. Assuming that it occupies a VP-internal position, *nothing* cannot be in a Spec-head relation with a negative head. The question arises how (29a) satisfies the NEG-criterion at S-structure. If we adopt Rizzi's functional definition of operator (cf. (1c) and (1d)), the fact that *nothing* is in its base position does not mean that *nothing* will violate clause (1a) of the NEG-criterion. Being in its base position *nothing* will not qualify as an operator and hence clause (1a) of the NEG-criterion does not apply to it.

1.4.2.2 The negative head

Following Rizzi's approach for the moment we propose that the NEG-criterion applies at S-structure in English and that the post-verbal negative constituent in (29a) is not an operator at S-structure, hence the sentence does not violate clause (1a) of the NEG-criterion.

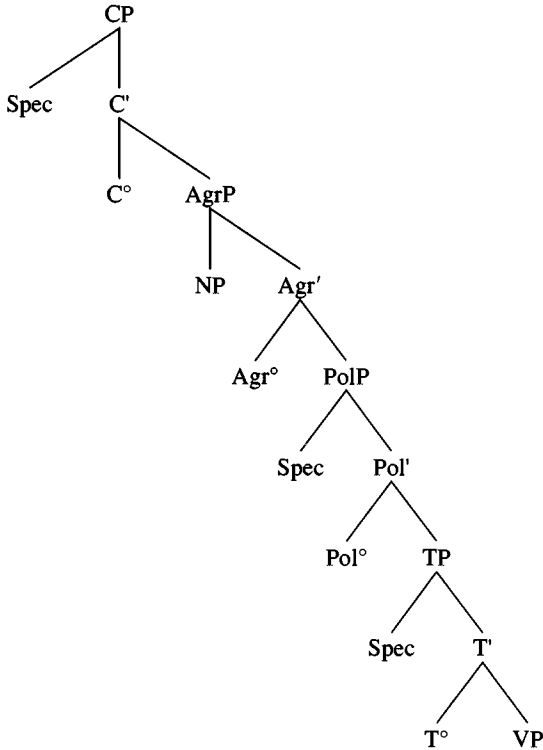
We also need to consider clause (1b) of the NEG-criterion which imposes that the negative head be associated with a negative specifier. One option is to assume that sentences with a post-verbal negation lack a negative head altogether, the second is to assume that the relevant functional head is only assigned the feature [NEG] at LF. We shall examine these options and their consequences in detail in the next sections. In section 1.4.2.3 we reconsider the functional definition of negative operators and we assume that post-verbal negative constituents are S-structure operators and must satisfy the NEG-criterion at that level.

1.4.2.2.1 No NegP One option is to assume that (29a) does not contain a head associated with the NEG-feature, i.e. that there is no NegP in the sentence. If we assume that a negative sentence is always associated with NegP, then the consequence of such an analysis is that at S-structure sentences with post-verbal negative constituents such as (29a) are not 'negative'. At LF we would assume that the negative operator undergoes NEG-movement and assigns a negative feature to a functional head by dynamic agreement. Such a proposal has a number of drawbacks. As mentioned before, it is unclear why dynamic agreement should only be available with negative constituents and not with WH-phrases. Moreover, it is counter-intuitive to assume that (29a) is not a negative sentence in the sense adopted in chapter 2. Observe, for instance, that sentences with post-verbal negative constituents which take sentential scope have the positive tag, characteristic of negative sentences (29b), and they can be coordinated with a sentence introduced by *neither* (29c):

- (29) b. It solves nothing, does it. (Huddleston 1984: 420)
 c. He could find peace nowhere and neither could his wife.
 (Huddleston 1984: 420)

1.4.2.2.2 An underspecified functional projection: PolP or SigmaP
Rather than saying that there is no NegP in (29a) we might propose that English has a functional projection which is underspecified for the feature [NEG], i.e. it is underdetermined for either NEG or POS the projection encodes the 'polarity' of the sentence (cf. Laka 1990, Culicover 1991). I will call this PolP, another option is to label the projection SigmaP, following work by Laka (1990).

(30)



Given the principle of Full Interpretation, the symbol PolP has to be interpretable at LF. When *not* fills [Spec,PolP], it assigns the NEG-feature to Pol and specifies PolP as NegP. PolP may remain unspecified at S-structure. This would be the case in declarative sentences or in negative sentences whose negative operator remains in a non-operator position at S-structure (29a) and does not qualify as an operator by the functional definition. At LF the functional definition is superseded by an intrinsic definition: the negative operator *nothing* has to satisfy the NEG-criterion and it will have to move to attain a Spec-head relation with NEG. The operator moves into the specifier of PolP, and assigns the NEG-feature to Pol by dynamic agreement, again turning the projection into a NegP. When [Spec,PolP] remains unfilled throughout the derivation, i.e. both at S-structure and at LF, I assume that it will receive the declarative interpretation as a default value. Hence sentences like (29d) are interpreted as positive by default.

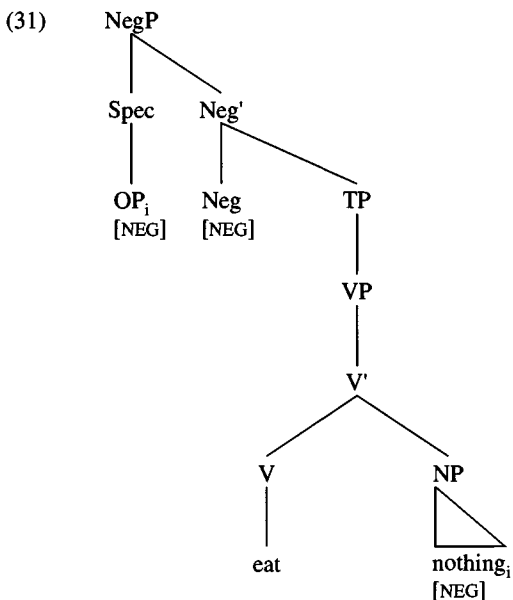
(29) d. John will say something.

On the assumption that (29a) has an underspecified PolP at S-structure, neither clause of the NEG-criterion is relevant. However, the analysis has at least two drawbacks. Not only must dynamic agreement be introduced for English, but the analysis also implies that a sentence like (29a) is not a negative sentence at S-structure, a counter-intuitive conclusion as we saw before.

1.4.2.2.3. Chain formation and the expletive operator In the previous sections we proposed that the post-verbal negative constituent in (29a) does not qualify as a negative operator at S-structure. If we wanted to say that the sentence satisfies the NEG-criterion at S-structure we then had to assume either that there is no NegP at S-structure, or that the sentence contains an underspecified PolP (or SigmaP). These conclusions were problematic given that tags and coordinated tags suggest that the sentences are negative. Moreover they depended on the availability of dynamic agreement in English.

Let us pursue another line of inquiry inspired by work by Watanabe (1991), Aoun and Li (1993), Acquaviva (1991, 1992, 1993, forthcoming) and especially Brody (1993b).

Let us assume that all negative sentences (29a) contain a NegP. In (29a) the head of NegP is non-overt. Since the NEG-criterion applies at S-structure, clause (1b) entails that a negative operator must be associated with Neg°. I would like to propose that there is a non-overt operator in [Spec, NegP]. This non-overt operator, being a non-overt category, has to be identified by association with overt material. One option which comes to mind is to say that the non-overt operator in [Spec, NegP] is a scope marker for the negative constituent *nothing* and that the two are coindexed. The non-overt operator in [Spec, NegP] is an expletive operator which forms a representational CHAIN with the negative constituent in the base position ($\langle OP_i, nothing_i \rangle$). The NEG-criterion is satisfied by virtue of a Spec-head relation between the negative head and the negative operator CHAIN.¹⁵



In order to be identified, the expletive operator, like other expletives, has to be associated with a contentive element, its associate. Following much recent discussion (cf. Chomsky 1991, 1993) we could say that the associate moves to adjoin to – or to replace – the expletive at LF (cf. chapter 1, 1.7.4.2). Alternatively, we assume that the operator CHAIN as such is interpretable (cf. chapter 1, 1.7.4.1, Brody 1993b; Aoun and Li 1993 for relevant discussion).

(29a) is a negative sentence where the functional category NegP encodes sentential negation. The negative constituent *nothing* is a negative operator and will satisfy the NEG-criterion at S-structure, by virtue of the representational CHAIN formed by coindexation with the non-overt operator in the [Spec,NegP]. (29a), which is a negative sentence, differs from (29d), which cannot be interpreted as a negative sentence, in that the latter does not contain any negative constituent. If we were to project a NegP in (29d), the non-overt expletive operator in [Spec,NegP] would not head an operator CHAIN.

1.4.2.3 The identification of non-overt operators

In the discussion above we propose that clause (1b) of the NEG-criterion can be satisfied by a non-overt operator in [Spec,NegP]. I assume that, like any other non-overt category, non-overt operators have to be

identified by an overt identifier. The identification of non-overt constituents can take place in several ways: by coindexation with an overt head which has the relevant features (32a), by a c-commanding antecedent (32b), and, we propose, by forming a CHAIN with a contentive element (32c)

- (32) a. pro_i parl- o_i
 speak-1sg
 b. These potatoes $_i$ are too hot [OP_i [IP PRO to eat t_i]]
 c. He [$_{NegP}$ OP_i [$_{Neg^\circ}$ 0] said nothing $_i$]
 [NEG] [NEG] [NEG]

In Italian (32a) the non-overt subject *pro* is identified by the inflectional Agr features of the head whose specifier it occupies: Agr is associated with the nominal features person and number; in (32b) the non-overt operator in the infinitival relative is identified by a c-commanding antecedent; in (32c), I propose, the empty operator is identified via CHAIN formation with *nothing*. Consider the representation in (32d). This would be a sentence in which NegP is projected but without any overt negative material to relate to:

- (32) d. *He [$_{NegP}$ OP [$_{Neg^\circ}$ 0] said this]

OP, the non-overt expletive negative operator in (32d), will not be interpretable since there is no overt identifier, and the sentence will be ruled out as a negative sentence by the principle of Full Interpretation: there will be an illicit symbol in the representation, the expletive operator, which is not interpretable without being associated with a contentive element. I return to the role of expletive operators in the satisfaction of the NEG-criterion in section 3.¹⁶

1.4.2.4 The NEG-criterion at S-structure

On the basis of the negative inversion data we argue that the NEG-criterion applies at S-structure in English. The distribution of the negative marker *not* is compatible with that assumption: we assume that *not* occupies [Spec, NegP], hence it satisfies (1a) of the NEG-criterion.

In section 1.4.2.3 we consider the distribution of post-verbal negative elements. If we continue to assume that the NEG-criterion applies at S-structure, then there are two options to deal with the data. Either we appeal to Rizzi's functional definition of operator to say that post-verbal negative constituents are not operators at S-structure, hence clause (1a)

of the NEG-criterion does not apply to them, or, alternatively, post-verbal negative constituents satisfy the NEG-criterion by virtue of a CHAIN which is headed by a non-overt expletive negative operator. The first hypothesis has a number of drawbacks. First, it leads us to say that sentences with post-verbal negative constituents lack NegP, which is counter-intuitive, or we have to say that both [Spec,NegP] and the negative head are non-overt, and indeed unidentified. Second, we need to have recourse to dynamic agreement, an option not available for WH-operators. Finally, we have to distinguish two definitions of operator: a functional syntactic one, and an interpretive one. These disadvantages are not present in the second option: the concept of representational CHAIN is independently motivated (Rizzi 1986a, Chomsky 1986a, Brody 1993b), and so is the expletive CHAIN (chapter 1, 1.7.4.2). A sentence with a post-verbal negative constituent will qualify as a negative sentence, and we can dispense with the functional definition of operators. For this reason we will pursue the latter analysis (for parallel proposals see also Acquaviva (1993) and Suner (1993)). We return to the negative CHAIN headed by the non-overt operator in more detail when we discuss Romance languages.

Returning for a moment to the more general issue of the discussion: I propose that the syntax of negative sentences is parallel with the syntax of interrogative sentences. If we assume that in sentences without overt NEG-movement the NEG-criterion is satisfied by an operator CHAIN headed by a non-overt operator, then we will be led to adopt the same analysis for the implementation of the WH-criterion and we dispense with the functional definition of operators. It is clear that such a position will also entail important consequences for the implementation of the WH-criterion, some of which we will discuss in what follows. For reasons of space an exhaustive discussion of these consequences is not possible.

1.4.3 *Non-operator negation*

Let me briefly turn to sentences such as (33a) where the preposed negative constituent does not trigger inversion. Anticipating the discussion in chapter 6 the idea will be that the negative constituent is not an operator.

- (33) a. Not long ago John lived there.
 b. *Not long ago did John live there.

Evidence for the absence of a negative operator, i.e. a NegP, in such sentences is that (i) they do not take a positive tag, (ii) they cannot be

coordinated with a *neither*-tag, and (iii) negative phrases such as *not long ago* do not induce negative islands:

- (33) c. Not long ago, John lived there, did*(n't) he?
 d. Not long ago, John lived here, and so did Mary.
 e. Why did he say not long ago that Mary had been fired?

In chapter 6 (section 2.2) I provide additional evidence from Italian and from West Flemish that negative constituents with local negation do not associate with NegP.

1.4.4 The syntax of *n't*

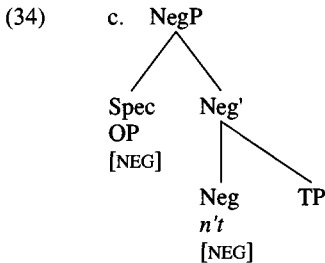
The analysis proposed assumes then that the NEG-criterion applies at S-structure in English. I assume that *not* occupies [Spec, NegP]. In (34a) sentential negation is expressed by *n't*:

- (34) a. John hasn't left yet.

The most natural analysis is to assume that *n't* is the overt realization of Neg^o (cf. Zanuttini 1991, Pollock 1993). Its head status is confirmed by the fact that it is moved along with the inflected auxiliary in I-to-C movement:

- (34) b. Hasn't John left?

Pursuing the analysis proposed here the overt head Neg^o licenses the non-overt operator as its specifier:



In this case the operator is identified via the NEG-features on the negative head. As mentioned before, the content of non-overt operators has to be recoverable. This is an instantiation of the general identification requirement on empty categories (cf. chapter 1 on the ECP and the examples (32) above). Identification of non-overt operators is achieved by virtue of the association with an overt XP or by coindexation with an overt head which can assign it the required operator features.¹⁷ Observe

that in fact representation (34c) is a simplification in that the negative head moves along with the inflected verb. Thus the NEG-criterion will be met by the (derivational) chain of the moved Neg^o and its trace in Neg^o on the one hand, and the non-overt operator in [Spec, NegP] on the other hand. Anticipating the discussion below, my analysis of English is closely similar to that of Italian sentences.

The inner island effects in (34d) confirm the hypothesis that sentences with bare *n't* contain a negative operator:

(34) d. Why didn't he say that John was licensed?

In (34d) long construal of the preposed adjunct *why* is not possible.

Observe that the analysis would mean that *n't* is Neg^o and that *not* is in [Spec, NegP]. This would be compatible with the fact that while *n't* is taken along by the moved Aux in (34b) *not* can be stranded:

(34) e. Has John not left?

For (34f) see note 17:

(34) f. Has not John been there too?

1.5 Summary and Parametric variation

1.5.1 Conclusions: the NEG-criterion at S-structure

In the discussion of the syntax of negation in Germanic languages we have pursued the proposal that the NEG-criterion applies at S-structure. In WF, Dutch, German and Afrikaans, the NEG-criterion triggers NEG-movement. In English preposed negative constituents trigger subject-auxiliary inversion. In sentences with post-verbal negation the NEG-criterion is satisfied via a representational operator CHAIN headed by an expletive negative operator. This analysis allows us to dispense with the functional definition of the notion operator.

1.5.2 Parametric variation

1.5.2.1 NEG-movement vs. operator CHAINS

In contrast with English, the Germanic languages discussed above, Dutch, German, Afrikaans or WF, lack the non-overt negative operator. Pure sentential negation must be expressed by the negative element *niet*

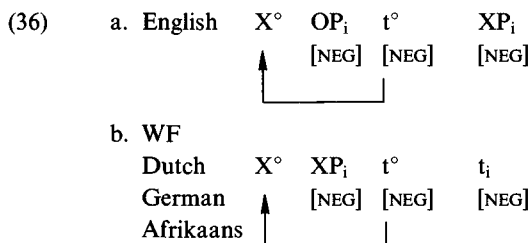
(Du), *nicht* (Ge) or *nie* (WF, Afrikaans) which we assume to be an XP (cf. chapter 3 for arguments against the idea that *nicht* in German is a head). Even WF, which has an overt negative head, cannot resort to the null operator strategy to express bare sentential negation:

- (35) a. Ik en- weten da *(nie).
 I en know that nie

The formation of a CHAIN headed by a non-overt operator and terminating in the contentive operator is not available:

- (35) b. *da ze OP_i (nie) ketent me niets_i (en)-is
 that she contented with nothing en is
 c. da ze me niets_i (nie) ketent t_i (en)-is

In WF, Dutch, German and Afrikaans the negative operator moves at S-structure (35c). The overt contentive negative operator, *me niets* ('with nothing') in (35c), has a Spec-head relation with Neg°. In English NEG-movement is not available,¹⁸ the expletive non-overt operator heads a CHAIN. Schematically we have the following typology:



There is a Spec-head relation between the operator chain/CHAIN on the one hand, and the chain of the negative head, which itself has moved along with the inflected V.

We adopt Brody's Transparency principle, introduced in chapter 2, section 2.2.8.2 (77), and repeated here as (37):

- (37) Transparency
 The contentive category in the chain must be in the highest position licensed by morphology. (Brody 1993b: 86)

Like all SOV languages, WF, Dutch, German and Afrikaans all have generalized sentence-internal leftward movement of VP-internal constituents ('scrambling'). I assume that the availability of sentence-internal leftward movement means that negative operators can be morphologically

licensed at the head of the operator chains in these languages. English, an SVO language, lacks generalized sentence-internal leftward movement and has recourse to the non-overt operator strategy.

In the next sections we further pursue the correlation between sentence-internal movement ('scrambling') and NEG-movement. We will examine sentential negation in Hungarian, a scrambling language with overt NEG-movement, and in Italian, Spanish, Portuguese, and French, languages without general¹⁹ sentence-internal leftward movement and without general NEG-movement.

1.5.2.2 Expletive non-overt operators and contentive non-overt operators

I suggest that the overt realization of Neg^o, *n't* identifies the features of the non-overt operator in [Spec, NegP]. Let us call the non-overt operator identified by the head *n't* a 'contentive' operator. The other Germanic languages discussed lack the contentive non-overt operator. Bare sentential negation must be expressed by a negative XP such as *nicht* or *niet*. It could be tempting to try to derive the availability of a contentive non-overt negative operator directly from the more general availability of expletive negative operators, but more general considerations suggest that such a step is not motivated.

The proposal that a non-overt element is licensed by a head or by entering into a CHAIN with a contentive element, suggests that we are dealing with an empty category similar, though not identical, to the non-overt pronominal *pro*, as illustrated in Italian:

- (38) a. *pro* arrivo.
 pro arrive 1sg
 'I arrive.'
- b. *pro* arriva Gianni.
 pro arrives Gianni
 'Gianni arrives.'
- c. *pro* piove.
 pro rains
 'It is raining.'

In Italian the non-overt subject, represented as *pro* (Rizzi 1982, 1986b), can be referential (38a), expletive (38b) and pseudo-referential (38c). We could say that a referential null subject in (38a) is 'contentive'. We might say that in a parallel fashion the non-overt negative operator in English is

contentive (identified by *n't*) or expletive (identified by a CHAIN terminating in an overt operator) and that the two are interdependent. However, with respect to the licensing of *pro* there are languages which lack the contentive, referential non-overt subject, but still have the expletive null subject. German is a case in point:

- (39) a. Heute kommen *(es) drei Studenten.
 today come *there three students
 b. Heute regnet *(es) immer.
 today rains it still
 c. Heute kommt *(er) später.
 today comes he later

As can be seen the expletive subject in (39a) is non-overt, but the quasi-argumental pronoun in (39b) cannot be omitted, nor can the referential pronoun in (39c) (cf. Cardinaletti 1990, Rizzi 1986b). If we assimilate the licensing conditions of the non-overt negative operator to those of the licensing of non-overt categories such as *pro* then we predict that the availability of the expletive negative operator is not dependent on the availability of the contentive non-overt operator: some languages may have the expletive non-overt element and still lack the 'contentive' non-overt operator in bare negative sentences. This prediction is borne out. Standard French lacks the contentive non-overt negative operator, but has the expletive non-overt operator:

- (40) a. Je ne suis *(pas) venue
 I *ne* am (not) come
 b. Je n'ai vu personne.
 I *ne* have seen no one

The obligatoriness of *pas* shows that the negative head *ne* in (40a) does not license a non-overt operator. If we account for the application of the NEG-criterion in terms of CHAINS (36a) then we would postulate a non-overt expletive in (40b).

1.5.2.3 Identification of NegP

At first sight, the proposal developed here is not compatible with the discussion of the expression of negation by Ouhalla:

given the condition on the recoverability of the content of empty categories, we do not expect to find a language where the Spec of NegP is an empty category and the head an abstract morpheme. A quick survey of the languages discussed in this

paper, as well as the various stages of the historical alternations of sentential negation in Romance and English, reveals that this is indeed the case.

(Ouhalla 1990: 220)

I propose that in English sentences with post-verbal negative constituents both Neg^o and the specifier of NegP are empty. However this situation is not unconstrained: the non-overt specifier is subject to an identification requirement which is met by CHAIN formation with a negative operator.

2 Negation in Hungarian

Puskas (forthcoming) shows that negative constituents in Hungarian may all move to [Spec,FP], the specifier of a functional projection intermediate between CP and IP (cf. Puskas 1992 for motivation), or they may move to [Spec,NegP]. The NC reading shows that absorption is possible. In (41a) sentential negation is expressed by the negative head *nem*. Following Puskas' analysis (forthcoming) I assume that *nem* originates as the head of NegP and moves with the verb to a higher functional head, F, which heads the Focus projection, FP.

- (41) a. *Nem beszélt János.*
not speak Janos
'Janos does not speak.'
b. *Nem látta János Mária-t.*
not saw Janos Marit
'Janos did not see Mary.'

When sentential negation is expressed by the bare negative head *nem*, the NEG-criterion is met by a non-overt contentive negative operator in the specifier position of NegP. The non-overt operator will be licensed by the overt negative head *nem*.

When negative constituents precede *nem* I assume, following Puskas, that they have a Spec-head relation with the negative head. In (42a) *semmiről* ('nothing') is in the specifier position of FP and *senkivel* ('no one') is adjoined to it. Absorption will then result in the NC reading.

- (42) a. *Senkivel semmiről nem beszélt János.* (NC)
no one INST nothing DELAT not speak Janos
'Janos did not speak about anything to anyone.'

NEG-movement to [Spec,FP] is not obligatory: negative constituents may also follow the verb.

- (42) b. *Nem beszélt János senkivel semmiről.*
 c. *János senkivel nem beszélt semmiről*

Negative constituents may occur together in a pre-verbal position (42a), and in a post-verbal position (42b). They may also be distributed over the two positions (42c). Pre-verbal negative constituents must be adjacent: we assume that one negative constituent moves into [Spec,FP], the others adjoin to it. Similarly, post-verbal negative constituents must be adjacent (cf. (42b) vs. (42d)). To account for the adjacency requirement on *senkivel* ('to no one') and *semmiről* ('nothing') in (42b) Puskas (forthcoming) suggests that they have been moved to some specific position, namely [Spec,NegP]. In (42b) *semmiről* is in [Spec,NegP] and *senkivel* adjoins to it.

- (42) d. **Nem beszélt senkivel János semmiről.*

We postulated that languages with sentence-internal movement ('scrambling') can satisfy the NEG-criterion by NEG-movement. Hungarian is another illustration of this hypothesis: like WF Hungarian allows sentence-internal leftward movement and like WF it satisfies the NEG-criterion in full at S-structure. All negative operators undergo NEG-movement, either to [Spec,NegP] or [Spec,FP]. In the latter case, they reach the Spec-head relation with the overt negative head *nem* which has incorporated the finite verb and moves to F. For further discussion of the Hungarian data the reader is referred to Puskas (forthcoming).

3 Negation in Romance languages²⁰

3.1 Italian

3.1.1 The data

Pure sentential negation in Italian is expressed by the negative marker *non*, which I take, following among others Acquaviva (1993, forthcoming), Belletti (1990; 1992) and Zanuttini (1989, 1991), to be a head.

- (43) a. *Gianni non telefona a sua madre.*
 Gianni *non* telephones to his mother
 'Gianni does not call his mother.'

Sentential negation can also be expressed by one (or more) negative constituents. With pre-verbal negative constituents *non* is excluded with a subject negative constituent (43b); *non* is marginally allowed by some speakers and in certain registers when the pre-verbal negative constituent is not a subject.²¹

- (43) b. Nessuno (*non) telefona a Gianni.²²
 no one *non* telephones to Gianni
 'No one calls Gianni.'
 c. A nessuno Gianni (*?non) telefona.
 To no one Gianni *non* telephones
 'Gianni does not call anyone.'

When there is a post-verbal negative constituent and no pre-verbal one, the presence of *non* is obligatory in a negative sentence.

- (43) d. Gianni *(non) legge niente.
 Gianni *non* reads nothing
 'Gianni does not read anything.'
 e. Gianni *(non) telefona a nessuno.
 Gianni *non* telephones to no one
 'Gianni does not call anyone.'

Italian exhibits NC as illustrated in (44a), (44b) and (44c); the two negative constituents, *nessuno* and *niente*, do not cancel each other out as they would do in standard English, they jointly express a single negation, as suggested by the glosses.

- (44) a. Gianni *(non) dice niente a nessuno.
 Gianni *non* says nothing to no one
 'Gianni does not tell anyone anything.'
 b. Nessuno (*non) legge niente.
 no one *non* reads nothing
 'No one reads anything.'
 c. A nessuno Gianni (*non) dice niente.
 to no one Gianni *non* says nothing
 'Gianni does not say anything to anyone.'

With respect to NC in Italian, pre-verbal and post-verbal negative constituents such as *nessuno* and *niente*, act alike. In (44a) the two post-verbal negative elements enter into NC; in (44b) and in (44c) a pre-verbal negative element enters into NC with a post-verbal one. This suggests that with respect to their interpretation pre- and post-verbal negative

elements such as *nessuno* ('no one') and *niente* ('nothing') are to a large extent similar. I follow Zanuttini (1991) who proposes that such negative constituents are consistently interpreted as negative operators. For arguments that these elements are not negative polarity items (as claimed in Rizzi 1982, Longobardi 1987, Suner 1993) I refer the reader to Zanuttini's own discussion.²³

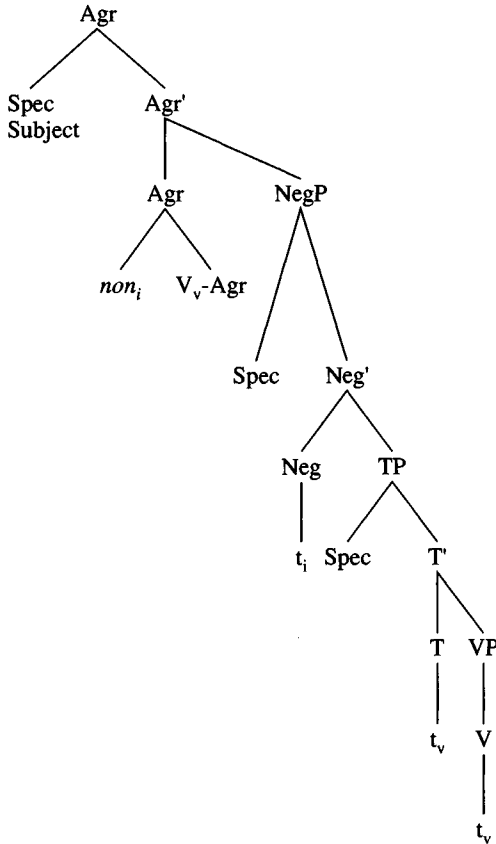
3.1.2 *The status of non*

The strongest argument for assigning head status to *non* is that it moves along with the verb in the Aux to Comp constructions in (45).²⁴

- (45) a. Non essendo Gianni arrivato puntuale, abbiamo cominciato
non being Gianni arrived on time, we started
 senza di lui.
 without him
 'Gianni not having arrived on time, we started without him.'
- b. Non avendo lei ancora risposto, non so bene cosa fare.
non having she yet answered, *non* know quite what to do
 'With her not yet having answered, I don't quite know what to do.'
 (from Zanuttini 1991: 20)

I adopt a structure for the Italian clause modelled on the Pollock/Belletti proposal for the split Infl discussed already in chapter 2. Following Belletti (1990), I assume that in Italian AgrP dominates NegP which in turn dominates TP. The finite V moves through T, to land in Agr. *Non* also moves to Agr (cf. Belletti 1990, Moritz 1989). Agr° dominates a complex category consisting of the inflected V and *non*. The rough S-structure of a negative sentence will then be as in (46):

(46)



In (46) Agr° is a bipartite zero-level category dominating the inflected $\text{V}^\circ\text{-Agr}^\circ$ and *non*. In their analysis of complex inversion in French (47), Rizzi and Roberts (1989) propose that bipartite heads license multiple Spec-head relations.

- (47) Pourquoi Jean est-il venu?
 why Jean is he come
 'Why did Jean come?'

In (47) the finite $\text{V}^\circ\text{-Agr}^\circ$ *est* ('is') has moved under *C*. *Pourquoi* ('why') satisfies the WH-criterion, i.e. it has the required Spec-head relation with the WH-feature on *est* (cf. chapter 2 for the discussion of the WH-criterion). Rizzi and Roberts (1989) also propose that the subject NP *Jean* is assigned nominative case by virtue of its Spec-head relation with the inflection, specifically Agr , on *est*. Their account leads to the conclusion

that the inflected V under C licenses two specifiers, one of the A-type (the subject NP, *Jean*) and one of the A'-type, the WH-phrase *pourquoi*. Their idea is to relate these two specifiers to the two heads in C: C° and the moved V-Agr°.

As a first approximation let us say that the dual-headedness of a negative AgrP in Italian also potentially licenses two specifiers: an A-specifier by virtue of the Agr features on the head, and an A'-specifier by virtue of the negative features on *non*. I will show the relevance of this proposal below. I return to the definition of A- and A'-specifiers and its relation to the head features in chapter 5.

3.1.3 The NEG-criterion at S-structure

Chapter 2 proposes that the distribution and interpretation of negative constituents with sentential scope is regulated by the NEG-criterion. In chapter 3 I have shown that in WF the NEG-criterion applies as early as S-structure. In section 1 of the present chapter we have seen that this also applies to German, Dutch, Afrikaans and English. In the latter, the NEG-criterion can be satisfied by representational CHAINS headed by a non-overt negative operator.

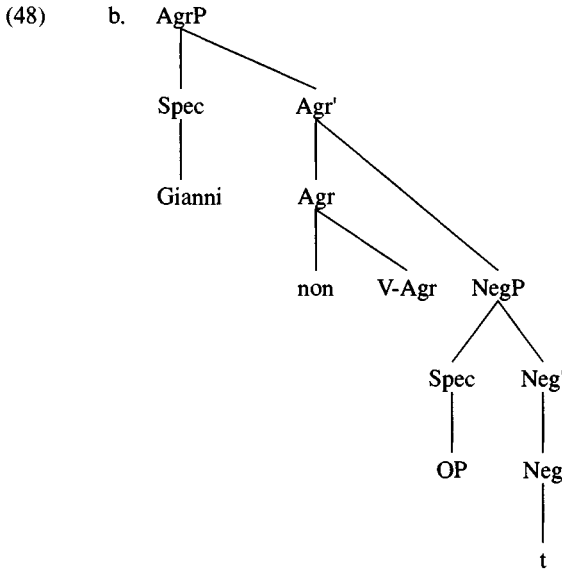
In the following sections we consider the application of the NEG-criterion in Italian. The proposal develops an earlier proposal (Haegeman: forthcoming) and is similar to proposals in work by Acquaviva (1993, forthcoming) and Suner (1993). First I discuss examples where bare *non* is the sole expression of sentential negation. Then I deal with the examples where *non* co-occurs with a post-verbal negative constituent. Finally I turn to examples with pre-verbal negative constituents, subjects and non-subjects. My analysis elaborates the hypothesis (Haegeman forthcoming) that the NEG-criterion applies at S-structure. My discussion will rely on the role of non-overt operators (as proposed already in Haegeman (forthcoming)) and on operator CHAINS (inspired by Brody's (1993b) discussion). The analysis will lead to many important questions relating to the nature of operator chains.

3.1.3.1 Bare *non*

Let us turn to sentences which have only a negative head *non* to express sentential negation.

- (48) a. Gianni non telefona a sua madre.
 Gianni *non* telephones to his mother
 'Gianni does not call his mother.'

Continuing to adopt the Pollock/Belletti structure with NegP dominating TP, and assuming that the NEG-criterion is met at S-structure we assume that there is an non-overt contentive operator in the relevant Spec-head relation with *non*. We propose that the non-overt operator occupies [Spec,NegP]:



The contentive negative operator will be licensed by the overt realization of the negative head *non*, in the same way that a non-overt subject (*pro*) is licensed by an overt head in Italian. Evidence for postulating a negative operator in sentences with a bare negative head is provided in Rizzi (1990a) where it is shown that such sentences exhibit inner island effects.

- (48) c. Perché hai detto che Gianni è partito?
 why have you said that Gianni is left
 'Why did you say that Gianni has left?'
 d. Perché non hai detto che Gianni è partito?
 why *non* have you said that Gianni is left
 'Why did you not say that Gianni has left?'

(48c) allows both long construal and local construal of the adjunct *perché*; (48d) only allows local construal. In terms of a Relativized Minimality account the intervening null operator in [Spec,NegP] blocks the antecedent-government relation between *perché* and its trace in the lower clause (cf. Rizzi 1990a).

3.1.3.2 Post-verbal negative constituents

In (49) the post-verbal negative constituent *a nessuno* ('to no one') is obligatorily accompanied by a negative head *non*. The examples with *non* and post-verbal negative constituents are similar to sentences in which *non* expresses sentential negation, in that in both cases pre-verbal *non* is obligatory.

- (49) a. Gianni *(non) telefona a nessuno.
 Gianni *non* telephones to no one
 'Gianni does not call anyone.'
 b. Gianni *(non) dice niente a nessuno.
 Gianni *non* says nothing to no one
 'Gianni does not tell anyone anything.'

The post-verbal negative constituents are not in a Spec-head relation with *non*. If the NEG-criterion applies at S-structure we are led to postulate that the NEG-criterion in the examples in (49) is satisfied by virtue of a non-overt negative operator in [Spec,NegP]:

- (50) a. Gianni *(non_i) telefona [_{NegP} OP_j [t_i] a nessuno_j]

Following the discussion of the English examples in section 1.4 I assume that the non-overt operator in (50a) is an expletive operator which forms a representational CHAIN with the post-verbal negative constituent. In earlier work I postulated a correlation between the overt realization of the negative head as *non* and the presence of a non-overt operator in the structure; the proposal was that *non* was overt precisely whenever it had to license the non-overt operator. If we adopt the analysis of English outlined in section 1.4, where a non-overt expletive operator is argued to be available in sentences without an overt negative head, then this correlation cannot hold.

- (51) George will /*won't [_{NegP} OP_i say nothing_j]

We have to assume that both in Italian and in English the non-overt operator is available with post-verbal negative constituents. This means

that such a non-overt operator is not universally dependent on the overt realization of Neg°.

With two or more post-verbal negative constituents two alternatives are conceivable: Suner (1993) and Acquaviva (1993, forthcoming) propose that there is a single negative operator which globally associates with all post-verbal negative constituents, by some form of unselective binding (50b); Brody (1993b) proposes that each negative constituent is licensed by its own operator CHAIN (50c).

- (50) b. Gianni non_k [_{NEG}P OP_{ij} [_{NEG}° t_k] dice niente_i a nessuno_j]
 c. Gianni non_k [_{NEG}P OP_i OP_j [_{NEG}° t_k] dice niente_i a nessuno_j]

At this point it is not clear to me whether there is any empirical evidence to support one or the other option. I will tentatively opt for (50c) in this book because it allows a more unified approach to the syntax of negation than (50b). Recall from chapter 3 that in WF all contentive operators undergo NEG-movement to reach a Spec-head relation with NEG. Ignoring the SOV/SVO debate, we will say that a sentence like (52a) will then contain the two (derivational) S-structure chains, <niemand_i, t_i> and <niets_j, t_j> in (52b). These chains are headed by the contentive operators.

- (52) a. da Valère gisteren niemand niets gegeven eet
 that Valère yesterday no one nothing given has
 b. da Valère gisteren [niemand_i [niets_j . . . t_i t_j . . .]]

The representation (50c) is parallel to (52b) in that here again there are two operators, which enter into two (representational) CHAINS <OP_i, niente_i> and <OP_j, nessuno_j>, headed by expletive operators.

(53) sums up the patterns for NC languages:

(53)	Language	Spec,NegP	Base position
	a. WF	OP _i	t _i
		OP _j	t _j
		Contentive OP	trace
	b. IT	OP _i	XP _i
		OP _j	XP _j
		Expletive OP	Contentive OP

The process of absorption is uniformly defined on the operator chains/CHAINS. I follow Brody's (1993b) approach here.

It is well known that the relation between the pre-verbal negative constituent and the post-verbal one has some of the properties associated with derivational chains, as first noted by Kayne (1975) for French (54) and discussed for Italian by Rizzi (1982) (55). In the (a) examples of (54) and (55), the negative constituents, *personne* ('no one') and *nessuno* ('no one') respectively, must have matrix scope, i.e. they are associated with the matrix negation (*ne, non*); in the (b) examples, on the other hand, the negative constituents, *personne* and *nessuno* respectively, cannot have matrix scope.

- (54) a. Je n'ai exigé qu'ils arrêtent personne.
 I *ne* have asked that they arrest no one
 'I did not ask that they arrest anyone.'
- b. *Je n'ai exigé que personne soit arrêté.
 I *ne* have asked that no one be arrested.
- (55) a. Non pretendo che tu arresti nessuno. (Rizzi 1982: 124)
non I require that you arrest nobody
 'I do not ask that you arrest anyone.'
- b. Non pretendo che nessuno sia arrestato.
 (cf. Rizzi 1982: 119; Kayne 1981)
 I *non* require that no one be arrested
 * with wide scope for *nessuno*

The standard explanation for the contrasts in (54) and in (55) is that the negative operators (*personne, nessuno*) have to undergo movement at LF in order to be associated with the negative head in the matrix clause. Pursuing the analysis developed above, I assume that there is an expletive operator in the [Spec,NegP] of the matrix clause in the examples in (54) and (55). To account for the observed ECP effects one option is to say that at LF the contentive operator *nessuno* moves to the expletive operator (as an instantiation of 'expletive replacement' cf. chapter 1, section 1.7.4.2) to which it adjoins (cf. Chomsky 1993). Alternatively, we assume that the ECP can also apply to CHAINS (cf. Brody 1993b, for motivation). The second option would be compatible with a radically representational approach.

Observe that there is a contrast between (54b) and (55b): the former is ungrammatical because French *ne* cannot express sentential negation in isolation, it needs to be associated with an overt negative operator, since there is no non-overt contentive operator available in French. In the matrix clause in (54b) there is no potential associate for *ne*. In Italian, on

the other hand, (55b) is grammatical with the interpretation where *non* and *nessuno* are independent: *non* functions as the bare sentential negation in the matrix clause, where it is associated with a non-overt contentive negative operator, and *nessuno* is the preverbal negation in the embedded clause. But (55b) is ungrammatical in the reading where *non* and *nessuno* are associated with one clausal negation.

A question for further study is that of the nature of the expletive CHAIN. We assume that the non-overt operator in [Spec,NegP] has to be identified, and we propose that it is the (representational) CHAIN with the contentive operator which ensures identification. We postulate the non-overt operator in order to satisfy the NEG-criterion. This means that OP must have a NEG-feature and presumably it is this feature that has to be identified via the CHAIN with the post-verbal contentive operator. If this is true then the link between the expletive operator and the contentive operator is established by virtue of the NEG-feature on the post-verbal constituent. As NEG is not a referential feature, this could lead us to the hypothesis that the CHAIN is established as a non-argument chain and subject to inner island effects. Consider the following data from Italian (Carlo Cecchetto, p.c):

- (55) c. Non credo di poter far niente.
non I believe of can do nothing
 'I don't think I can do anything.'/'There is nothing which I think I can do.'
- d. Non credo di non poter fare niente.
non I believe of *non* can do nothing
 'I don't believe that there is nothing which I can do.'
 *'There is nothing such that I believe that I cannot do it.'

In (55c) the negative operator *niente* can take matrix scope, this means that it can be related to the matrix negative head *non*. In (55d) the scope of *niente* is restricted to the infinitival clause headed by *poter*; *niente* cannot have matrix scope. *Niente* must be related to an expletive operator in [Spec,NegP] in the infinitival clause; it cannot be related to the matrix negation crossing the negation in the infinitival clause.

To my knowledge, there is no obvious explanation in the current theory for this constraint: *niente* is an argument, assuming LF movement of the negative operator, *niente* moves to an A'-position and ought to be able to be connected to its trace via binding. But the intervening negation in (55d) gives rise to an inner island effect,

suggesting that antecedent-government is at issue here. This could mean that the expletive CHAIN between a non-overt operator in the specifier of the matrix NegP and *niente* is established by virtue of the negative feature, and not by virtue of the argument status of *niente*. This conclusion is important in a wider context as it shows that chains containing argumental constituents may sometimes be subject to stricter antecedent-government requirements.

However, further research is needed into the nature of operator CHAINS. Consider (55e), from Lasnik and Saito (1984: 252):

(55) e. Who wonders where we bought what?

(55e) is ambiguous: *what* is paired either with *where* or with *who*. If we adopt the empty operator analysis then the pairing of *who* and *what* should have the following representation:

(55) f. OP_i who wonders [_{CP} where [we bought what;]]

In (55f) the operator chain crosses *where*.

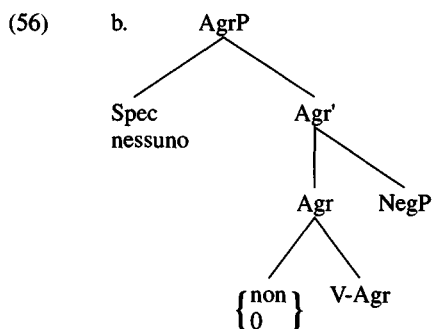
It is not clear at this point why operator CHAINS headed by a negative expletive seem to be subject to antecedent-government even if they terminate in an argument, while those headed by WH-operators and terminating in an argument are established by binding.²⁵

3.1.3.3 Negative subjects

Let us then turn to cases of pre-verbal negative constituents. Two cases are distinguished: pre-verbal subject negation and pre-verbal non-subject negation. I will start with the subject examples.

(56) a. Nessuno (*non) ha telefonato.
no one non has telephoned

Nessuno has nominative case; we assume that it occupies a specifier position of Agr:



We assume that NegP is projected and that the head is non-overt. The non-overt head moves to Agr similarly to the movement of *non*. If we maintain that the NEG-criterion applies at S-structure in Italian, the zero negative head should satisfy the NEG-criterion at that level (1b). Following Suner (1993) one option is to argue that the NEG-criterion is satisfied by a non-overt expletive operator in [Spec,NegP].

(56) c. $[_{AgrP} \text{nessuno}_i [_{Agr^o} \text{O[NEG] ha }] [_{NegP} \text{OP}_i [_{Neg} t] [_{TP} \dots]]]$

The non-overt negative operator has to be identified; in (56c) again following Suner (1993) we might propose that the non-overt operator is identified by the coindexed negative subject *nessuno*. Suner assumes that the subject *nessuno* occupies an A-position. This means that the non-overt negative operator in [Spec,NegP], which is an A'-element, is coindexed with a c-commanding A-element. We return to this point below.

(56c) represents sentences with subject negation; recall that (56d) is the representation of a sentence with bare sentential *non*:

(56) d. $[_{AgrP} \text{Gianni} [_{Agr^o} \text{non ha } [_{NegP} \text{OP } [_{Neg} t] [_{TP} \text{parlato}]]]]$

From the perspective of the structure of NegP, (56c) and (56d) are identical: in each case there is a negative operator in [Spec,NegP]. This parallelism would account for the inner island effects observed in (57); in (57a) *perché* can have local construal, asking for the reason of saying, or long construal, asking for the reason of leaving, but both in (57b) and (57c) *perché* must have local construal. In (57b) the island effect is caused by the presence of *non*; in (57c) by the presence of a negative subject *nessuno* (cf. the discussion of (48) in section 3.1.3.1).

- (57) a. Perché hai detto che Gianni è partito?
 'Why did you say that Gianni left?'
 b. Perché non hai detto che Gianni è partito?
 'Why did you not say that Gianni is gone?'
 c. Perché nessuno ha detto che Gianni è partito?
 'Why did no one say that Gianni is gone?'

The analysis outlined above raises some problems, though. If we postulate a non-overt operator in [Spec,NegP] in sentences with pre-verbal negative subject, we effectively assimilate the structure of the NegP of such sentences with that of sentences with a bare sentential negation with *non*. It is not correct to say, though, that sentences with negative subjects behave exactly like sentences with bare negation. Consider the following data:

- (58) a. *Molto ha capito.
 much he has understood
 b. Molto non ha capito.
 much *non* he has understood
 c. ???Molto nessuno ha capito.
 much no one has understood
 d. Molto non ha capito nessuno.
 much *non* has understood no one
- (59) a. *Mangiato questo ha.
 eaten this has
 b. Mangiato questo non ha.
 eaten this *non* has
 c. ???Mangiato questo nessuno ha.
 eaten this, no one has
 d. Mangiato questo non ha nessuno.
 eaten this *non* has no one

Cinque (1991) discusses examples like (58a–b) and (59a–b) to illustrate the role of sentential negation in licensing successive cyclic movement of the bare quantifier in (58) and of the predicate in (59). In (58a) we see that the bare quantifier *molto* ('much') cannot be preposed; in (58b) the presence of sentential negation licenses the preposing. However, there is an asymmetry between sentential negation as expressed by *non* and sentential negation as expressed by a pre-verbal negative subject. With pre-verbal negative subjects the preposing is much degraded (58c). Observe also that with a post-verbal negative subject the preposing is

legitimate (58d). The same pattern is observed with the preposing of a predicate such as *mangiato questo* ('eaten this') in (59).

Cinque proposes that the preposing of the bare quantifier and of the predicate can be licensed by virtue of an amalgamation of the quantifier *molto* or of the predicate *mangiato questo* with negation.²⁶ One way of interpreting this would be to suggest that the moved constituent moves via [Spec,NegP], adjoining to the non-overt operator in (58b) and in (59b). But if this is the case, and if sentences with pre-verbal subjects contain a negative operator in [Spec,NegP], then it is not clear why the same strategy is not available with pre-verbal subjects in (58c) and (59c).

The question arises why the pre-verbal negative subject blocks the movement, which is normally de-blocked by sentential negation.²⁷ At first sight (58c) and (59c) might appear as a subcase of a wider pattern. In (60b) and (60c) the preposing of the quantifier leads to island effects: in (60b) it is the intervening WH-phrase which gives rise to islands, in (60c) it is the intervening matrix negation:

- (60)
- a. Molto credo che Gianni non abbia capito.
much I believe that Gianni *non* has understood
 - b. *Molto mi domando chi non potrebbe aver capito.
much myself I ask who *non* might have understood
 - c. *Molto non ha detto che Gianni non ha capito.
much *non* has said that Gianni *non* has understood

One might assume that the ungrammaticality of (58c) is parallel to that in (60b) and (60c), i.e. that it is due to island effects. However, the island effects observed with the preposed quantifier do not obtain in the same way with a preposed predicate. (61a)–(61c) are marginally acceptable with focus on the preposed predicate. Focussing cannot rescue (60b) and (60c) (thanks to Carlo Cecchetto for pointing out the relevance of focus in these data).

- (61)
- a. Mangiato questo credo che Gianni non abbia.
eaten this I believe that Gianni *non* have (subj)
 - b. Mangiato questo mi domando se Gianni non abbia.
eaten this I wonder if Gianni *non* have (subj)
 - c. Mangiato questo non credo che Gianni non abbia.
Eaten this *non* I believe that Gianni *non* have (subj)

The asymmetry in the data in (60) and (61) shows that while preposing the quantifier gives rise to island effects, the preposing of the predicate does not generally do so. In other words, the ungrammaticality of (58c)

and (59c) with a pre-verbal negative subject cannot be simply ascribed to inner island effects.

Even if we were able to interpret the ungrammaticality of (58c) and (59c) in terms of island effects, this would be unexpected under Suner's analysis where the negative subject is treated as an A-element.

Another problem for Suner's analysis needs to be mentioned. In some registers of Italian preposed non-subject negative constituents are compatible with the overt realization of the negative head (cf. note 21, examples (iii), see also examples (63)), but in those registers a subject-negative constituent remains fully incompatible with the overt Spell-out of *non*. Anticipating the discussion below, we will assume (as does Suner) that in the case of preposing of negative operators the NEG-criterion is satisfied by virtue of a non-overt operator in [Spec,NegP]. In those registers where *non* is compatible with preposed negative operators, one might say that the negative head is overtly realized whenever there is a non-overt operator in [Spec,NegP], i.e. that OP must be identified by the overt Spell-out of the head. If sentences with negative subjects also contain a negative operator in [Spec,NegP] the fact that Neg^o must not be spelt out even in those registers where preposed negative non-subjects are compatible with *non* would be unaccounted for. If we say that negative sentences with a pre-verbal subject lack a non-overt operator in [Spec,NegP] then the obligatory absence of *non* in the specific registers would follow from some principle of Economy: not being required to license a non-overt operator Neg^o remains non-overt.

One way of accounting for the degraded status of (58c) and (59c) would then be to interpret it directly in terms of the availability of the negative operator in [Spec,NegP]. Let us say that the preposing of the quantifier and of the predicate crucially depend on the presence of a negative operator in [Spec,NegP]. We might then say that when a sentence contains a pre-verbal negative subject, there is no negative operator in [Spec,NegP], and the pre-verbal negative subject itself is the negative operator which satisfies the NEG-criterion:

(58) e. *Molto_j [_{AgrP} nessuno_k [0_i ha] [_{NegP} t_i [t_k capito t_j]]]

(59) e. *Mangiato questo_j [_{AgrP} nessuno [0_i ha] [_{NegP} t_i . . . t_j]]]

In (58e) and (59e), there is no non-overt operator in [Spec,NegP]; the negative head is licensed directly by the pre-verbal subject.

Under this analysis, the inner island effects observed in sentences with negative pre-verbal subjects (57b) result from the intervention of the

negative subject, itself an A'-element. This means that we have to assign both A- and A'-status to the negative subject. Pursuing the idea proposed by Rizzi and Roberts (1989) that multiple heads license multiple Spec-head relations, we will argue that *nessuno* in [Spec,AgrP] qualifies as an A'-position, because it is a negative constituent which enters into a Spec-head relation with the non-overt negative head on Agrs. In this particular case the multiple specifiers are realized by one position which has both A- and A'-properties. This approach is also mentioned by Rizzi (1990a; 1991). I return to it in greater detail in chapter 5. If *nessuno* itself is an A'-element, then it is subject to the NEG-criterion: the subject *nessuno* has a Spec-head relation with Agr and also with the non-overt negative head.

If there is no non-overt operator in [Spec,NegP] in sentences with pre-verbal *nessuno*, then the ungrammaticality of (58c) and (59c) would be due to the fact that the preposed constituent cannot amalgamate with the operator in [Spec,NegP].

The conclusion that sentences with pre-verbal negative subjects do not have a non-overt operator in [Spec,NegP] might be desirable for independent reasons. Recall that if we assume that there is a non-overt operator in [Spec,NegP] in sentences with a pre-verbal negative subject, then we would have to say that the negative operator is identified by the subject-negative constituent. This identification would be done by coindexation. On such an assumption though, we end up with the following coindexation:

- (62) a. [Nessuno_i [_{Agr} 0 parla [_{NegP} OP_i [_{VP} t_i di questo
no one talks of this

The coindexation would lead to the formation of a CHAIN headed by the subject NP in an A/A'-position which c-commands a coindexed operator in an A'-position. The coindexation of the A'-operator with a c-commanding A-position seems undesirable: the CHAIN which would be formed seems to parallel chains created by improper movement, i.e. where an element moves from an A'-position to an A-position.

- (62) b. [_{IP} John_i seems [_{CP} t_i that [_{IP} Mary likes t_i]]]

In (62b) the NP *John* first moves from the complement of the verb *likes* to [Spec,CP], by A'-movement, and then to [Spec,IP] by A-movement. The latter step is illicit: movement from an A'-position to an A-position is referred to as improper movement. In the standard approach the intermediate trace in [Spec,CP] A'-binds the trace in the complement

position of the lower clause. The latter trace then is a variable. But in (62b) the variable would also be A-bound by *John* in [Spec,IP].

On the basis of the preceding discussion I propose that in a sentence with a pre-verbal negative subject it is the negative subject itself which is the negative operator which gives rise to island effects. The A'-status of the negative subject will be due to the dual status of the head of AgrP, which has A-features by virtue of Agr and A'-features by virtue of the presence of a non-overt negative head.

3.1.3.4 Preposed negative constituents

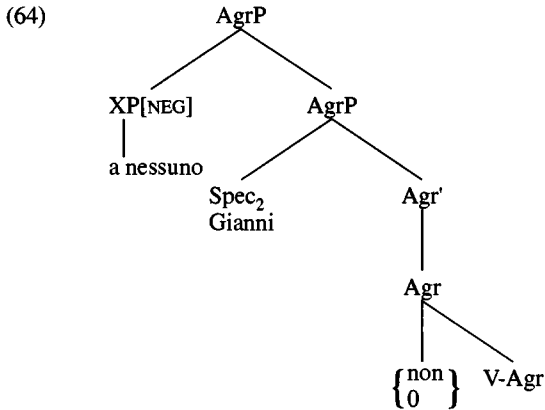
In this section I discuss the syntax of preposed negative constituents. The nature of the phenomenon not being entirely clear to me at this point, the discussion will contain many speculative points.

Two types of preposed negative constituents can be distinguished: local pre-verbal non-subjects (63a) and long-distance preposing of pre-verbal non-subjects (63b).

- (63) a. A nessuno Gianni (%non) ha parlato.
 to no one Gianni *non* has talked
 b. A nessuno credo che Gianni (%non) abbia parlato.
 to no one I believe that Gianni *non* have (subj) talked

These examples are grammatical with a slight focus on the preposed constituent (Carlo Cecchetto p.c.).

3.1.3.4.1 Local preposing. As a first analysis for (63a), we could suggest (cf. Haegeman forthcoming) that the preposed negative constituent is adjoined to AgrP. Adjunction creates an A'-position, thus the negative constituent is an operator at S-structure and subject to the NEG-criterion. In (64) the adjoined negative constituent has the required Spec-head relation with the negative head dominated by Agr. Pursuing Rizzi and Roberts' analysis of complex inversion in French alluded to above I assume that by virtue of Agr there is a Spec-head relation with the subject NP and by virtue of NEG there is a Spec-head relation with XP_[NEG]. In such an approach we would not need to postulate a non-overt operator in [Spec, NegP]. *A nessuno* itself would be the relevant operator.



A problem with this approach, though, is that sentences with a pre-verbal non-subject negative constituent cannot have a pre-verbal negative subject.²⁸

- (65)
- a. *A nessuno studente nessun professore ha parlato.
to no student no professor has talked
 - b. A nessuno studente ha parlato nessun professore.
 - c. Nessun professore ha parlato a nessuno studente.

The ungrammaticality of (65a) does not follow from the analysis. On the contrary, given the possibility that negative constituents undergo absorption we might expect that the preposed negative constituent *a nessuno studente* can absorb with the subject *nessun professore*, exactly as is the case in WF (chapter 3), where two NEG-constituents which have undergone NEG-movement, one of which can be a subject, undergo absorption:

- (65)
- d. dat ter gisteren niemand niets gezet eet
that there yesterday no one nothing said has
'that no one said anything yesterday'

NC data show that absorption is available in Italian, and that subjects and non-subjects can undergo absorption, as seen in (65b) and (65c). Moreover the analysis would not be compatible with the data of long-distance preposing.

3.1.3.4.2 *Long-distance preposing.*²⁹ It is clear that the preposed negative XP in (63b) does not have a Spec-head relation with the negative head in the lower clause. The (marginal) option of overtly

realizing the negative head in the lower clause suggests that the sentential negation is located there. If this conclusion holds then it would seem that the preposed negative constituent in (63b) could not be a negative operator. If the NEG-criterion applies to (63b) we also expect the negative head to satisfy the NEG-criterion, which is equally problematic. Three options come to mind; I will discuss their implications here.

As one option, we could propose that the negative constituent moves via [Spec,NegP] and that its trace satisfies the NEG-criterion:

(66) a. A nessuno_i credo che Gianni abbia [_{NegP} t_i [_{VP} parlato t_i]]

A second option is to say that the sentences with preposed negative constituent contain an expletive negative operator in [Spec,NegP]. Following the previous discussion the expletive negative operator has to be identified by coindexation with a contentive negative operator. In the case in which the contentive operator is preposed the expletive operator would coindex with the chain of the preposed negative constituent:

(66) b. A nessuno_i credo che Gianni abbia [_{NegP} OP_i [_{VP} parlato t_i]]

Finally, one might also assume that the expletive operator is base-generated in [Spec,NegP], and that the preposed negative constituent adjoins to the expletive on its way to the topic position:

(66) c. A nessuno_i credo che Gianni (%non) abbia [_{NegP} t_i OP_i [_{VP} parlato t_i]]

In (66b) and (66c) the NEG-criterion is satisfied by the relation between OP and the negative head; in (66a) the trace of *a nessuno* itself has the status of an operator.

Whichever option is chosen a number of questions arise:

- (i) The analysis above implies that the NEG-criterion can be satisfied by a chain of a preposed negative operator, which is not possible in WF (cf. chapter 3, section 3.1).
- (ii) In more general terms, the derivations in (66) above all lead to the formation of chains headed by a preposed negative constituent which contain an operator as a non-head.

Whichever analysis is adopted for long-distance preposing, it will carry over to local preposing of negative constituents, leading to the same questions.

3.1.4 *Discussion section*

This section turns to the implementation of the AFFECT-criterion as developed so far. The question addressed is whether the WH-criterion and the NEG-criterion can be satisfied by traces.

3.1.4.1 The NEG-criterion and preposed negative constituents in WF

The analysis above assumes that in Italian sentences with preposed negative constituents the NEG-criterion is satisfied by the operator chain. If we assume, following the first analysis (cf. (66a)), that the negative constituent moves through [Spec,NegP], the criterion is satisfied by a trace with the feature [NEG] in [Spec,NegP]. Alternatively (66b, 66c), it is satisfied by a non-overt expletive operator in [Spec,NegP], which is coindexed with the operator chain.

Let us return for a moment to the application of the NEG-criterion in WF. (67) shows that a preposed negative constituent in WF can only satisfy the NEG-criterion by a Spec-head relation with a local negative head; long-distance relations are not possible:

- (67) a. Niets en-peinzen-k da ze gezeid eet.
 nothing *en* think I that she said has
 ‘I don’t think that she said anything.’
 b. *Niets peinzen-k da ze gedoan en-eet.
 nothing think I that she done *en* has

One might propose that this contrast follows from another contrast between Italian and WF. We assume that in Italian negative operators *in situ* can satisfy the NEG-criterion at S-structure by coindexation with a non-overt negative operator. In WF this option is not available: a negative operator must head the operator chain:

- (68) a. Gianni non è [_{NEG}P OP_i contento di niente].
 Gianni *non* is contented of nothing
 b. da Valère van niets ketent en-is
 that Valère of nothing contented *en* is
 c. *da Valère ketent van niets en-is

In WF, the contentive negative operator can be morphologically licensed as the head of the chain. By the Transparency Principle (37), the contentive operator will have to be spelt out as the head of the chain in WF; the non-overt operator strategy is not available. Apparently the trace of the negative operator also cannot satisfy the NEG-criterion.

3.1.4.2 WH-criterion and NEG-criterion

If we assume that the trace of the preposed negative constituent in Italian satisfies the NEG-criterion, this creates an asymmetry between WH-chains and NEG-chains: traces of WH-movement do not serve to satisfy the WH-criterion. We briefly consider this asymmetry here.

The examples in (69) are ruled out straightforwardly if we assume that traces of WH-movement cannot satisfy the WH-criterion:

- (69) a. *Who_i did you wonder [_{CP} t_i [_{IP} Bill saw t_i?]]
 b. *Who_i, I wonder [_{CP} t_i [_{IP} Bill saw t_i]]

Perhaps, though, these examples could be excluded independently in which case they would not show that traces as such cannot satisfy the AFFECT-criterion. Let us pursue this point for a moment.

It seems to be the case that a WH-constituent in English must move to [Spec,CP] and that it cannot be preposed, while a negative constituent can be preposed. This is confirmed by the following contrast:

- (70) a. He said that never would he go there again.
 b. *He asked that what would they do.

The presence of the overt complementizer *that* in (70a) shows that *never* does not move to the specifier of CP, rather it moves to a specifier of a functional projection dominated by CP. Various authors (Müller and Sternefeld 1993, Zwart 1993, Reis and Rosengren 1992 etc.) propose that WH-movement and topicalization should be differentiated. This could be achieved, for instance, by assuming that topics move to the specifier of a TopicPhrase, and that WH-constituents move to [Spec,CP]. I do not wish to enter the discussion here, but it is clear that we have to be able to distinguish the two.

In (69a) the WH-constituent moves to the lower [Spec,CP] where it satisfies the WH-criterion. Since it cannot be topicalized the only reason for it to move on would be to move to the matrix [Spec,CP]. This movement would be illicit for various reasons. First it would be uneconomical: if *who* has satisfied the WH-criterion, the motivation for movement disappears. Also, if *who* did actually move to the matrix [Spec,CP], as in (69a), the WH-operator would have to determine the illocutionary force of two different domains. If we assume that each WH-operator can only give interrogative force to one sentence, the redundant movement of *who* would create an uninterpretable structure. In (69b) the WH-phrase first moves to the embedded [Spec,CP] and then topicalizes

into the matrix clause. If WH-phrases cannot topicalize this will also be excluded.

Negative constituents can be preposed. If we assume that it is the trace of the negative constituent which satisfies the NEG-criterion in (71) then we assume that *a nessuno* in (71) can undergo a two-step movement: (i) it moves to [Spec, NegP] to identify the NEG-feature of the head, (ii) it is preposed:

- (71) a. A nessuno Gianni ha parlato.
 b. A nessuno credo che Gianni abbia parlato.

Movement of *a nessuno* to the sentence-initial position in (71) cannot be motivated by the NEG-criterion as such. Since the null operator is generally available in Italian, NEG-movement is redundant. The movement of *a nessuno* is connected to its topic or focus nature. We might say that the negative feature of *a nessuno* satisfies the NEG-criterion by movement via [Spec, NegP].

The contrast between the negative constituents and the WH-constituents would have to be derived from more general constraints on movement. Let us assume a hierarchy of A'-positions (cf. Müller and Sternefeld 1993):

- (72) a. [Spec, CP]
 [Spec, TopicP]
 [Spec, NegP]

We might assume that once a constituent has moved to a position of rank [n] of the hierarchy, subsequent movement can only be to positions of equal rank [n], or to positions higher on the hierarchy, i.e. [n + 1]. Concretely, NEG-movement can feed topicalization, and topicalization can feed movement to [Spec, CP], but movement to [Spec, CP] cannot feed NEG-movement etc. (cf. also Müller and Sternefeld 1993). This proposal implies a refinement of the concept of improper movement.

A'-landing sites for movement would also be higher in rank in general than A-positions, thus leading to a second hierarchy (72b). Observe that the ranking in (72b) does not imply that NegP is configurationally higher than all A-positions. The idea is that movement cannot proceed from [Spec, NegP] to a (higher) A-position, while movement can proceed from [Spec, NegP] to a higher A'-position.

- (72) b. A'-positions [Spec, CP] > [Spec,Topic] > [Spec,NegP]
 > A-positions

A'-movement cannot feed A-movement, whereas the converse is possible.

On the basis of the discussion above the fact that the examples in (70) are ungrammatical would then not be because traces cannot satisfy the WH-criterion, but would be due to independent constraints on WH-interpretation and movement. However, consideration of further examples shows that the generalization of improper movement will not suffice to exclude all the examples in which traces could satisfy the AFFECT-criterion.

In WF the trace of a negative operator cannot satisfy the NEG-criterion (cf. discussion in chapter 3, example (50c) and also (67b) above). In (67b) the topicalization of the negative constituent does respect the hierarchy in (72), meaning that the above proposal is not sufficient to replace the ban on traces satisfying the criterion.

A similar conclusion is suggested by (69c) (cf. Rizzi class lectures 1994):

- (69) c. [Which sections of which books] do you think that they prefer?
 d. *Which sections of which books do you wonder [_{CP} [C + WH][they prefer?]]

In (69c) the WH-phrase *which sections of which books* contains an internal WH-phrase, *which books*. If we maintain that WH-phrases must move from [Spec,CP] to [Spec,CP] then this constraint is satisfied in (69d). Moreover, given that the WH-phrase contains two WH-operators, *which sections*, and *which books*, one could propose that one of these has scope over the matrix domain (say *which sections*) and the second (say *which books*) has scope over the embedded domain, via the trace in the embedded [Spec, CP]. Thus each WH-operator would give interrogative force to its own CP domain: the one-to-one relation between operators and clausal domains is respected. But (69d) is ungrammatical. The ungrammaticality is accounted for directly if traces cannot satisfy the WH-criterion.

If traces in general cannot satisfy the AFFECT-criterion for principled reasons then in the case of preposed negation in Italian it is not the trace of the negative operator which satisfies the NEG-criterion, ruling out option (66a). Under this view, we have to adopt either representation (66b) or (66c) for sentences with preposed negation. In both representations, the empty operator satisfies the criterion. I hope to pursue this proposal in later work.³⁰

3.1.5 *S-structure or LF*

So far I propose that the NEG-criterion applies at S-structure. In Italian post-verbal negative constituents satisfy the NEG-criterion by virtue of a representational CHAIN formed with a non-overt expletive operator. In the case of pre-verbal negative constituents, too, it is the chain of the preposed negation which satisfies the criterion.

The reader will have observed that another analysis is available. Rather than assuming that the NEG-criterion applies at S-structure in Italian, we might propose that it applies as late as LF and then we could say that at the appropriate level (i) the post-verbal negative constituent is raised to [Spec,NegP], and (ii) the preposed negative constituent is reconstructed into the relevant position, [Spec,NegP], to satisfy the NEG-criterion. I will evaluate this proposal.

A first objection to the proposal that the NEG-criterion applies at LF in Italian is that this would mean that the level of application of the various instantiations of the AFFECT-criterion is arbitrarily diversified. Following Rizzi (forthcoming) we assume that the WH-criterion applies at S-structure in Italian. The NEG-criterion, on the other hand would apply at LF. In the Germanic languages considered above there was consistency in the level of application of the AFFECT-criterion. Both the NEG-criterion and the WH-criterion apply at S-structure in WF, German, Dutch, Afrikaans and English.

3.1.5.1 *Preposed negation*

One element in the discussion is the observation that the preposed negative constituents seem to be subject to island effects and to inner island effects:

- (73)
- a. *A nessuno credo che Gianni (non) abbia parlato.* (with focus on *a nessuno*)
to no one I think that Gianni (*non*) have (subj) talked
'To no one, I think that Gianni talked.'
 - b. **A nessuno non credo che Gianni (non) abbia parlato*
to no one *non* I think that Gianni (*non*) have (subj) talked
 - c. **A nessuno mi domando se Gianni (non) abbia parlato.*
to no one I myself ask if Gianni (*non*) have talked
 - d. **A nessuno credo che nessuno abbia parlato*
to no one I believe that no one have (subj) talked

A nessuno is an argument, one would expect that its trace can be identified by binding. It is not clear why binding is not sufficient (cf. 73b, 73c, 73d) and why antecedent-government is needed.

If the preposed negative constituent is not able to identify its trace via binding, but has to be connected to the trace via antecedent-government, this might be taken as evidence that the NEG-criterion applies as late as LF and that the preposed negative constituent has to be reconstructed to the base position. It has been observed in the literature that reconstruction chains are subject to antecedent-government (Cinque 1991, Longobardi 1987). The data in (74) illustrate this point.

- (74)
- a. How many patients should every doctor visit?
 - b. How many patients do you think that every doctor should visit?
 - c. How many patients do you wonder whether every doctor should visit?

The sentences in (74) contain two quantified phrases: *how many patients* and *every doctor*. (74a) is ambiguous, both *how many patients* and *every doctor* can take wide scope (WS). Similarly, it is generally proposed that the WS reading for *every doctor* in (74b) can be achieved by reconstruction: *how many patients* is reconstructed to a position in which it is within the scope of *every doctor*. In (74c) the WS reading of *every patient* is not available, suggesting that reconstruction is blocked by the intervening WH-operator (*whether*). If it is assumed that reconstruction is an LF operation, and if we interpret the island effects in (73) in terms of reconstruction, then we might say that *a nessuno* must reconstruct to the [Spec,NegP] in order to satisfy the NEG-criterion, i.e. that the NEG-criterion applies as late as LF.

The island effects discussed above are compatible with a view that the NEG-criterion applies at LF, but they do not enforce such a conclusion. Barss (1986, 1988) elaborates an analysis of reconstruction effects based on chains. In the next section I introduce some empirical evidence which suggests strongly that the NEG-criterion must apply at S-structure in Italian.

3.1.5.2 Parasitic negation

Suppose we argue that the NEG-criterion applies at LF in Italian. Following Rizzi's analysis (forthcoming) of WH *in situ*, post-verbal negative constituents do not qualify as syntactic negative operators under the functional definition (1c, 1d). Sentences with post-verbal negation

would not need to have a non-overt empty operator: the negative phrase itself moves into [Spec,NegP] at LF. Alternatively, these sentences might have a non-overt negative operator in [Spec,NegP], but there would not have to be any connection between the operator and the post-verbal negative constituent at S-structure, since the negative constituent in its base position would not count as an operator. At LF, the connection between the negative constituent and the negative head could be established by CHAIN formation between a negative operator in [Spec,NegP], or by movement of the negative operator to [Spec,NegP]. In such a system we do not expect that at S-structure a post-verbal negative constituent would have a different impact on the clauses than a post-verbal argument.

Let us consider data discussed in detail by Longobardi (1987), Zanuttini (1991) and Brody (1993b). These data are compatible with an approach in which the NEG-criterion applies at S-structure. In such an analysis, the post-verbal negative constituent is distinct from a post-verbal non-negative argument and the operator CHAIN between the specifier position of NegP and the post-verbal negative constituent must be established by S-structure.

- (75) a. *Non faccio questo [per aiutare nessuno].³¹
non I-do this to help no one

The negative head *non* in the matrix clause in (75a) cannot be associated with a post-verbal negative constituent inside an adjunct clause. (75a) is ungrammatical because the post-verbal negative constituent *nessuno* cannot enter into a Spec-head relation with the negative head. If we replace the non-negative object *questo* ('this') in (75a) by a negative object *niente* ('nothing') the sentence becomes grammatical:

- (75) b. Non faccio niente per aiutare nessuno.
 I *non* do nothing to help no one

The post-verbal negative constituent *niente* ('nothing') in (75b) cannot be assimilated to a non-negative argument such as *questo* ('this') in (75a). In order to license a negative operator in an adjunct, we need a *negative* constituent in post-verbal position. Observe also that a *pre-verbal* negative constituent, a subject or a preposed negative constituent, is inadequate:

- (75) c. *Nessuno fa questo [per aiutare nessuno]
 no one does this to help no one

- d. *A nessuno ho parlato [per aiutare nessuno].
 to no one I have talked to help no one

Longobardi (1987) was the first to point out that the negative constituent in the adjunct in (75b) is dependent on the post-verbal negative element in the matrix clause in a way that parasitic gaps are dependent on real gaps. Consider the following pair:

- (76) a. ??Which paper did you file an exam without reading t?
 b. Which paper did you file t without reading?

(76a) is degraded because the *WH*-phrase is extracted from an adjunct clause. In (76b) the non-overt object in the adjunct clause is licit: it is dependent on the trace resulting from movement in the matrix clause. (76c) shows that parasitic gaps are licensed at S-structure:

- (76) c. *Who filed which paper without finishing e?

In (76c) the *WH*-constituent *who* has moved at S-structure, satisfying the *WH*-criterion. If we assume that *which paper* moves to [Spec,CP] at LF, and if the parasitic empty category in the adjunct clause could be licensed as late as LF, then the sentence should be grammatical (cf. Haegeman 1994a for an introduction to parasitic gaps).

Given the parallelisms with parasitic gaps let us refer to a negative constituent which is licensed by another post-verbal negative constituent as a parasitic negation.³² A preposed negative constituent does not license the parasitic negative constituent, suggesting that the mere presence of a negative constituent in the matrix clause is not enough. What is required is the presence of a negative operator in the post-verbal position. If the licensing of parasitic negation is an S-structure phenomenon, we conclude that already at S-structure the post-verbal negative constituent must be distinguishable from the non-negative constituent. I propose that given its intrinsic properties, the post-verbal negative constituent is an S-structure operator.

In the analysis of the Italian data I have proposed that the *NEG*-criterion is satisfied at S-structure in Italian and that post-verbal operators form a *CHAIN* with an expletive operator in [Spec,NegP] (77a). For sentences with preposed negative constituents a non-overt operator will satisfy the criterion (77b):

- (77) a. [_{AgRP} Gianni [_{Agr} non ha [_{NegP} OP_j [_{VP} parlato a nessuno_j]]]]
 b. [A nessuno_j [_{AgRP} Gianni [_{Agr} (non) ha [_{NegP} OP_j [_{VP} parlato t_j]]]]]

In (77a) there is a CHAIN $\langle OP_j, a \textit{nessuno}_j \rangle$; in (77b) the non-overt operator in [Spec,NegP] satisfies the criterion.

Let us assume that in sentences with a post-verbal parasitic negation as in (75b), the parasitic negative constituent is a negative operator at S-structure and has to enter into a CHAIN with an expletive negative operator. This chain is a secondary chain; it is parasitic on a parallel CHAIN, i.e. a CHAIN of the same type. Let us call the licensing CHAIN the primary chain.

In (77c) the parasitic negative constituent *nessuno* can form a CHAIN with an expletive negative operator $\langle OP_i, \textit{nessuno}_i \rangle$. This chain is licensed: it is 'parasitic' on the parallel primary CHAIN, $\langle OP_j, a \textit{nessuno}_j \rangle$.

- (77) c. [_{AgRP} Gianni [_{AgP} non ha] [_{NegP} OP_i OP_j [_{VP} parlato a nessuno_j]]]
 Gianni non has talked to anyone
 [per aiutare nessuno_i]
 to help anyone

We cannot license a parasitic negative chain on the basis of a primary chain headed by a pre-verbal negative constituent. In (77d) the primary CHAIN, $\langle a \textit{nessuno}_j, OP_j, t_j \rangle$, terminates in a non-overt category (a trace), while the parasitic CHAIN $\langle OP_i, \textit{nessuno}_i \rangle$, terminates in an overt operator. The lack of parallelism accounts for the ungrammaticality:

- (77) d. A nessuno_j [Gianni (non) ha [_{NegP}OP_i (t_j) OP_j]
 to no one Gianni non has
 [_{VP} parlato t_j]] [per aiutare nessuno_i]
 talked to help no one

As shown above, an analysis in which the NEG-criterion applies at S-structure can account for the parasitic negation data. In an account which assumes that the NEG-criterion applies as late as LF in Italian, the parasitic negation effects are surprising. While parasitic gaps must be licensed at S-structure, the similar parasitic negation effects would have to be related to LF representations. If the NEG-criterion applies as late as LF this means that at this level all the negative operators will be subject to the NEG-criterion, presumably in a uniform way. Negative operators will either move to [Spec,NegP] from their base position, or they will reconstruct to it from a preposed position. It is hard to see how the LF representation will be able to distinguish a negative operator which occupies a base position at S-structure from one that was preposed at S-

structure. In either case, at the level of LF negative operators will have to have a Spec-head relation with a negative head. The only way of diversifying, as far as I can see, is to take into account the derivational history of the negative operators, or to invoke S-structure non-overt expletive operators for one type of negative operator. But these two options point strongly towards the relevance of S-structure for the syntax of negation in Italian.

3.1.5.3 Preposed negative topics

I have proposed in the discussion above that the NEG-criterion can be satisfied by a non-overt operator in Italian. When there is a preposed negative constituent a number of analyses can be envisaged. Either it is the trace of the negative topic which satisfies the NEG-criterion (78a), an option which seems undesirable for several reasons; alternatively, there is a non-overt expletive negative operator in [Spec,NegP] which enters into a CHAIN with the preposed negative constituent (78b), or, finally, there is a non-overt expletive negative operator in [Spec,NegP] and the negative constituent adjoins to it before moving to the higher position:

- (78) a. A nessuno_i credo che Gianni [_{NegP} t_i abbia parlato t_i]
 b. A nessuno_i credo che Gianni [_{NegP} OP_i abbia parlato t_i]
 c. A nessuno_i credo che Gianni [_{NegP} t_i OP_i abbia parlato t_i]

In each representation we assume that the preposed negative constituent satisfies the NEG-criterion via a chain with the negative operator in [Spec,NegP]. In (78a) it is the trace of *a nessuno* which functions as a negative operator, in (78b) and (78c) there is an additional expletive operator. In each representation *a nessuno* heads a chain with an operator as a non-head:

- (78) d. XP_[NEG]_i OP_i t_i
 t_i
 t_i OP_i
 [NEG]

The chain created by the preposed negative constituent is subject to strong and weak island effects. This suggests that the chain is not established by virtue of binding but by virtue of antecedent-government. In other words, it would appear that the argument status of the head of the chain *a nessuno* is cancelled. On the other hand, we also have to assume that the content of the argument-trace in the VP-internal

thematic position can be recovered. This suggests that the chain in (78d) has two layers: an argument layer which is determined by the argument properties of the preposed constituent, and a non-argument layer which is determined by its negative feature. Apparently the argumental properties of the chain are overruled by the operator properties. Recall a similar discussion with respect to the split topics in German (section 1.1.2) and also with respect to CHAINS terminating in post-verbal negative operators (section 3.1.3.2).

Another variant for the derivation of the sentences with preposed negative XP is to assume that a non-overt negative operator originates as the argument of the verb and moves to [Spec,NegP] from where it is coindexed with the base-generated topic. Observe, though, that this does not remove the problematic nature of the chain, which will still be headed by the preposed negative XP and contain an operator in a non-head position. Moreover the question then arises why [Spec,NegP] can only be the landing site for non-overt operators, and not for the overt negative constituents. It is clear that the problems discussed above have not been given a satisfactory solution in this book. I hope to have shown, however, the various lines of analysis available and the theoretical and empirical consequences they entail.

The data of preposed negation are also reminiscent of the German WH-imperatives discussed by Reis and Rosengren (1992):

- (79) a. Wohin_i sag mir [_{CP} t_i dass Maria t_i gegangen ist]
 where tell me that Maria gone is

The sentence-initial WH-phrase *wohin* gives interrogative force to the complement of the imperative verb *sag*. (79b) is a paraphrase of (79a):

- (79) b. Sag mir [_{CP} wohin dass [Maria gegangen ist]]
 tell me where that Maria gone is

(79a) illustrates a construction where a WH-operator moves beyond the licensing point, [Spec,CP], and topicalizes in an imperative structure. These data are problematic for an approach which excludes that traces can satisfy the WH-criterion; clearly in (79a) the trace of *wohin* in [Spec,CP] will have a Spec-head relation with the embedded C, with the feature [+WH]. If *wohin* in (79a) were in a [Spec,TopicP] then the structure would violate the hierarchy condition on A'-movement (72b). It is not clear what licenses the structure in (79a). I assume that further study of imperatives can throw light on the issue (cf. Rivero forthcoming).

b, Zanuttini forthcoming a and b). Observe that the chain between the topicalized WH-constituent and the trace in [Spec,CP] is subject to the weak island effect: (79c) with a negative imperative, cannot be paraphrased with the WH-imperative (79d) (Stefanie Bittner, p.c.):

- (79) c. Sag ihm nicht wohin dass Maria gegangen ist.
 tell him not where that Maria gone is
 d. *Wohin sag ihm nicht dass Maria gegangen ist.
 where tell him not that Maria gone is

We assume that it is the trace of the preposed constituent which satisfies the WH-criterion, i.e. the trace functions as a WH-operator. The chain formed in (79a) is like that found with preposed negative constituents in Italian: it contains a non-head operator:

- (79) e. [wohin [CP t_{WH} [C° WH] [IP . . . t]]]

The chain between *wohin* in the matrix imperative clause and the trace in the interrogative [Spec,CP] is subject to antecedent-government. Again we assume that the operator layer of the chain overrules the argument layer.

Based on the analysis of preposed negation we end up with chains which are complex entities. A preposed negative constituent is coindexed with an operator in [Spec, NegP]. The latter is either its trace (80a) or an expletive operator (80b). Moreover there is also a relation with the base position of the argument.

- (80) Chain: TOPIC OPERATOR X° TRACE

Layer (i)	argument			argument
-----------	----------	--	--	----------

Layer (ii)	operator	operator		
------------	----------	----------	--	--

- a. A nessuno [NegP t[NEG] [Neg° NEG] t]
 b. A nessuno [NegP OP[NEG] [Neg° NEG] t]

The relation between the preposed constituent and the operator in [Spec,NegP] is established via antecedent-government, regardless of whether the preposed constituent is an argument. I assume that the operator layer of the chain is activated as the point in which the operator is licensed, [Spec,NegP].³³

3.1.6 *Non*

In this section I briefly return to the alternation between overt Neg° and non-overt Neg° in Italian discussed in section 3.1.1. Let us first consider the standard dialect. Recall that when there is a pre-verbal negative constituent Neg° is non-overt; when there is no overt negative operator or when the negative operator is post-verbal, Neg° is spelt out as *non*. I assume that in Italian Neg° moves to Agr, whether overt or not. Following Chomsky (1993), Pearce (forthcoming), Zanuttini (forthcoming b) let us say that Neg° may be strong or weak. In Italian it is strong: Neg° is visible at S-structure, this means it has to be licensed at that level. There are two ways in which Neg° can be licensed at S-structure: either it is spelt out overtly, or, alternatively, Neg° remains non-overt and is associated with an overt c-commanding antecedent which identifies the negative feature. We assume that the connection between the antecedent and the negative head is established on the basis of the negative feature, i.e. a non-referential feature, hence *non* and its antecedent have to be connected by antecedent-government. If Neg° is identified by a c-commanding antecedent then it will be allowed to be non-overt. By economy, if Neg° is allowed to be non-overt it will be non-overt.

When there is a pre-verbal negative subject the identification condition is satisfied and Neg° can be non-overt. This also applies when a negative operator is preposed. With post-verbal negative constituents and no pre-verbal ones, Neg° has to be overt.

In the registers in which *non* is always spelt out with preposed non-subject negative constituents as well as with post-verbal negative constituents (cf. note 21), I propose that *non* is overt whenever there is a non-overt operator in [Spec,NegP]. My analysis proposes that with subject-negative constituents, there is no non-overt operator, and in those registers where *non* co-occurs with preposed negative constituents, it is indeed ungrammatical with pre-verbal subjects.

Since the identification condition of strong Neg° is an S-structure condition, a condition on Spell-out, I also assume that the constituent which identifies Neg° must c-command the surface position of Neg°.³⁴

3.2 Other Romance languages

3.2.1 Spanish (Suner 1993)

The analysis of negation which is proposed for Italian carries over to Spanish. This section provides a short survey of some relevant data. It is based on Suner (1993). As is the case in Italian, Spanish expresses negation by means of a pre-verbal negative head, here *no*:

- (81) a. La niña no está hablando por teléfono.
 the girl *no* is speaking by telephone
 ‘The girl is not speaking on the phone.’
 b. El auto no arranca.
 the car *no* does start

No co-occurs with post-verbal negative constituents:

- (81) c. No vio a nadie.
 no 3sg saw nobody
 ‘She/he did not see anybody.’
 d. Yo no llamaría a ninguno de ellos.
 I *no* would call none of them
 ‘I would not call any of them.’
 e. No se lo diremos jamás a nadie.
 no to 3sg it 1pl will tell never to nobody
 ‘We will not tell it ever to anybody.’

(data from Suner 1993: 1, examples (1) and (2))

No is not compatible with pre-verbal negative constituents:³⁵

- (81) f. Nadie (*no) hará eso.
 nobody *no* will do that
 g. Nunca jamás nadie prevalecerá sobre ella.
 never never nobody will prevail over her
 h. A ninguna de ellos (*no) llamaría yo.
 none of them *no* would I call

(Suner 1993: 3)

The data are parallel to those in Italian. Following the discussion above I assume that NEG is strong in Spanish and must be licensed at S-structure. Licensing is achieved either by overt Spell-out, or by antecedent-government by a preposed negative constituent.

Parallel with the discussion of Italian I assume that the NEG-criterion applies at S-structure. For an example like (81i) with a preposed negative

constituent, I assume that the NEG-criterion is satisfied either by the trace of the negative constituent in [Spec,NegP], or by an expletive operator in [Spec,NegP]. These kinds of sentences give rise to the same type of layered chain as is found with preposed negation in Italian (cf. discussion above).

- (81) i. A ninguno de ellos están seguros que María les daría nada.
to none of them, they are positive that María would give them nothing

The Spanish data differ interestingly from the Italian data. As is the case in Italian, Suner (1993: 7) observes that the preposing of negative constituents in (81i) is subject to island effects: when the negative constituent crosses a WH-operator, the overt Spell-out of *no* is obligatory:

- (81) j. A ninguno de ellos quisiera saber por qué Juan no les escribió para Navidad.
to none of them I would like to know why Juan *no* to them write for Christmas

(1993: 7, example (19))

The relevance of the intervening WH-operator is clearly illustrated in the following pair:

- (82) a. A ninguno de ellos me dijeron que Juan (*no) les había escrito para Navidad.
to none of them they told me that Juan had *no* written to them for Christmas
b. A ninguno de ellos quién te dijo que Juan no les había escrito para Navidad.
to none of them who told you that Juan *no* had written to them for Christmas

(Ibid. examples (20) and (21))

The ungrammaticality of examples without overt *no* follows from the account proposed above: the links of the chain between the preposed constituent and the operator in [Spec,NegP] are established by antecedent-government. The intervening island will block the antecedent-government relation between the preposed negative constituent and its trace in [Spec,NegP].

The question arises how the overt realization of *no* can rescue the sentences in Spanish, an option not available for Italian speakers (Rizzi

p.c.). Suner suggests that sentences like (82a) and (82b) would be similar to constructions referred to as clitic left dislocation:

- (82) c. Questo libro, non lo voglio.
 this book non it I-want

where the clitic is the argument of the V. For further discussion the reader is referred to Suner (1993).

3.2.2 Negation in Portuguese

The distribution of negative constituents in Brazilian Portuguese³⁶ is very similar to that in Spanish and in Italian, and I would assume that the same basic analysis applies (Rasetti 1994). The negative head *não* licenses a contentive negative operator in (83a).

- (83) a. A Maria não veio.
 Maria não came
 'Maria did not come.'

In (83b) I assume that the negative head licenses an expletive operator which forms a CHAIN with the post-verbal contentive operator, <OP_i, nada_i> :

- (83) b. O José nao lê nada.
 Joe não reads nothing
 'Jose does not read anything.'

While *não* is obligatory with post-verbal negation, it is excluded with pre-verbal negation:

- (83) c. Ninguém (*nã) comprou o quadro.
 no one não bought the painting
 'No one bought the painting.'

3.2.3 Negation in French

(84) presents the central data for our discussion.

- (84) a. Jean (n') est *(pas) venu.
 Jean ne is not come
 'Jean did not come.'
 b. Jean (n') a parlé avec personne.
 Jean ne has talked with no one
 'Jean talked to no one.'

In earlier work (Haegeman forthcoming) I proposed that the WH-criterion applies at S-structure in French (cf. Rizzi (forthcoming) and also the discussion in chapter 2) and that the NEG-criterion applies at LF. Again, this asymmetry in the level of application of the AFFECT-criterion is rather unsatisfactory. Let us pursue the option that the NEG-criterion applies at S-structure.

From (84a) we deduce that *ne* cannot license a non-overt contentive operator, hence *pas* is obligatory in sentences which do not contain a contentive negative operator. In (84b) we assume that the NEG-criterion is satisfied by an operator CHAIN, headed by a non-overt expletive operator and with the negative operator *personne* as its foot. As is the case in WF, Neg^o may be non-overt.³⁷

The ECP effects noted by Kayne (1981) are accounted for in the same way as in Italian:³⁸

- (85) a. Je ne demande que la police arrête personne.
 I *ne* ask that the police arrest no one
 'I don't ask that the police arrest anyone.'
 b. *Je ne demande que personne soit arrêté.
 I *ne* ask that no one be arrested

In (85a) *personne* can have matrix scope, the NEG-criterion is satisfied: *personne* will attain a Spec-head relation with *ne* by CHAIN formation with a non-overt operator in the matrix [Spec,NegP]. (85b) is ungrammatical: the NEG-criterion is violated, *ne* does not have a negative operator as its specifier; *personne* cannot have matrix scope, and *ne*, the head of the matrix NegP, does not have a Spec-head relation with a negative operator; LF movement of *personne* to the specifier of the matrix NegP or – adopting Brody's (1993b) account – CHAIN formation with a non-overt operator in the matrix [Spec,NegP] is blocked by the ECP.³⁹ (85c) is grammatical: matrix *ne* is associated with the negative operator *pas* and *personne* has embedded scope:

- (85) c. Je ne demande pas que personne soit arrêté.
 I *ne* ask not that no one be arrested
 'I don't ask that no one be arrested.'

As was the case in Italian, a preposed negative constituent forms a layered chain with a non-overt operator (or with a trace) [Spec,NegP]:

- (86) a. A personne je crois qu'il ne parlera.
 to no one I think that he *ne* will talk

- 'I think he won't talk to anyone.'
- b. A nessuno credo che (%non) abbia parlato.
to no one I think that he (*non*) has (subj) talked

In French, a number of negative constituents must undergo movement at S-structure. (87a) is standard French, (87b) is grammatical in Genevan French:

- (87) a. Je n'ai rien acheté.
I have nothing bought
'I haven't bought anything.'
- b. %Je n'ai personne vu.
I have no one seen
'I did not see anyone.'

I would like to propose that the obligatory movement of these constituents is triggered by a strong intrinsic quantifier feature which forces the operator to attain an A'-position at S-structure.⁴⁰ A similar feature would, for instance, force movement of *tout* in (87c):

- (87) c. J'ai tout vu.
I have all seen
'I have seen everything.'

4 Conclusion: Parametric variation and operator chains

4.1 The NEG-criterion

In the discussion above I have elaborated an analysis in which the NEG-criterion applies universally at S-structure. In the West Germanic languages, WF, Dutch, German, and Afrikaans, and in Hungarian, the NEG-criterion is satisfied by NEG-movement. In the Romance languages, French, Italian and Spanish, and in English, the NEG-criterion can be satisfied by an operator CHAIN headed by a non-overt negative operator and whose foot is the contentive negative operator.

The analysis raises a number of important questions concerning chain formation: particularly I postulate (representational) operator CHAINS whose head is an expletive operator, a scope marker, and whose foot is a contentive operator, and we have had to postulate chains headed by a proposed element which antecedent-governs an operator in a lower position. With respect to the second point, I have tentatively suggested that we decompose the chain headed by a proposed argument into

different layers: the argument layer and the operator layer. The operator feature which determines the non-argument layer of a chain is activated at some specific licensing point in the chain. For instance, the operator layer of the chain of a preposed negative constituent would be activated by the licensing of its operator feature in [Spec,NegP]. This approach would account for the weak and strong island effects with preposed negative constituents.

If we assume that the NEG-criterion applies at S-structure and that it can be satisfied by expletive operator CHAINS then we can dispense with the functional definition of operators.

4.2 *The wh-criterion*

Let us return to the leading idea of my analysis for a moment. I proposed that the syntax of negation is like the syntax of WH; both negative operators and heads, as well as WH-operators and WH-heads are subject to a general specifier-head requirement, formulated as the AFFECT-criterion. If we assume that the level of application of the NEG-criterion is not parametrized, the same conclusion should hold for the application of the WH-criterion. This result can be achieved by also admitting expletive interrogative operators, as proposed by Aoun and Li (1993), Watanabe (1991) and implemented in full in Brody (1993b). If this option is chosen we again dispense with the functional definition of operators.

Following Brody (1993b) we will have to state the parametric variation with respect to the mode of application of the AFFECT-criterion in terms of Spell-out conditions on the head of the operator chain.

4.3 *The role of traces and the AFFECT-criterion*

One problem for which I have no precise analysis is the question whether traces can satisfy the AFFECT-criterion in its various instantiations. Data from negation in WF offer strong evidence against this proposal: preposed negative constituents cannot satisfy the NEG-criterion. Similar arguments can be formulated for the application of the WH-criterion in English. If we assume that in general traces of operators cannot satisfy the AFFECT-criterion then there are a number of consequences. On the empirical level we are forced to assume that in the case of preposed negation in Italian, Spanish and French it is an expletive operator in [Spec,NegP] which satisfies the NEG-criterion.

On the more theoretical level it would appear that the AFFECT-criterion cannot simply be equated to the checking formalism proposed in the Minimalist program. Consider for instance (88):

- (88) a. I think that John will be invited.
 b. John I don't think t will be invited.
 c. Who do you think t will be invited?

In (88a) the subject NP *John* will check its Agr features (or/and its nominative case feature) in the specifier of the embedded Agr. But in (88b) the embedded subject is topicalized and we assume that the relevant features can still be checked in the embedded [Spec,AgrP]. In (88c) the lower subject is WH-moved, again we assume that it is in the lower [Spec,AgrP] that its Agr features are checked. In a representational mode, this means that both in (88b) and (88c) the trace of the subject is sufficient for feature checking. Future research has to establish whether indeed there is a fundamental difference between checking theory and a theory in terms of criteria and whether both should be maintained. If the two modes of licensing features should coexist, then it will be important to derive the different modes of application from deeper principles. I return to this question briefly in chapter 6.

5 *A-positions and A'-positions and the syntax of negation*

1 Aim and scope

In the first part of this chapter we return to the discussion of the syntax of negation in WF. The discussion focuses on the interaction of negative constituents with non-negative ones. Based on data from NC, I will argue that the NEG-criterion can be satisfied by an extended specifier-head relation (Grimshaw 1991) between a negative operator and a head with the feature [NEG]. In the second part of the chapter I turn to a general discussion of the definition of A- and A'-positions.

2 The NEG-criterion and non-negative constituents

This section elaborates the implementation of the NEG-criterion in WF. Whereas the initial hypothesis developed in chapter 3 was that the NEG-criterion is satisfied in two syntactic configurations only, the relation between C° and its specifier and that between Neg° and its specifier, I will propose that the relevant specifier-head relation can be attained by a specifier of the 'extended projection' of Neg° (Grimshaw 1991).

We saw (chapter 3) that negative operators must obligatorily move out of their base position to satisfy the NEG-criterion, i.e. to meet the Spec-head requirement with the negative head at S-structure:

- (1)
- a. *da Valère ketent me niets en-was.
that Valère contented with nothing *en* was
 - b. da Valère me niets ketent en-was.
that Valère with nothing contented *en* was
'that Valère was not pleased with anything'
 - c. *Valère *en*-was ketent me niets.
Valère *en* was contented with nothing
 - d. Valère *en*-was me niets ketent.
 - e. Me niets *en*-was Valère ketent

Recall also that complements of adjectives such as *ketent* ('contented') do not obligatorily scramble: in (1f) *ketent* takes a PP with a non-negative complement, and the complement remains to its right. In (1g) observe that the PP complement may extrapose. These data suggest that the obligatory movement of the PPs in (1a)–(1e) is due to the negative complement.

- (1) f. da Valère ketent me een beetje geld/me da geld was
 that Valère contented with a bit money/with that money was
 'that Valère was satisfied with some money'/'that Valère was satisfied with the money'
 g. da Valère ketent was me een beetje geld/me da geld
 that Valère contented was with a little money with that money

I proposed that the NEG-criterion is met in one of two ways: either the negative constituent moves to [Spec,NegP] and satisfies the NEG-criterion with the head of NegP; or it moves to [Spec,CP] in root clauses. In the former case the Spec-head relation is established with the foot of the NEG-chain, i.e. the chain created by the movement of the negative head; in the latter case the Spec-head relation is established with the head of the NEG-chain. In earlier sections in the book I have discussed instances like (2) involving NC and I have interpreted NC as a by-product of the application of the NEG-criterion.

- (2) a. da Valère an niemand niets nie getoogd en-eet
 that Valère to no one nothing not shown en has
 'that Valère did not show anything to anyone'
 b. da Valère nooit tegen niemand over niets nie geklaapt en-eet
 that Valère never against no one about nothing not talked en has
 'that Valère never talked about anything to anyone'

In sentences with multiple negative constituents NEG-movement is obligatory:

- (3) a. da Valère an niemand nie niets getoogd en-eet
 that Valère to no one not nothing shown en has
 'that Valère showed nothing to no one' (DN)
 b. da Valère nooit tegen niemand nie over niets geklaapt en-eet
 that Valère never against no one not about nothing talked en has
 'that Valère never talked about nothing to anyone' (DN)

The negative constituents which are not moved leftward in (3) are interpreted *in situ*, i.e. they cannot undergo the absorption process that leads to NC.

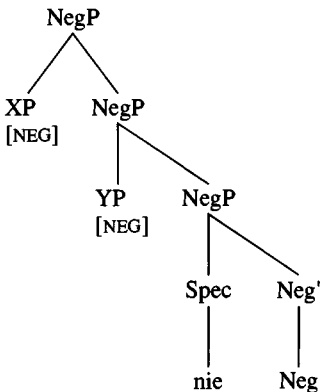
In the discussion in chapter 4 we proposed that in languages without NEG-movement the NEG-criterion is satisfied by an operator CHAIN whose head is a non-overt operator in [Spec, NegP] and which terminates in an overt contentive operator. This option is not available in WF. If it were, (3a) would be grammatical, with the representation in (3c):

- (3) c. da Valère OP_j *an niemand nie* [*niets*_j getoogd en-eet]

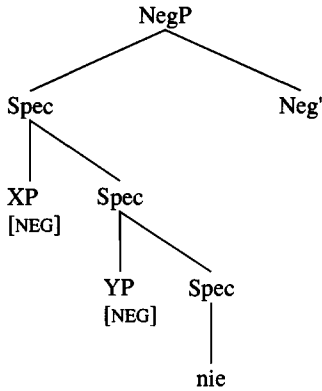
In (3c) the operator CHAIN <OP_j, *niets*_j> would satisfy the Spec-head requirement. Following Brody's Transparency principle, we assume that (3c) is ungrammatical because the contentive operator *niets* has to be spelt out at the highest point in the chain in which it is morphologically licensed. Given the option of NEG-movement, *niets* can be spelt out as the head of the operator chain.

In chapter 3 I proposed that multiple NEG-movement is achieved either via multiple adjunction to NegP (4a) or by multiple adjunction to [Spec, NegP] (4b). These two options mirror the two proposals in the literature to account for WH-raising of multiple WH-constituents at LF.

- (4) a. Adjunction to NegP



b. Adjunction to [Spec, NegP]



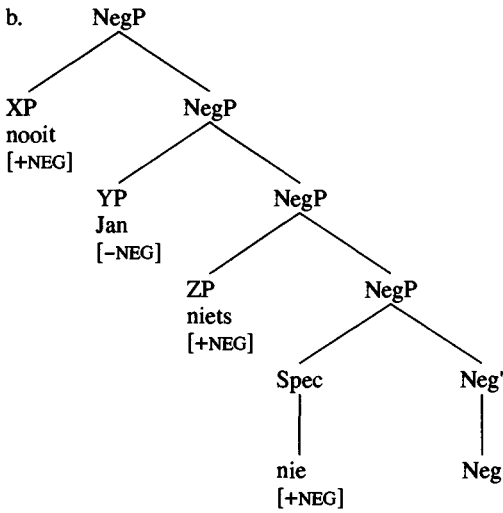
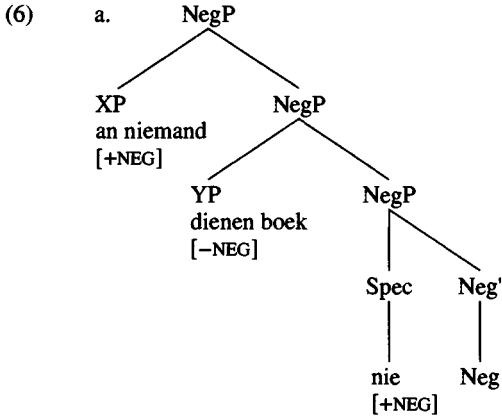
If adjunction to a maximal projection is not admitted (Kayne 1993), then both (4a) and (4b) are problematic.

A closer examination of the interplay of negative constituents with non-negative constituents in WF reveals the need for a revision of the analysis. As a first illustration, consider the following examples:

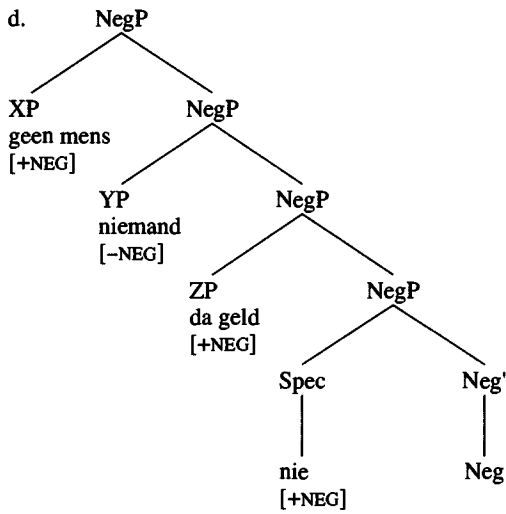
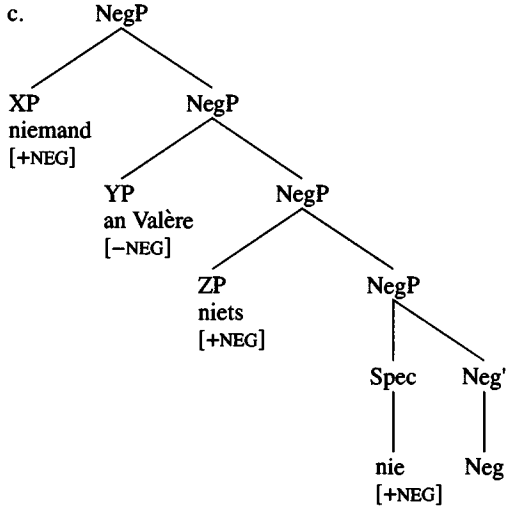
- (5)
- a. da Valère an *niemand* dienen boek (*nie*) getoogd en-eet
that Valère to no one that book not shown *en* has
'that Valère did not show that book to anyone'
 - b. da Valère *nooit* Jan *niets* (*nie*) gegeven en-eet
that Valère never Jan nothing not given *en* has
'that Valère did not give Jan anything'
 - c. dat er *niemand* an Valère *niets* (*nie*) gegeven en-eet
that there no one to Valère nothing not given *en* has
'that no one gave Valère anything'
 - d. dat er *geen mens niemand* da geld (*nie*) getoogd en-eet
that there no man no one that money not shown *en* has
'that no one showed anyone that money'

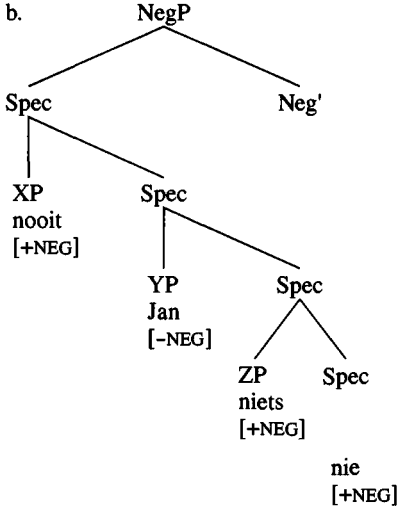
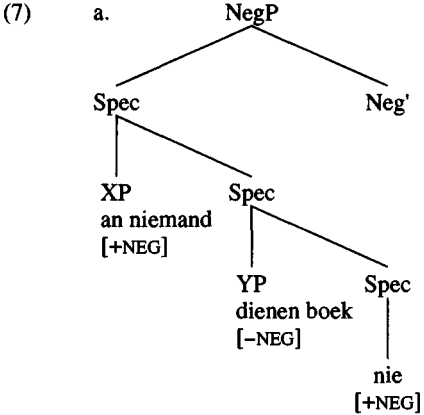
The italicized negative operators in (5) are separated by intervening non-negative constituents. The NEG-criterion is satisfied in all the above examples and NC obtains between the (non-adjacent) negative operators. The negative head *en* is licensed and *nie*, which we take to be the specifier of NegP, may be present. If we assume that all negative constituents in (5) must be related to NegP either by (4a) or (4b) then this leads to problematic results. In (6) I give the relevant structures derived by (4a),

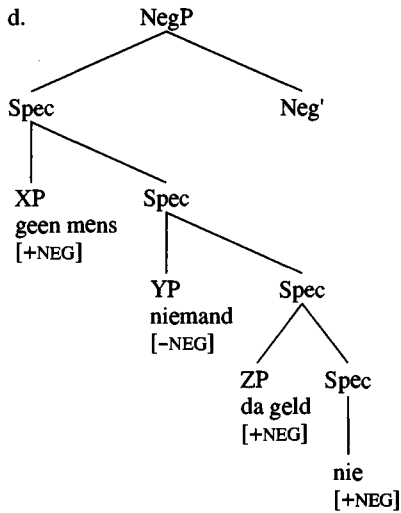
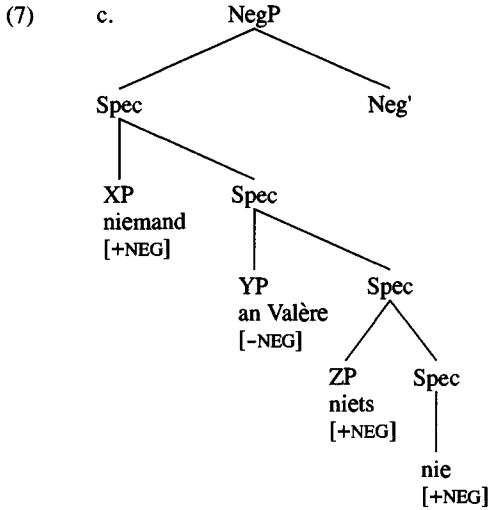
i.e. adjunction to NegP; in (7) I give the structures derived by (4b), i.e. adjunction to [Spec,NegP].



(6)







The structures in (6) and (7) are less than satisfying: in each case negative constituents are mingled with non-negative material: NPs and PPs intervene between the negative operators. In section 3 I look in some detail at this kind of intervention of negative and non-negative constituents.

3 Survey of the data: scrambling and negation

3.1 Object shift

All definite argument NPs in WF must precede *nie*:

- (8) a. da Jan Valère nie gezien en-eet
 that Jan Valère not seen *en* has
 ‘that Jan did not see Valère’
 b. *da Jan nie Valère gezien en-eet

The obligatory movement across *nie* does not apply to argument PPs which may but need not move:

- (9) a. da Jan tegen Valère nie geklaapt en-eet
 that Jan against Valère not talked *en* has
 b. da Jan nie tegen Valère geklaapt en-eet

The leftward movement of arguments within the IP domain in WF is sometimes referred to as ‘scrambling’ (cf. chapter 1, section 2.1.3.4). Scrambling is obligatory for NP arguments and optional for PP arguments. This asymmetry between NPs and PPs suggests that NP scrambling is case-driven. As a first approximation, this would lead us to conclude that scrambling of NPs is movement to a case position and corresponds more exactly to what is usually referred to as object shift. I return to this issue below.

When two argument NPs occur in the sentence they must both move leftward to precede *nie* and they obey a strict ordering constraint: the indirect object NP must always precede the direct object NP (cf. Haegeman 1993a,b,c). This rigid ordering constraint does not apply to the movement of PP arguments: while the indirect object NP must precede the direct object NP, the indirect object PP may appear both to the right and to the left of the direct object NP:

- (10) a. dat Jan Valère dienen boek nie gegeven en-eet
 that Jan Valère that book not given *en* has
 ‘that Jan did not give Valère that book’
 b. *dat Jan dienen boek Valère nie gegeven en-eet
 c. da Jan an Valère dienen boek niet gegeven en-eet
 that Jan to Valère that book not given *en* has
 d. da Jan dienen boek an Valère nie gegeven en-eet
 e. da Jan dienen boek nie an Valère gegeven en-eet

3.2 Negative constituents and object shift

In (11) we see examples where non-negative constituents are preceded and followed by negative ones: observe that when two non-negative argument NPs intervene between negative constituents they are subject to exactly the same constraints as those which apply when no negative material appears:

- (11) a. dat Jan nooit *Valère dienen boek* nie gegeven en-eet
 that Jan never Valère that book not given en has
 'that Jan never gave Valère that book'
 b. *dat Jan nooit *dienen boek Valère* nie gegeven en-eet
 c. da Jan nooit *an Valère dienen boek* nie gegeven en-eet
 d. da Jan nooit *dienen boek an Valère* nie gegeven en-eet
 e. da Jan nooit *dienen boek nie* an Valère gegeven en-eet

This suggests strongly that the movement of the non-negative NPs in the examples above is the same type of movement as that discussed in the previous section and illustrated in (10). Negative constituents do not have any effect on the properties of the movement.

3.3 Clefting

Another interesting interrelation between negative and non-negative constituents appears in the case of cleft constructions. The cleft pattern is illustrated in (12):

- (12) a. T'is tegen Valère da'j da moe zeggen.
 it is against Valère that you that must say
 'It is to Valère that you should tell this.'
 b. T'is Valère da'j da moe vroagen.
 it is Valère that you that must ask
 'It is Valère that you should ask.'

When we consider negated cleft constructions we observe that when these sentences have an NP as their focus the NP must precede the negation, while a PP may precede or follow the negation.

- (13) a. T's Valère nie da-j da moe vroagen.
 it is Valère not that you that must ask
 b. *T'is nie Valère da-je da moe vroagen.

- (14) a. T'is tegen Valère nie da-j da moe zeggen.
 it is against Valère not that you that must say
 b. T'is nie tegen Valère da-j da moe zeggen.

The asymmetry between NPs and PPs suggests a case-theoretic explanation. This would again lead us to the conclusion that the pre-negative NP position is a case position (cf. Rizzi 1992b). Negative constituents may precede the focus of a clefted sentence:

- (15) T'was nooit Valère nie da t gedoan oat.
 it was never Valère not that it done had
 'It was never Valère who had done it.'

If *nooit* is adjoined to [Spec,NegP] and if *nie* also occupies [Spec,NegP] in (15), then *Valère* would have to be adjoined to [Spec,NegP].

3.4 *Object shift as A-movement*

In independent work I have argued that the definite argument NPs to the right of *nie* occupy A-positions. I return to the details of the analysis in section 4. The fact that the NPs precede the negative marker *nie* means that they have moved outside their base position. I argue that what is sometimes loosely referred to as scrambling in WF is better interpreted as object shift, i.e. A-movement. This conclusion is based on arguments analogous to those proposed for Scandinavian object shift by Vikner (1990) (see also Branigan 1992, Neeleman 1993, van den Wyngaerd 1989a, Zwart 1993). One element that comes into the argumentation is the rigid ordering constraints between subject NP, indirect object NP and direct object NP. Another is that the moved definite NPs do not license parasitic gaps.

If the moved NPs occupy A-positions and if we adopt the structures given in (4) above then there are A-positions associated with NegP, i.e. either the positions adjoined to NegP are A-positions, or the positions adjoined to [Spec, NegP] are A-positions. Neither of these options is very attractive. A-positions are not usually closely associated with operator-like constructions. Following recent proposals let us assume that A-positions are specifiers of Agr (be it Agrs or Agro) or thematic positions (Rizzi 1991). I return to this point later.

3.5 Movement of negative NPs

Let us now turn to examples where the argument NPs of a clause are negative. First consider (16) where one argument is negative and another is not:

- (16) a. da Valère *niemand dienen boek* nie getoogd en-eet
 that Valère no one that book not shown *en* has
 'that Valère did not show anyone that book'
 b. *da Valère *dienen boek niemand* nie getoogd en-eet
 c. da Valère *an niemand dienen boek* nie getoogd en-eet
 d. da Valère *dienen boek an niemand* nie getoogd en-eet
 e. da Valère *dienen boek nie an niemand* getoogd en-eet (DN)

The ordering constraints which apply to non-negative argument NPs carry over when one of the arguments is negative. In (16) the indirect object NP is negated. For completeness' sake I have added (16e) where the negative PP has not moved leftward: the sentence is only grammatical with a DN reading. Absorption is not possible.

In (17) the direct object is negative, the indirect object is not. Again the same strict order is observed: the indirect object precedes the direct object:

- (17) a. da Valère *Jan niets* nie getoogd en-eet.
 that Valère Jan nothing not shown *en* has
 'that Valère did not show Jan anything'
 b. *da Valère *niets Jan* nie getoogd en-eet
 c. da Valère *an Jan niets* nie getoogd en-eet
 d. da Valère *niets an Jan* nie getoogd en-eet
 e. da Valère *niets nie an Jan* getoogd en-eet

The ordering constraints which apply to non-negative argument NPs apply when both moved constituents are negative: indirect object NPs precede direct object NPs. The ordering constraint does not apply with PP indirect objects.

- (18) a. da Valère *niemand niets* nie getoogd eet
 that Valère no one nothing not shown has
 'that Valère did not show anyone anything'
 b. *da Valère *niets niemand* nie getoogd eet
 c. da Valère *an niemand niets* nie getoogd eet
 d. da Valère *niets an niemand* nie getoogd eet

4 An analysis of object shift

In earlier work on WF (Haegeman 1993a,b,c) I have dealt with the general question of object shift in WF. Let me briefly summarize the crucial data. When we consider the distribution of argument NPs¹ in WF we see that they have the following properties:

- (i) all definite argument NPs precede *nie*, i.e. [Spec,NegP]. This means that argument NPs obligatorily move out of their VP-internal base position to a VP-external position.
- (ii) definite argument NPs obey a strict ordering constraint: the subject precedes the indirect object (IO), which in turn precedes the direct object (DO).
- (iii) the subject NP precedes non-arguments such as PPs or adverbs; IO and DO may precede or follow.

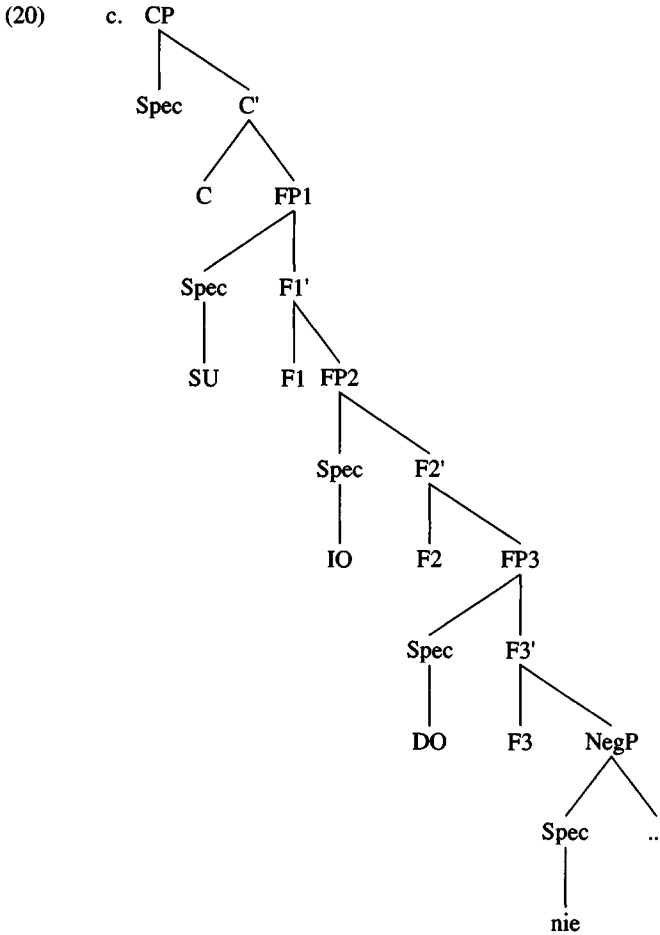
This is illustrated in (19):

- (19) a. da Marie Valère *dienen boek* gisteren nie gegeven en-eet
 that Marie Valère that book yesterday not given en has
 ‘that Marie did not give Valère that book yesterday’
- b. da Marie Valère gisteren *dienen boek* nie gegeven en-eet
- c. da Marie gisteren Valère *dienen boek* nie gegeven en-eet
- d. *da Marie *dienen boek* Valère gisteren nie gegeven en-eet
- e. *da Marie *dienen boek* gisteren Valère nie gegeven en-eet
- f. *da Marie gisteren *dienen boek* Valère nie gegeven en-eet

The analysis of the data discussed in this chapter is based on the following assumptions:

- (20) a. Object shift is movement to an A-position;
- b. A-positions are thematic positions and specifiers of Agr.

(20a) and (20b) lead to the following partial structure:



The NP arguments move to the specifiers of a recursive functional projection dominating NegP. This movement is case-driven. If case is assigned exclusively under Spec-head relations with Agr then F in (20c) is equated with Agr. I assume that the Spec-head relation required for case-assignment (or case checking) is a one-to-one relation: a functional head can assign case to one specifier only. To account for the co-occurrence of scrambled IO and DO I propose that the functional projection is recursive. The reader is referred to Haegeman (1993a,b,c).

5 The NEG-chain and extended projections of NEG

5.1 Shifted negative constituents: A- and A'-status

Negative constituents which satisfy the NEG-criterion and undergo the absorption leading to NC are not necessarily adjacent. Significantly for our purposes, two negative constituents may be separated by two argument NPs whose rigid ordering suggests that they have undergone object shift:

- (21) a. da Valère nooit Marie dienen boek nie getoogd en-eet
 that Valère never Marie that book not shown en has
 ‘that Valère never showed Marie that book’
 b. *da Valère nooit dienen boek Marie nie getoogd en-eet

It would seem desirable to argue that the moved NPs in (21) are like other NPs, i.e. that they occupy the regular landing site of object shift, the [Spec,FP] positions in (20c). If this is correct, then it seems hardly plausible that the negative element, here *nooit*, is adjoined to NegP. If we adopt (20c) we cannot maintain that all negative constituents obligatorily move to either NegP or to CP. In (21a), for example, *nooit* would occupy a position to the left of the NPs, *Marie*, the indirect object, and *dienen boek*, the direct object. If these NPs occupy the specifier position of a functional projection (FP), then *nooit* must minimally be adjoined to that functional projection.

A similar conclusion follows from (22):

- (22) da Valère niemand da geld nie gegeven en-eet
 that Valère no one that money not given en has
 ‘that Valère did not give anyone the money’

In this example the indirect object, *niemand* (‘no one’), and the direct object, *da geld* (‘that money’), have undergone object shift. *Niemand*, the indirect object, would have a Spec-head relation with F2.

According to our definition, a negative operator is a negative constituent in a scope position, where the latter is a left-peripheral A'-position. If a negative constituent in [Spec,FP] in (20c) is to satisfy the NEG-criterion then the specifier of FP has dual status: it counts as an A-position since it is involved in the case checking of the moved NP, and it can be construed as A' if we assume that a negative constituent in [Spec,FP] satisfies the NEG-criterion.

An alternative derivation which can be discarded is to argue that even though negative constituents end up in an A-position at S-structure, they satisfy the NEG-criterion by virtue of their trace which is either adjoined to NegP or adjoined to [Spec,NegP] and which is in an A'-position. The movement which would be required to arrive at the appropriate structure in the examples in (22) would be one that is usually referred to as 'improper movement': the NP would first move to an A'-position, [Spec,NegP] and then move into an A-position (cf. the discussion of the pre-verbal negative subject in Italian in chapter 4, section 3.1.3.3).

In chapter 3 I proposed that all negative constituents move to NegP. Either of two options was envisaged: either they move to adjoin to NegP or they all adjoin to [Spec,NegP]. Whichever option is chosen, the assumption was that the moved negative constituents attain a Spec-head relation with the negative head. The claim was that effects of NC among these moved constituents were a by-product of the movement: all negative constituents have to attain a Spec-head relation with the negative head. Let us furthermore assume that the relevant Spec-head relation rests on the commonality of the feature [NEG], shared by the head and the specifier. Given that there is only one NEG-head and several specifiers I proposed that the absorption process factors out the NEG-feature from the multiple adjoined elements and we have an effect of one NEG-feature related to multiple quantificational elements.

In view of the modifications proposed above to deal with the interaction of negative and non-negative constituents, I would now like to propose that an extended Spec-head relation between the negative head and the NEG-moved constituent will satisfy the NEG-criterion.

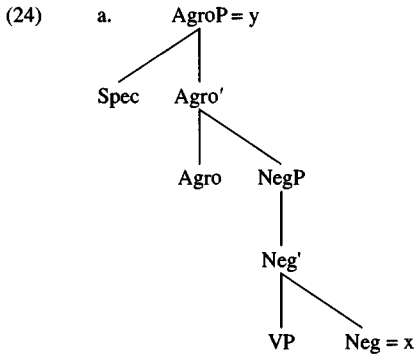
5.2 Extended projections

In order for negative constituents in the specifier positions of the recursive functional projection (FP) in (20c) to attain a specifier-head relation with Neg°, the head of a projection dominated by FP, we must assume that the Spec-head relation can be attained between a head and its local specifier, and also between a head and the specifier of a dominating projection. The proposal implies that the domain of Neg°, or at least of the feature [NEG], is upwardly extended to the level of the clause. My account leads me to suggest that the NEG-criterion is satisfied in the extended projection of NegP (cf. chapter 1, section 1.4.2 (43)). Extended projections are defined in (23):

- (23) x is the extended head of y , and y is an extended projection of x iff:
- (a) y dominates x ,
 - (b) y and x share all categorial features,
 - (c) all nodes intervening between x and y share all categorial features,
 - (d) If x and y are not in the same perfect projection, the F value of y is higher than the F value of x .
- where n intervenes between x and y if y dominates x and n ; n dominates x , and n does not dominate y .

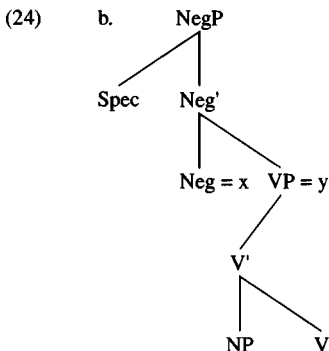
(Grimshaw 1991: 4)

In (20c) the recursive functional projection which hosts the scrambled constituents dominates NegP. Let us assume that FP equates AgroP:



AgroP is the extended projection of Neg°.

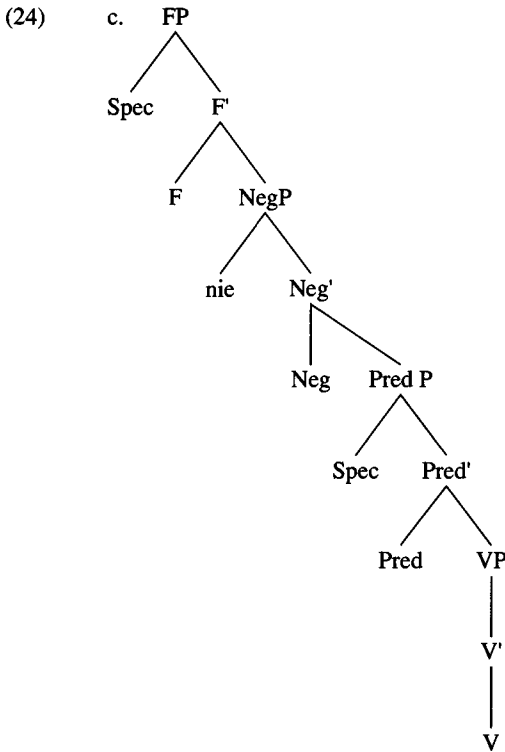
A negative constituent in its VP-internal base position cannot satisfy the NEG-criterion. In (24b) V is not the extended head of NegP. V does not dominate NegP, and if V is equated to y and NegP to x , then in fact the functional value of V is F0 and that of Neg F1, an inappropriate relation:



5.3 A note on the head-initial hypothesis

If we were to adopt the recent proposal that the functional projections of WF are all head-initial, and if *nie* occupies [Spec, NegP], then we cannot assume that the inflected V with the negative head has moved under Neg° (cf. chapter 3, section 6).

The question arises how the NEG-criterion is satisfied in this framework. In order to force negative constituents to scramble to a position to the left of *nie*, we would have to say that the relevant head for the Spec-head relation is Neg°. Consider the partial structure in (24c):



If the negative V (*en*-V) remains under V, and if the NEG-feature associated with the negative morphology on V° were to count as a relevant negative head for the NEG-criterion then we would expect that negative constituents might for instance move to adjoin to PredP, similarly, if the inflected negated V were to move under Pred. We assume that the relevant negative head for the NEG-criterion is not the negative

V°, but rather the abstract features of Neg°. Recall from the discussion in chapter 1, section 1.4.1.1 that NegP determines the scope of negation, and not the surface position of the negative head:

- (25) a. Jean ne se comporte pas toujours bien.
 Jean *ne* himself behaves not always well
 ‘John does not always behave well.’
 b. Jean ne se comporte toujours pas bien.
 Jean *ne se* behaves always not well
 ‘John is still not behaving well.’

In French, the position of the negative clitic *ne* is not relevant as such for determining the scope of negation, it is the position of NegP which is decisive.

6 A-positions and A'-positions: problems of analysis

In this section I consider some problems that arise from our discussion above. Recall that I argue that negative NPs occupy positions which have both A- and A'-status. In this section I offer a general discussion of the contrast between A-positions and A'-positions.²

6.1 A-positions

Originally (Chomsky 1981) A-positions were equated with thematic positions, i.e. positions to which thematic roles could be assigned. This includes essentially the positions to which Grammatical Functions such as subject or object are assigned. Such positions are for instance relevant for Binding, the Binding Theory being a theory of A-binding. The canonical subject position [Spec,IP], or [Spec,AgrP] in the split-Infl framework, was also considered an A-position: it was generally assumed to be the base position of subjects in transitive sentences and it also was seen to be relevant for Binding. A-movement, i.e. movement of an NP to an A-position instantiated by passive structures or raising structures, is typically to the canonical subject position.

In the current framework it is proposed, though, that the canonical subject position, i.e. [Spec,IP] or [Spec,AgrsP], is not the thematic position of the subject (cf. Sportiche 1988, Koopman and Sportiche 1991). The base position of the thematic subject is VP-internal, the subject NP moves to [Spec,IP] for case reasons. Hence, [Spec,IP] is no longer a position to

which a thematic role can be assigned, not even in transitive sentences. If we wish to continue to assume that the canonical subject position is an A-position then we cannot continue to restrict the definition of A-position to just those positions that can be assigned a thematic role, but other positions must be included.

Various arguments can be advanced that confirm the A-status of the canonical subject position. Rizzi (1992 class lectures) provides a number of arguments which I summarize here.

Consider (26):

(26) He_j/*_i did not come because John_i was ill.

In (26) *he* cannot be co-referential with *John*. *John* is an R-expression and according to principle C of the Binding Theory (cf. Haegeman 1994a, chapter 6) an R-expression must be free, where 'free' means 'not bound by a c-commanding A-antecedent' and binding is represented by coindexation. If *he* and *John* are coindexed in (26), i.e. if they share the index *i*, the sentence is ungrammatical because of a Binding Theory violation: the NP *John* will violate principle C. The Binding Theory is a theory of A-binding. From the data in (26) we deduce that the canonical subject *he* is an A-position. The illicit binder of *John* in (26) cannot be the VP-internal trace of the subject: the VP-internal trace would be too low to bind the NP contained in the adjunct clause.

A second type of evidence is given in (27):

- (27) a. This is the book [_{CP} which John filed t [without reading ec]].
 b. *This is the book [_{CP} which John passed the exam without reading ec].
 c. *This book was filed t without reading ec.

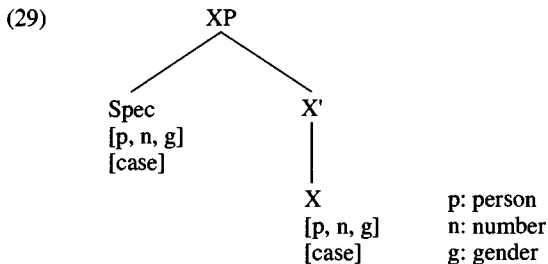
(27) illustrates the parasitic gap phenomenon already discussed in chapter 4, section 3.1.5.2. Parasitic gaps are licensed by a parallel non-overt category. Parasitic gaps cannot be licensed by a random non-overt category: as (27c) shows only A'-gaps are able to license parasitic gaps and gaps created by NP-movement to the subject position cannot license parasitic gaps. In (27c) the gap in the object position of *filed* is A-bound by the NP *this book*. These data suggest then that movement to the canonical subject position, i.e. NP-movement, has a status which differs from movement to A'-positions such as [Spec,CP]. This difference can be captured if we assume that the canonical subject position is an A-position.

Finally, we also know that A-movement and A'-movement are each subject to specific locality constraints: A'-movement, for instance, is not hampered by intervening A-antecedents, while A-movement is. In (28a) the A'-movement (topicalization) of *John* is not prevented by the intervention of the lower subject NP *Mary* or by the higher expletive subject *it*; in (28b) movement of *John* to [Spec,IP] is blocked by the intervening lower subject *Mary*.

- (28) a. John it seems that Mary likes t.
 b. *John seems that Mary likes t.

Again this provides reasons for distinguishing the position that is occupied by *John* in (28a) from that in (28b). Again we can draw the distinction by assuming that topicalization in (28a), as well as WH-movement, is A'-movement, and that NP-movement is A-movement.

With Rizzi we conclude that there are reasons for distinguishing the canonical subject position from characteristic A'-positions. In Rizzi's account (1991) A-positions are also defined in terms of intrinsic content, rather than purely in configurational terms. Following his proposal we assume that A-positions are theta-positions or specifiers of Agr. Making the latter more precise, let us say that what is relevant for the A-status of a position is not simply that it be a geometric specifier of a projection of Agr, in a perfect projection or in an extended projection, but also that the element in the specifier position shares Agr or case features with Agr:



In such an approach both the specifier of AgrsP and the specifier of AgroP are potential A-positions. Observe that both these positions are also case positions, i.e. positions where structural case is assigned or checked. We might say that A-positions are identification positions, positions in which arguments are identified, licensed or, using the Minimalist terminology, they are 'checking' positions for arguments.

Extending this proposal I would like to pursue the idea that checking is a bi-unique relation: a head can only check one argument, or it can only assign case to one argument. Thus, if a sentence contains more than one argument which needs structural case we need to provide recursive AgrPs, hence the need to postulate AgrsP and AgroP. I would like to propose that such Agr heads do not allow for multiple specifiers.

Let us say that a Spec-head relation is by definition bi-unique. There is one specifier to one head. If more than one element has to have specifier status with respect to one head, then this will lead to ungrammaticality, unless the multiple specifiers can be converted into one single specifier. Multiple specifiers will thus have to undergo absorption by which the relevant head feature is factored out.

In the case in which we should have multiple specifiers to one Agr-head, the head feature absorption would mean that the *phi* features are to be factored out. I would like to argue that absorption of Agr features leads to a violation of the theta-criterion. One set of *phi* features (person, number, possibly gender) or one case feature would then license a number of what were originally distinct arguments A, B, C. But then we would not identify and license each argument any more. By the theta-criterion each argument is associated with one theta-role and each theta-role is associated with one argument, i.e. argument A would be assigned theta-role 1, argument B theta-role 2, argument C has theta-role 3 etc. But if A, B and C can no longer be identified as distinct arguments then there will be no bi-unique association of argument and theta-role and the theta-criterion will be violated. We might say that arguments whose Agr features have undergone absorption in fact become part of one argument chain. A-features are licensing features for arguments and cannot be factored out: for each argument NP which is subject to identification we need a specific checking head.

In his work on the connectedness condition Kayne (1984) links the possibility of WH-absorption and multiple WH-questions to the fact that WH-movement licenses parasitic gaps. The account proposed here brings out a symmetric account for A-positions: A-antecedents do not license parasitic gaps and elements in A-positions do not undergo absorption. The latter follows from the one-to-one requirement on theta-role assignment. Recall that the ban on A-antecedents licensing parasitic gaps is also to be related to theta-theory:

- (30) a. *John was talked to t about t
 b. John was talked about
 c. John was talked to

In (30a) the A-antecedent *John* cannot both license the trace complement of *to* and of *about*, even though both are independently possible (cf. (30b) and (30c)). In (30a) the configuration is not licit because both traces would have to be antecedent-governed by *John*, in the subject position. If both traces are caseless, though, then they will have to form a chain with *John* and two theta-roles will be assigned to one A-chain. If one of the two traces were taken to be assigned case, then such a trace would be a variable, but in (30c) *John* will A-bind the trace and this will entail a violation of principle C.

The locality restrictions on A-movement lead us to some further speculation. Consider (31):

- (31) a. *John seems that Mary likes t
 b. dat [_{AgroSP} Jan_i [_{AgroP1} Marie_j [_{AgroP2} dienen boek_k [_{NegP}
 that Jan Marie that book
 niet [_{VP} t_i t_j t_k t_v geeft]]]]]
 not gives

(31a) contains a violation of Relativized Minimality: the NP *John* is moved from the object position of the lower clause to the matrix subject position, an A-position. It crosses the subject *Mary*, another A-element which blocks antecedent-government.

In (31b) I illustrate object shift in ditransitive sentences in WF. If object shift is A-movement, as I have argued, then we need to account for the crossing effects perceived: the subject NP *Jan*, for instance, crosses both the indirect object *Marie* and the direct object *dienen boek*, both in A-positions. Similarly, the indirect object NP *Marie* crosses the direct object position.³

Observe, though, that crossing effects seem to be generally licit in configurations in which the movement is constrained to an IP domain. This observation leads Rizzi to propose an account for these data which allows us to retain the essential points of the Relativized Minimality approach. I will apply his account to the WF data here.

WF object movement is A-movement (cf. Haegeman 1993a,b,c). A-positions are thematic positions or specifiers of Agr (following Rizzi 1991). If A-movement is movement to [Spec,AgrP], following Rizzi (1991), and if the movement of arguments in WF is A-movement, then

each of the antecedents in (31b) occupies a specifier position of AgrP. In some sense the movements illustrated in (31b) are all identical, or rather they are non-distinct: in each case there is movement to a specifier position of an Agr-head. Moreover, observe that the Agr-heads all are internal to one single IP, i.e. they all instantiate inflectional heads ultimately associated with the same verb.

Capitalizing on these observations, Rizzi proposes the following revision of Relativized Minimality:

- (32) a. Relativized Minimality (Rizzi 1992, class lectures)
 A government relation between x and y is blocked if there is an element Z such that
- a. Z is an internal non-thematic position
 - b. Z is a position of the same type as X ; Z is distinct from X
 - c. Z c-commands Y and Z does not c-command X

where ‘internal’ means non-adjoined, and where distinctness is defined in terms of categorial features. For instance, the Agr projection whose specifier hosts the subject and the Agr projection whose specifier hosts the object are non-distinct when they belong to the same clausal projection (cf. Chomsky 1993); also within the same clausal domain the specifier of the highest Agr, Agrs, and the specifier of the lower Agr, Agro, would not be distinct positions each having a Spec-head relation with Agr. Hence, an element in the specifier position of [Spec,AgroP] does not block antecedent-government from the subject in [Spec,AgrsP] to a VP-internal trace. Let us assume that all scrambling is to some specifier of a recursive Agr in WF: the movements in (31b) are non-distinct: each movement targets the specifier of a recursive Agr-head.

The revision in (32a) permits crossing but probably does not enforce it when more than two elements are involved (cf. Haegeman 1993a for discussion). In order to account for the obligatory crossing I propose the descriptive generalization (32b). At this point (32b) is a stipulation, I hope to return to this issue in future research.

- (32) b. Relation preservation on A-chains:

For the A-chains C_1, C_i, C_n , contained in the extended projection of V , if the foot of C_i c-commands the foot of C_{i+1} , then the head of C_i must c-command the head of C_{i+1} .

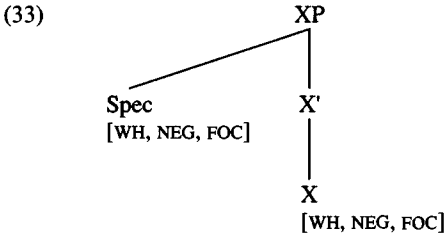
Let me summarize the various properties of A-positions I have identified:

- (i) A-positions have a Spec-head agreement with a head in terms of *phi* features or in terms of a case feature;
- (ii) A-positions are licensing positions for argument NPs (licensing being interpreted as case assignment or case checking);
- (iii) there is no absorption for multiple A-specifiers;
- (iv) the Agr heads within a single IP domain are non-distinct;
- (v) A-positions within a single IP domain are subject to a relation preservation constraint;
- (vi) Relativized Minimality effects are absent within the extended projection of V.

6.2 *A'-positions*

For a long time it was assumed that there was a complementary distribution between A-positions and A'-positions: A'-positions were 'non-A-positions', i.e. A'-positions were simply those XP-positions which did not qualify as A-positions. There was no positive definition for such positions. In what follows I will develop an account which suggests that at least some A'-positions can also be defined by intrinsic properties.⁴

In order to develop such a proposal I start from what is a prototypical A'-position: [Spec,CP]: observe that in the literature the A'-status of [Spec,CP] is based on the observation that it characteristically hosts operators (such as WH-phrases). In the same vein one would be tempted to conclude that [Spec,NegP] is an A'-position, its specifier being a (negative) operator. The blocking effect of negative islands on WH-movement of adjuncts then correlates with the fact that both [Spec,CP] and [Spec,NegP] are A'-specifiers (cf. discussion in chapter 1). This leads us to formulate a positive definition of A'-positions which identifies such a position as one which has operator features. Given the theory of interrogative and negative sentences developed here we could extend this idea and say that a position is an A'-position if it shares operator features with a head, where I assume that operator features are [WH], [NEG] and [FOC] (for Focus) (cf. Agouraki 1993, Hoekstra 1991).⁵



We arrive at a symmetric definition of A- and A'-positions: both are defined in terms of agreement: A-positions agree with a head in terms of *phi* features (person, number, gender, perhaps case) and A'-positions agree with a head in terms of operator features.

In the A-system the relation is strictly local: the A-specifier is licensed by the A-head. A-elements are arguments which are associated with a lexical head. In the A'-system the operator feature of the specifier is licensed locally by the operator feature on the head. Still, the operator feature itself takes scope over a larger domain. [WH], for instance, gives interrogative force to clauses. [NEG] ranges minimally over 'Events', i.e. we might say that it selects the VP domain, or a complete functional complex. In (34a), the nominative feature on *John* is established via a Spec-head relation with AGRs, but this has no obvious bearing on the type of event expressed or on the mood or illocutionary force of the clause. In (34b) the WH-feature on *who* is checked by the WH-feature on C, occupied by *will*, but at the same time the WH-feature takes sentential scope: (34b) is a question.

- (34) a. John will invite Mary
b. Who will he invite?

A'-operators undergo absorption. Adopting the empty operator analysis suggested by Brody (1993b), (35a) has the representation (35b):

- (35) a. What did you give to whom?
b. OP_i What_k did you give t_k to whom_i

Both OP_i and *what_k* are in a Spec-head relation with the WH-feature of *did*. I assume that in a configuration where multiple operators are in a scope position with respect to a head carrying the relevant feature, i.e. when it looks as if a head carrying an operator feature has multiple specifiers, then the operator feature is factored out of the specifiers via absorption which converts multiple specifiers into one. I have suggested that this follows from Full Interpretation: operators which do not have a

Spec-head relation with an operator feature on a functional head are uninterpretable. If absorption does not take place, then one head will have multiple specifiers, in violation of the bi-uniqueness of the Spec-head relation.

Another relevant point to be mentioned here is that we generally assume that there is only one WH-head and one NEG-head per IP domain. Each operator has its own semantic contribution to the clause, WH relating to the illocutionary force, NEG relating to the truth value. Being semantically distinct, I would like to argue that unlike Agrs and Agro, WH and NEG be considered distinct, hence the specifier of NegP and the specifier of WH are also distinct and the specifier of NegP can, for instance, constitute an inner island for adjunct WH-movement as discussed in chapter 2.

The properties of A'-positions discussed here are summarized as follows:

- (i) A'-positions have a Spec-head agreement with a head in terms of operator features;
- (ii) A'-positions are checking positions for sentential operators;
- (iii) there is absorption for multiple A'-specifiers;
- (iv) the A'-heads within a single IP domain are distinct;
- (v) A'-specifiers block antecedent-government within as well as outside the IP domain.

In the discussion of the WH-criterion Rizzi (forthcoming) introduces the notion of dynamic agreement, where a WH-operator endows a functional head with the feature [WH]. In future work I want to examine to what extent dynamic agreement can be used in the A-system (cf. Haeblerli 1993; Haegeman 1994b).

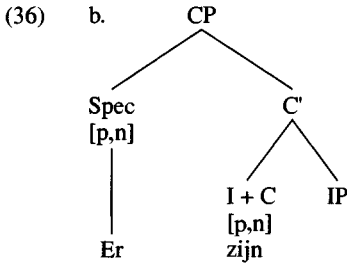
6.3 *Mixed positions*

6.3.1 *[Spec,CP] and derived A-positions*

The A'-status of [Spec,CP]⁶ is generally taken for granted in the literature but there is evidence that even C may have an A-specifier under special circumstances. I cite two examples from the literature, both based on work by Rizzi. In (36a) from Dutch the initial constituent of the sentence is the expletive *er*.

- (36) a. Er zijn veel mensen naar het feest gekomen.
 there are many people to the party come
 'Many people came to the party.'

Expletives are generally assumed to occupy A-positions, which implies that in (36a) [Spec,CP] qualifies as an A-position. This conclusion is compatible with our definition of A-positions. The C position of V2 root sentences is occupied by the inflected V (*zijn* 'are'); the specifier is occupied by the subject, an expletive. In other words [Spec,CP] is occupied by an NP which agrees with respect to its Agr features (person, number) with the V under C, i.e. the specifier of CP is also a specifier of a phrase whose head contains Agr features:



The determining property that comes into play is the fact that the specifier of CP contains an element (an NP) which agrees with the head with respect to Agr features, the latter features being defined as being at the basis of A-positions. The definition for A/A'-positions is based both on the Spec-head relation, a configurational relation, and the content of the categories which are in such a relation.

An important observation is in order here. Recall that we assume that the finite V moves via Agro, object Agr, T, and Agrs, subject Agr, to C. If the agreement configuration in (36b) is the result of the fact that the inflected V has incorporated to Agrs on its way to C, then it might appear that the same argument could be used for sentences with topicalized objects: V has incorporated to Agro. But this conclusion would lead to incorrect results; it would mean that all preposed NPs in V2 languages, whether they be subject or object, are A-positions, a result that is not desirable. Empirical evidence against such an analysis is that object pronouns can only occupy [Spec,CP] when stressed, while subject pronouns can always occupy [Spec,CP], even when clitics:

- (37) a. z'ee da gekocht
 she has that bought
 b. k'een da gekocht
 I have that bought
- (38) a. *ze-een-k gezien
 her(cl) have I seen
 b. EUR een-k gezien

There are a number of options to account for the contrast between (37) and (38). One is that we assume that C contains Agrs features itself and that these features are what determine the A-status of the specifier (cf. Rizzi 1990a). If C does not contain the relevant Agro features, then the ungrammaticality of (38a) follows: [Spec,CP] is only an A-position when occupied by the subject.

An alternative proposal is conceivable. Let us assume (contra Rizzi 1990b, and with Grimshaw 1991) that CP is the extended projection of V. Suppose that [Spec,CP] can be an A-position for objects in the sense described above: the inflected V under C contains Agro. Let us also assume that the A-status of [Spec,CP] is optional. If [Spec, CP] were an A-position when it contains the object NP then this would inevitably lead to a violation of the Relation Preservation Constraint (32b) since the object would cross the subject. In (38a), where the object is a clitic, [Spec,CP] cannot be construed as an A'-position (clitics not being eligible for topic status) and since we have just seen that it cannot be construed as an A-position because of (32b) the sentence is ungrammatical.

6.3.2 *Complex inversion in French*

As discussed in chapter 4, section 3.1, Rizzi and Roberts (1989) propose that in the complex inversion structure in French (39) C licenses two specifiers, an A-specifier and an A'-specifier:⁷

- (39) Pourquoi Jean est-il parti?
 why Jean is he gone
 'Why did John go?'

The finite verb *est* ('is') has moved under C. It is preceded by two constituents: *Pourquoi* ('why'), the WH-phrase, and *Jean*, the subject NP. The WH-phrase *pourquoi* and the inflected V *est* must be in a Spec-head relation to satisfy the WH-criterion. Similarly, *Jean*, the subject NP, must have a Spec-head relation with the finite Infl on the verb, which ensures

nominative case assignment or checking. The inflected C has two specifiers: the WH-operator *pourquoi* and the subject NP *Jean*.

In the complex inversion pattern the Agr features of the finite V under C not only are responsible for nominative case assignment to the subject NP, but also identify the subject clitic. This might seem to contradict my earlier proposal that the identification relation is bi-unique. Two remarks are in point. The finite verb identifies one NP by case assignment (or by case checking), and one by incorporation, thus *two* devices are involved. On the other hand, even if the two NPs are identified by a single head, i.e. by virtue of a single set of *phi* features, this is not problematic since precisely in the context of complex inversion the NP subject and the clitic subject are coreferential, i.e. they are part of one argument CHAIN.

Rizzi and Roberts (1989) propose that a bipartite head licenses two specifiers. I would like to reinterpret this analysis somewhat and say that it is the presence of the two distinct features on C which ultimately admits the two specifiers: C hosts both a WH-feature, i.e. an operator feature which is associated with an A'-specifier, and Agr features associated with A-specifiers.

The question arises how to deal with the analysis of A- and A'-positions in the extended projection analysis. If we follow Grimshaw in assuming that CP is an extended projection of AgrP, then it might be argued that the specifier of CP becomes an extended specifier of AgrP. The analysis does not automatically identify the specifier of CP as an A-specifier. The following cases illustrate this point:

- (40) a. Why did he leave?
 b. Jan heeft Marie t niet t gezien.
 Jan has Marie not seen
 'Marie did not see Jan.'

Clearly we do not want to say that the operator *why* in (40a) is in an A-position, or that the topicalized direct object *Jan* in (40b) occupies an A-position, as well as an A'-position. If we did then every A'-specifier would also be an A-specifier. The effect obtained by Rizzi's asymmetric treatment of preposed subjects and preposed objects would be lost once again since preposed objects in [Spec,CP] also become A-elements. We have to take into account the features of the filler of the specifier position and the features of the head. In (40a) *why* does not have Agr features, so it cannot be an A-specifier. In (40b) the preposed object might well be argued to agree with the abstract object agreement on the inflected V. But

if we assume it is an A-position then again we violate the Relation Preservation Condition (32b) as was the case for (38a).

In the above discussion I have focussed on the specifier position of CP, a position which is usually considered to be an A'-position but which acquires A-status by virtue of the intrinsic features of the content of the position and the related head.

If we turn to the A-system then it would seem that similar cases exist and I will illustrate them from the data of negation. First we turn to the WF data and then to the Italian data. In the former I focus on [Spec,AgroP] for the latter I focus on [Spec,AgroP]. We will briefly illustrate an example of English which leads us to the same approach.

7 The syntax of negation and derived A'-positions

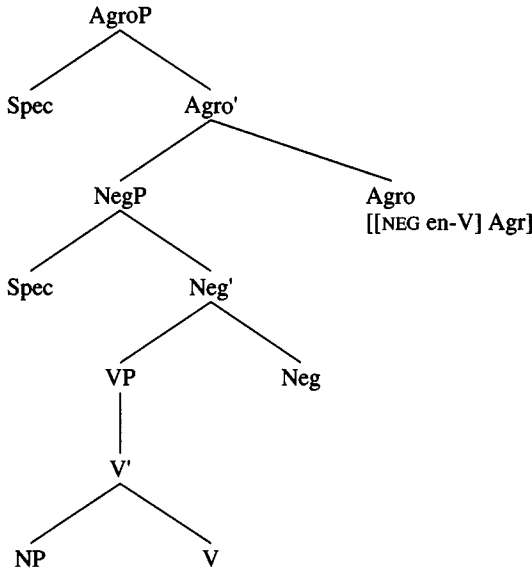
7.1 Negation in West Flemish

Consider the following examples:

- (41)
- a. da Valère nooit Marie *niets* nie en-zegt
that Valère never Marie nothing not *en* says
'that Valère never tells Marie anything'
 - b. da Valère *niets* tegen Marie nie meer gezeid en-eet
that Valère nothing against Marie no more said *en* has
'that Valère did not tell Marie anything any more'
 - c. da Valère *niemand niets* nie meer gezeid en-eet
that Valère no one nothing no more said *en* has
'that Valère did not tell anyone anything anymore'
 - d. da Valère *niets an niemand* nie meer gezeid en-eet
that Valère nothing to no one no more said *en* has
'that Valère did not tell anything to anyone any more'
 - e. *da Valère *niets niemand* nie meer gezeid en-eet

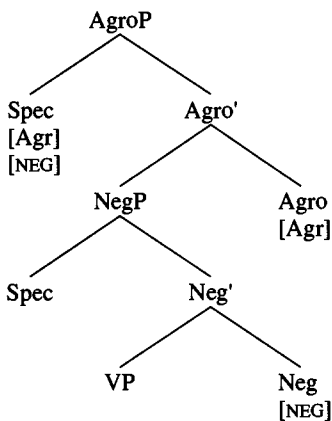
I have proposed above that negative constituents shift to [Spec,AgroP]. In (41) negated arguments such as *niets* ('nothing') and *niemand* ('no one') occupy the specifier of a recursive functional projection, to which I refer as AgroP (following Zwart 1993). Negative operators in [Spec,AgroP] satisfy the NEG-criterion. Consider the partial structure in (42):

(42)



An XP with the relevant Agr features and which occupies [Spec,AgroP] will qualify as an A-element. But if this element is a negative NP such as *niets* it will also have the feature [NEG]. A negative constituent under [Spec,AgroP] will have an extended Spec-head relation with Neg° . While [Spec,AgroP] is arguably an A-position at the base, its intrinsic features being Agr features, it may acquire derived A'-status if its specifier is occupied by a constituent which has a relevant feature of the A'-system and has an extended Spec-head relation with a head with this feature.

(43)



7.2 *Further examples*

7.2.1 *Negative subjects in Italian*

A similar argument with respect to the A/A'-status of a syntactic position has been used in chapter 4 for the discussion of Italian.

- (44) Nessuno parla.
 no one speaks
 'No one speaks.'

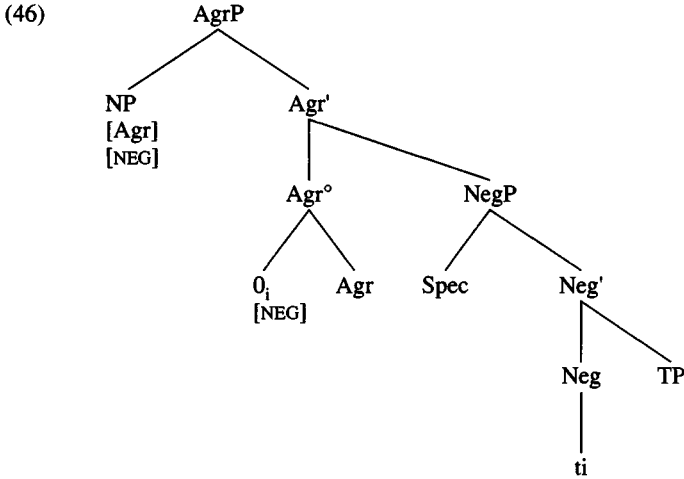
If *nessuno* ('no one') occupies the canonical subject position in this example then we have to account for the fact that it also functions as an operator. Evidence for its operator status is that long construal of an adjunct is not possible in (45a):

- (45) a. Perché dicono che nessuno sia stato licenziato?
 why say they that no one be (subj) been fired
 'Why do they say that no one has been fired?'

Unlike is the case in (45b):

- (45) b. Perché dicono che Gianni sia stato licenziato?
 why say they that Gianni be (subj) been fired
 'Why do they say that Gianni has been fired?'

where *perché* may question both the matrix clause or the lower clause. Following the analysis outlined for scrambled negative constituents in WF let us assume that the negative subject in Italian has dual status: i.e. it may have A- and A'-status. I have proposed that the negative head in (45a) is non-overt and moves to Agr like its overt counterpart. A pre-verbal negative subject will occupy the canonical subject position and have A-status by virtue of its Agr features which it shares with Agr and will have A'-status by virtue of the fact that it shares the NEG-feature with the non-overt NEG-head.



Related evidence for the A'-status of the negative subject comes from the following data:⁸

- (47)
- a. A nessuno studente Gianni ha parlato.
to no student Gianni has talked
'Gianni did not talk to any student.'
 - b. A questo studente nessuno ha parlato.
to this student no one has talked
'No one has talked to that student.'
 - c. *A nessuno studente nessuno ha parlato.
to no student no one has talked

Preposing of a negative constituent across a non-negative subject is possible (47a), preposing of a non-negative constituent across a negative subject is also possible (47b), but we cannot prepose a negative constituent across a negative subject (47c). The negative subject leads to an inner island effect in (47c) (cf. chapter 4).

In her discussion of the subject position in Italian Belletti (1990) invokes the data in (48) in support of the A'-status of the negative subject.

- (48) *Nessuno ha probabilmente sbagliato.
no one has probably made a mistake

Belletti (1990) proposes that the sentential adverb *probabilmente* has to raise to [Spec,CP] at LF. This will give rise to inner island effects.

7.2.2 *Negative subjects in English*

Consider an English example like :

(49) What did no one say?

The question arises how to account for the operator status of *no one* which occupies the subject position. The option proposed by Rizzi is that the specifier of AgrP 'can optionally count as an A'-specifier' (1990a: 21).

In such cases as [49] this option must be taken to properly assign scope to the affective operator, as the spec of C is not available. Thus, *no one* does not have to move, and it determines the inner-island effect from its S-structure position.'

(1990a: 21–2).

Rizzi's analysis also exploits the dual status of *no one* in that it agrees with Agr with respect to the nominal Agr features and it acquires A'-status by virtue of having negative features.

The idea that the subject position, standardly assumed an A-position, may acquire A'-status is also suggested in Rizzi (1991 abstract):

If negative quantifiers are submitted to the negative equivalent of the WH criterion, i.e. they must appear in the Spec of a +neg head, we can account for the fact that a negative subject induces an Inner Island (Relativized Minimality) effect on adjunct extraction (*Why did no one kill Mary* cannot mean 'What is the reason x such that no one killed Mary for x'). The spec of AGR-S is construed with its X° in *Phi* features, but also, if negative, in +neg; as we can opt for the second construal and have the position count as an A' Spec, adjunct movement is blocked by (an appropriate interpretation of) Relativized Minimality.

(GLOW Newsletter, 1991, February: p. 47)

Parallel to (48), (50) is also ungrammatical:

(50) *No one probably made a mistake.

We adopt the analysis proposed above: at LF *probably* has to raise over the operator *no one*, leading to an inner island effect.

8 Conclusion

8.1 *Mixed A/A'-positions*

The central theoretical proposal developed in this chapter is that A-positions and A'-positions are not in complementary distribution. The A- vs. A'-status of a position is defined in terms of two concepts: on the

one hand, the geometry of the tree, on the other hand, the content of specific positions, and the distribution of features along the tree. A-positions are specifier positions which share Agr features with a relevant head. The feature sharing is needed for identification of arguments. A'-positions are defined in terms of the sharing of operator features. Operator features characteristically range over clausal domains.

I also develop the hypothesis that A-specifiers have a one-to-one relation with a head, while there may be multiple A'-specifiers. In the latter case absorption of the relevant operator feature will convert multiple specifiers into single specifiers and thus restore a one-to-one relation.

If we adopt the viewpoint that both A-positions and A'-positions are determined in terms of feature content, we can expect that certain specifiers of XPs which geometrically would be described as A-positions also have A'-status.

8.2 *L-related vs. non-L-related positions*

In recent work the contrast A- vs. A'-position is replaced by L-related vs. non-L-related positions. A position is L-related if it has a Spec-head relation to an L-head, L-heads being among others V and Agr (possibly T, cf. Chomsky 1993, Jonas and Bobaljik 1993). The shift in terminology acknowledges the increased importance of the content of a position in determining the nature of a position. For the purposes of my analysis operators would be non-L-related, i.e. they would attain Spec-head relations with non-L-heads. I think that this shift in terminology will not have major consequences for the analysis of negation, given the importance I have given independently to the feature content of the constituents and the heads to which they relate.

6 *The syntax of negative operators*

1 Aim and scope

The first part of the chapter returns to an issue raised already in chapter 2: that of the contrast between sentential negation and local negation as illustrated in chapter 2 by the contrast between (1a) where the preposed negative constituent triggers subject-auxiliary inversion and (1b) where it does not:

- (1) a. On no account will I talk to her.
 b. Not long ago I met Jane at the library.

The negative constituent *not long ago* in (1b) is not subject to the NEG-criterion because it is not a sentential operator and hence it does not trigger inversion. I will explore parallel patterns in WF and in Italian.

The second part of the chapter summarizes the main lines of the analysis developed in this book and I discuss a number of additional questions raised by the analysis of the syntax of negation proposed here.

2 Negative operators and negated constituents

2.1 *Negative inversion in English*

In work on negative inversion in English Rudanko (1980) signals that while certain negated constituents trigger subject-auxiliary inversion, others don't (Rudanko 1980: 348-9). I referred to these data in chapter 2, section 1.1.2:

- (2) a. Not often did he digress from his topic.
 b. Not until yesterday did he change his mind.
 c. Seldom do I see him nowadays.

- (3) a. Not long ago it rained.
- b. Not unreasonably, one may expect results from him.
- c. Not far away, it was raining very hard.
- d. In no small measure it is his attitude that is blocking progress.

Rudanko distinguishes the two types of negated constituents in terms of sentential negation (2) and constituent negation (3). Referring to Klima's discussion (1964: p. 271ff.) of the phenomenon he says:

There are several aspects of English syntax which, as Klima points out, motivate the distinction between sentential and constituent negation, quite independently of subject-operator inversion. I only repeat three of them here . . . First, instances of sentence negation admit *neither* tags, but instances of constituent negation do not, as witness the contrast between [4a] and [4b]:

- [4a] Not often does Jack attend parties and neither does Jill.
- [4b] *Not long ago Jack attended a party and neither did Jill.

Second, instances of sentence negation most naturally take non-negative tags, while instances of constituent negation most naturally take negative tags, as witness [5a] and [5b]:

- [5a] Not often does Jack attend parties, does he?/*doesn't he?
- [5b] Not long ago Jack attended a party, didn't he?/*did he?

Third, instances of sentence negation co-occur with *any*, *ever* and other indefinites, or nonassertives, while instances of constituent negation do not.

- [6a] Not often does Jack attend any parties
- [6b] *Not long ago Jack attended any parties.

(Rudanko, 1980: 310-1)

The different structures also have different prosodic properties. Consider:

- [7a] John would be happy with no job.
- [7b] With no job would John be happy.
- [7c] With no job, John would be happy

. . . [7a] may mean either that there is no job such that John would be happy with it [7b] or that John would be happy if he were out of a job [7c].

The point about [7b-c] is that the lack of intonational break correlates with inversion, whereas the absence of inversion is compatible with an intonational break. In writing the intonational break can be indicated with a comma . . .

(Rudanko 1980: 350-1)

One way to account for the contrasts is to propose that negative constituents which trigger inversion are operators and those that don't

trigger inversion are not. Some negated constituents – such as *with no job* in (7) – are ambivalent. When a negative operator is preposed it triggers subject-auxiliary inversion because the negative operator needs to attain a Spec-head relation with a negative head; when a negated constituent is preposed which does not qualify as an operator it will not trigger inversion since it will not require to be in a Spec-head relation with a negative head.

If the analysis proposed here is tenable then we would expect that the negative constituents which are not operators do not give rise to inner island violations. The data in (8)–(9) confirm this prediction:

- (8) a. Why did they say that Bill would be fired t?
 b. *Why did they not say that Bill would be fired t?
 c. ?Why did they say a week ago that Bill would be fired t?
 d. ?Why did they say not long ago that Bill would be fired t?
- (9) a. What did they say that the parcel weighed t?
 b. *What did they not say that the parcel weighed?
 c. ?What did they say a week ago that the parcel weighed t?
 d. ?What did they say not long ago that the parcel weighed t?

Long construal of adjunct *why* in (8a) or of non-argument *what* in (9a) is grammatical. When a negative operator intervenes (8b, 9b), long construal is not possible. Though long construal of *why* and *what* is not perfectly acceptable when the negated constituent *not long ago* intervenes, it is not significantly worse than when a non-negative time adjunct intervenes (8c, 9c). The lack of inner island effects in these examples confirm that the negative constituent *not long ago* is not an operator.

Rudanko (1980), referring to Lasnik (1972:16) lists the following elements as non-operators:

- (10) a. not long ago
 b. not long after
 c. not long before
 d. not far from here
 e. not far away
 f. not infrequently
 g. not unnaturally
 h. not unreasonably

- i. not uncommonly
- j. not surprisingly
- k. not unexpectedly

The following are operators:

- (11) a. not often
- b. not always
- c. not many times
- d. not on many occasions
- e. not until...
- f. not even then
- g. not because
- h. not (in order) to
- i. not for any reason
- j. not under any conditions
- k. not under any circumstances

Rudanko tries to provide some semantic generalization to characterize the classes. The operator elements in (11) all seem to be 'principally composed of adverbials with an overt or inherent quantifier and motivational adverbs' (1980: 356). He proposes that the elements in (10) 'are not even negative' (1980: 356) in the sense that they can all be paraphrased with a non-negative phrase:

- (12) a. not long ago = a short time ago
- b. not long after = a short time later
- c. not long before = a short time before
- d. not far away from here = near here
- e. not far away = near
- f. not infrequently = frequently
- g. not unnaturally = naturally
- h. not unreasonably = reasonably
- i. not uncommonly = commonly
- j. not unsurprisingly = surprisingly
- k. not unexpectedly = expectedly

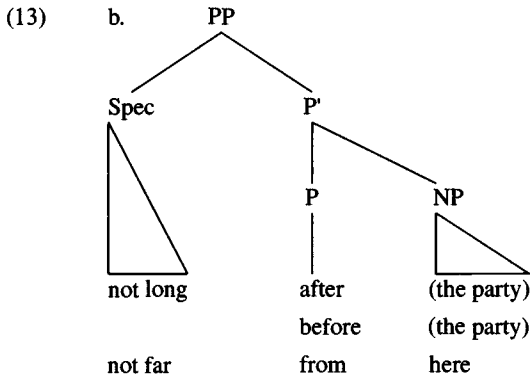
The adverbials (10f)–(10k) are probably to be interpreted as parentheticals. The other negated constituents share one property that distinguishes them from the operators: they are referential, while the operators are not (cf. Lasnik 1972). An adjunct like *not long ago* refers to a specific moment in time, while an adjunct like *not often* does not.

Referentiality seems to be a property which is not compatible with operators.

The negative constituents in (10), which fail to trigger inversion, share the pattern schematized in (13a):

- (13) a. [not Y] X

where X is a preposition (*before, after*) or a postposition (*ago*). Though the analysis of such elements awaits further study note that for at least some cases one might claim that the negative element is located in the specifier of the PP:



But observe that the structural property which we have isolated here is not a general property of negative constituents which fail to trigger inversion. In the PPs in (14) and (15) the negative constituent is the complement of a preposition. The PP may act as an operator and trigger inversion, or it may act as a non-operator:

- (14) a. In no clothes does Mary look attractive.
 b. In no clothes, Mary looks attractive. (Rudanko 1980: 357)
- (15) a. In not many years will Christmas fall on a Sunday.
 b. In not many years Christmas will fall on a Sunday. (Lasnik 1972)

When the negative PP in (14) functions as an operator it receives a conditional or quantificational reading and the negation bears on the entire clause: 'whatever clothes Mary may wear, she never looks attractive'. When the negative PP does not function as an operator it has a predicative reading. In the latter case the scope of the negation is restricted to the PP: 'Mary is attractive naked.' In (15a) the negated

constituent triggers inversion and quantifies over the event, in (15b) it does not trigger inversion and refers to a specific point in time.

It is not clear which factor is at the basis of the contrast between the adjuncts. From our first survey both syntactic properties and semantic properties come into play. One way to formalize Rudanko's intuitions that the non-operator elements are not negative in spite of the fact that they contain a negative element (*not*) is to propose that in such 'non-negative' examples the negative feature hosted by *not* does not percolate to the PP-level, but remains internal to the constituent. In the next section I introduce some parallel data from other WF and from Italian.

2.2 Extension of the data

2.2.1 West Flemish

The distinction between negated constituents which are sentential operators and those which are not as illustrated for English in the previous section, can be illustrated for WF too. Consider the following example:

- (16) a. Z'oat da werk *in geen tyd* gedoan.
 she had that job in no time done
 'She did that job in no time.'

The PP *in geen tyd* contains the negated NP *geen tyd* ('no time') but it does not act as an operator. This can be shown in several ways. First of all it is not compatible with the negative head *en*:

- (16) b. *Z'en oat da werk in geen tyd gedoan.
 she *en* had that job in no time done

This suggests that the negated constituent *in geen tyd* does not serve to license the NegP. Moreover, the constraints on the distribution of negative operators which we have described for WF do not apply: *in geen tyd* need not move leftward: unlike negative operators it can be extraposed:

- (16) c. Z'oat da werk gedoan in geen tyd.

When the negated constituent co-occurs with a negative constituent it does not enter into an NC relation:

- (16) d. T'(en)-oa niemand da werk in geen tyd gedoan.
 it *en* had no one that job in no time done
 'No one had finished that job in no time.'

In geen tyd is not interpreted as a negative operator, its interpretation is roughly 'in very little time'.

The WF parallels of the English negative constituents which do not trigger inversion do not have operator status either. In each of the sentences of (17) the italicized negated constituent does not enter into a NC reading with the negative operator *niemand*:

- (17) a. T'(en)-ee niemand diene boek *nie lange geleen* gelezen.
 it *en* has no one that book not long ago read
 'No one has read that book recently.'
 b. T (en)-weunt niemand *nie verre van* hier.
 it *en* lives no one not far from here
 'No one lives near here.'
 c. T'(en)-is niemand *nie lange noadien* gekomen.
 it *en* is no one not long after come
 'No one came shortly after.'

As was the case in English, certain negated constituents may or may not function as operators depending on their interpretation:

- (18) a. da se *me niets* ketent en-is.
 that she with nothing pleased *en* is
 'that she is not pleased with anything'
 b. da se *me niets* *nie* ketent en-is
 that she with nothing not contented *en* is
 'that she is not pleased with anything' (NC)
 c. da se ketent *me niets* (*en)-is
 d. da se ketent (*en)-is *me niets*

When the negative constituent *me niets* does not act as an operator it does not license the negative head *en* and it is not subject to the NEG-criterion. This means it need not undergo NEG-movement, it may extrapose. It fails to undergo absorption to derive the NC reading.

2.2.2 Italian

2.2.2.1 Local negation and *non*

In Italian too, constituents containing negative elements need not function as operators.

- (19)
- a. *Non molto tempo fa* Gianni non è stato invitato.
not much time ago Gianni *non* is been invited
'Not long ago, Gianni was not invited.'
 - b. *Non molto tempo fa* Gianni *(non) parlava a nessuno.
not much time ago Gianni *non* talked to no one
'Not long ago, Gianni talked to no one.'
 - c. Hanno detto *non molto tempo fa* che Gianni è stato invitato.
they have said not much time ago that Gianni has been invited
'They said recently (not long ago) that Gianni has been invited.'
 - d. Non ho fatto questo *non molto tempo fa*. L'ho fatto stamattina.
non I have done this not much time ago. It I did this morning
'I did not do this not long ago. I did it this morning.'
 - e. *Non ho fatto questo *non molto tempo fa* per aiutare nessuno.
non I have done this not much time ago to help no one

We see that the preposed adjunct *non molto tempo fa* ('not much time ago') does not behave like a negative operator: in the discussion of Italian in chapter 4 we saw that a preposed negative operator is not (or is only marginally) compatible with the overt negative head *non*. With a post-verbal negative operator *non* is obligatory. In (19a) *non* is required in order to express sentential negation, in spite of the pre-verbal negated constituent *non molto tempo fa*, suggesting that the latter is not a negative operator and cannot identify non-overt OP°. In (19b) *non* is also required to license the post-verbal negative constituent, in spite of the preposing of *non molto tempo fa*. This suggests that the preposed negated constituent in (19) is not an operator, hence it will not license the negative head and the NegP. In (19c) we see that *non molto tempo fa* in post-verbal position does not require the presence of the negative head *non*. If *non* is overt (19d) it will not enter into an NC reading with *non molto tempo fa*. Finally in (19e) *non molto tempo fa* cannot serve as a negative operator to license the parasitic post-verbal *nessuno* in the adjunct clause.

2.2.2.2 Absence of inner islands

Following the analysis in chapter 4 the data above confirm that *non molto tempo fa* does not have operator status. As expected long construal of

perché ('why') in (20a) is not significantly harder than with a non-negative adjunct:

- (20) a. *Perché hanno detto non molto tempo fa che Gianni era*
 why have they said not much time ago that Gianni is
 stato licenziato
 been fired
 b. *Perché hanno detto due settimane fa che Gianni era*
 why have they said two weeks ago that Gianni is
 stato licenziato
 been fired

2.2.2.3 Interaction with subjects

Another property of negative constituents in Italian is that only one preverbal negative constituent is allowed (cf. chapter 4 for some discussion):

- (21) a. **A nessuno studente nessun collega ha parlato.*
 to no student no colleague has talked
 b. *Nessun collega ha parlato a nessuno studente.*
- (22) a. **A nessuno studente nessun professore ha parlato.*
 to no student no professor has talked
 b. *Nessun professore ha parlato a nessuno studente.*

I have proposed that the preposed negative constituents in (21a) and in (22a) connect to the operator trace (or, alternatively, the non-overt negative operator) in [Spec,NegP] by antecedent-government. In these examples the intervening negative subject blocks antecedent-government. That (23) is grammatical suggests that the preposed negated constituent *non molto tempo fa* does not fall under the conditions that govern negative operators. Specifically, the intervening *nessuno* apparently does not block the antecedent-government relation. This is due to the fact that the preposed negative constituent *non molto tempo fa* and the negative subject *nessuno* are not 'of the same type' in that only the latter is an operator.

- (23) *Non molto tempo fa nessuno parlava di linguistica.*
 not much time ago no one talked about linguistics
 'Not long ago no one talked about linguistics'

2.2.2.4 Negation and sentential adverbs

Consider the following contrasts:

- (24)
- a. *Nessuno ha probabilmente sbagliato (Belletti 1990)
no one has probably made a mistake
 - b. *A nessuno Gianni ha probabilmente parlato
to no one Gianni has probably talked
 - c. *Non molto tempo fa* Gianni ha probabilmente parlato
not much time ago Gianni has probably talked
di questo a Maria
about this to Mary
'Not long ago, Gianni probably talked to Mary about this.'

In (24a) and in (24b) the interaction of the negative operators *nessuno* and *a nessuno* with the sentence adverbial *probabilmente* gives rise to inner island effects. On a standard account this is due to the LF raising of the sentence adverbial: the negative operator will intervene and block antecedent-government. Apparently this is not the case in (24c). We conclude once again that the negative constituent *non molto tempo fa* is not an operator.

2.2.2.5 Local negation and *easy to please*

Again these are instances of non-operator negation. Observe that in constructions where sentential negation is excluded, local negation is possible. Rizzi (1993b), for instance, shows that the *easy to please* construction in Italian is incompatible with negation:

- (25)
- a. E facile non capire questo problema.
is easy *non* understand this problem
'It is easy not to understand this problem.'
 - b. Questo problema è facile da capire.
this problem is easy to understand
 - c. *Questo problema è facile da non capire.
this problem is easy to *non* understand

Negative constituents with sentential scope are banned from *easy to please* constructions, but negative constituents with local scope are possible:

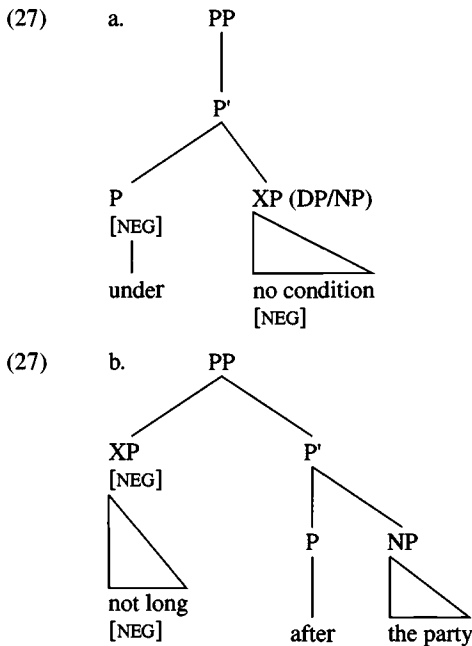
- (26)
- a. E facile fare questo viaggio con niente in tasca.
is easy to make that trip with nothing in pocket
'It is easy to make that trip with nothing in your pocket.'

- b. Questo viaggio è facile da fare con niente in tasca.
 this trip is easy to make with nothing in pocket

Rizzi (1993b) explains the unacceptability of (25c) in terms of the clausal structure of *easy to please* patterns. Assuming the Belletti (1990) hierarchy of clausal structure he proposes that clauses can be truncated. In the *easy to please* structure he assumes that the TP level is missing, hence NegP, which dominates TP, is also missing. Again this confirms that constituents with local negation are independent of licensing by the negative head Neg°.

2.3 Percolation

It is not clear what determines the operator status of a negated constituent. Following Rudanko (1980) I propose that the non-operator negative constituent in some sense is ‘not negative’. This could be interpreted in terms of percolation: in (27a), a PP which triggers inversion, i.e. which is an operator, the NEG-feature of *not* is assumed to percolate to the PP node, in (27b), a PP without operator status, NEG is restricted to a lower projection.



Percolation of the negative feature is related to semantic properties: it is available with quantificational PPs and unavailable with referential PPs. This would suggest that for NEG to percolate the higher projection has to share an operator feature with the projection containing NEG. Further research is required to make this feature sharing more precise. It is likely that we need to reinterpret PPs in terms of extended projections of P, i.e. PPs dominated by functional projections (Koopman 1993, Van Riemsdijk 1990, Starke 1993b). Possibly the quantificational property of PPs could relate to dominating functional projection. 'Referential' PPs would intrinsically be associated with nonquantificational functional projections whose heads would have to be incompatible with NEG. At this point I cannot develop these remarks.

In addition, configurational considerations also appear to play a part. A point that seems to emerge is that when the negative constituent occupies the specifier of PP, percolation of the NEG-feature to the dominating PP is blocked. This would be relevant for the PPs such as *not long before*, *not long after*, *not far from here*, and their Italian and WF equivalents. The syntax of *not long ago* and its equivalents *non molto tempo fa*, *nie lange geleden*, requires further study: the status of *ago* (*fa*, *geleen*) is not immediately clear.

The fact that NEG-percolation is blocked from the specifier position cannot be due to a generalized ban on percolation from specifiers: this is shown clearly in the following examples:

- (28) a. How long ago did she meet you?
 b. How long after (the party) did it happen?
 c. How long before should we be there?
 d. How far (away) does she live?

- (29) In which year will Christmas fall on a Sunday?

In the preposed constituents in (28) and in (29) we have the configuration of (27b) and yet percolation of the WH-feature is possible. The preposed WH-constituent functions as an operator triggering inversion. The data suggest that WH-percolation is less constrained than the percolation of NEG.

A similar conclusion is reached on the basis of the following WF data which concern syntactic movement. Pied-piping of a preposition with a WH-complement is easier than pied-piping of a preposition with a negative complement.

- (30) a. Me wa zyn ze ketent?
with what are they pleased
‘What are they happy with?’
b. Woamee zyn ze ketent?
wherewith are they contented
‘What are they happy with?’

(30) illustrates WH-movement of a PP. In (30a) the entire PP is moved, P is moved along. Example (30b) contains a PP with a so called R-complement. The characterizing property of such PPs is that the complement precedes the preposition, probably it moves to [Spec,PP].¹ (31a) illustrates the case of a demonstrative R-pronoun, *doa* (‘there’), (31b) that of an interrogative, *woa* (‘where’), (31c) that of a negative R-pronoun, *nieverst* (‘nowhere’) (Van Riemsdijk 1978).

- (31) a. [_{PP} *doa* [_P [_P *mee*] *t*]
b. [_{PP} *woa* [_P [_P *mee*] *t*]
c. [_{PP} *nieverst* [_P [_P *mee*] *t*]

Consider now the distribution of PPs with negative complements:

- (32) a. dan ze me niets (nie) ketent (en)-zyn
that they with nothing (not) contented *en* are
‘that they are pleased with nothing’
b. dan ze nieverst ketent me (en)-zyn
that they nowhere contented with *en* are
‘that they are not pleased with anything’
c. *dan ze nieverst me ketent (en)-zyn
that they nowhere with contented *en* are
‘that they are not pleased with anything’
d. dan ze nieverst nie ketent me (en)-zyn (NC)
that they nowhere not contented with *en* are
‘that they are not contented with anything’
e. *dan ze nieverst me nie ketent (en)-zyn (DN)
that they nowhere with not contented *en* are

The negative feature of *niets* in (32a) does not enter a Spec-head relation with a negative head within PP, it percolates to the PP node and this allows the PP to move as a whole to satisfy the NEG-criterion. The negative R-pronoun *nieverst* (‘nowhere’) strands the preposition *me* (‘with’) in (32b). When P is stranded the moved negative R pronoun licenses *en* (32b); when the R-pronoun pied-pipes the P, then the moved negative PP cannot function as a negative operator: it will not license the

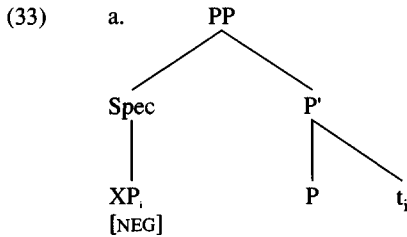
negative head *en* and it does not enter into an NC relation with *nie* as seen in the contrast between (32d) and (32e). In (32d) the bare negative R-pronoun *nieverst* enters into NC when it precedes *nie*, in (32e) the PP *nieverst me* gives rise to DN when it precedes *nie*.

The asymmetry between NEG and WH with respect to percolation is at the moment unexplained. One factor to take perhaps into account is that while NEG can have its scope restricted to the PP level, this is not possible for WH. Intuitively this is related to the fact that WH is a sentential feature: WH can exclusively range over sentential domains: only sentences can be interrogative.

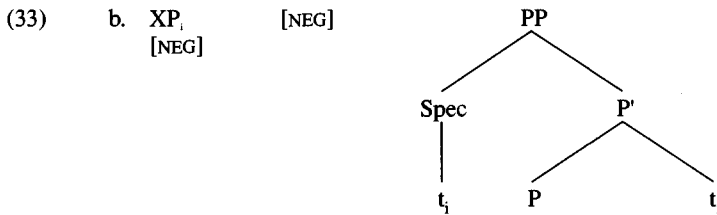
The question arises how to treat negative constituents which are not operators. It could be argued that the NEG-criterion is satisfied internally to the negated constituents. Let us assume that the WH-criterion cannot be satisfied PP internally: a WH-feature is forced to percolate because a WH-operator can only range over a sentential domain. In contrast, NEG can range over a sentential domain but also over a smaller domain, such as, apparently, a PP. When NEG ranges over a domain which is smaller than a clause, such as PP, the NEG-criterion is satisfied internally to that domain. The differentiation between the types of prepositions suggests that not any PP can be a scope domain for negation. I leave this issue for future research.

Where the NEG-criterion is not satisfied within a constituent the NEG-feature percolates to the maximal projection which is turned into a negative operator.

In the WF R-PPs the negative constituent *must* move out of the PP. Perhaps we can think of the following account. If the negative constituent remains in the specifier of the (extended) PP (i.e. a PP or a dominating functional projection cf. Van Riemsdijk (1990)), it will agree with the head and assign its NEG-feature (P or a dominating functional head). This means that its scope will be constrained to that PP. Possibly, the Spec-head relation and the availability of dynamic agreement forces the satisfaction of the NEG-criterion internally to PP:



When the negative operator moves to the matrix domain it attains a Spec-head relation with the sentential negative head.



I realize that the discussion above is at best a series of highly tentative suggestions on the problem and for a better account further study of constituent negation will be required.

3 Summary and problems for future research

3.1 *The AFFECT-criterion*

In this book I develop an account of negation based on the parallelisms with interrogation. I have elaborated a generalized well-formedness condition on affective operators:

- (34) AFFECT-criterion
- a. An AFFECTIVE operator must be in a Spec-head configuration with an [AFFECTIVE] X^o
 - b. An [AFFECTIVE] X^o must be in a Spec-head configuration with an AFFECTIVE operator.

The criterion applies to WH-operators instantiated in the WH-criterion and to negative constituents instantiated as the NEG-criterion. The domain of application of the criterion has to be studied more carefully. For instance, the question arises to what extent traditional quantifier scope phenomena should be reinterpreted in terms of a well-formedness condition like that in (34).

In Minimalist terminology (Chomsky 1993) we could say that affective lexical items have morphological features that have to be checked against features of functional heads, though, as already touched upon in chapter 4, the concept of criteria differs from the feature-checking theory. In particular, checking of features can be done in the course of the derivation. In a representational mode this means that traces can satisfy the checking conditions, while the operator criteria cannot be satisfied by traces.

- (35) a. Who do you think [_{CP} t [_{AgrP} t will arrive first]]
 b. *Niets peinzen-k da ze en-weet
 nothing think I that she *en* knows

If we assume that subject NPs (or DPs) check some features in the specifier position of Agr, be it *phi* features or Nominative case, then we conclude that after the checking, the NP (DP) can move on: in (35a) *who* has undergone WH-movement. In (35b), on the other hand, we see that negative operators must stay in the Spec-head configuration with the negative head in WF.

Further study should clarify whether the contrast between the checking mechanisms and the application of the operator criteria is to be maintained and if so, whether it can be derived from some other property. One option is to relate the strict locality conditions on the application of the AFFECT-criterion to the operator status of the XP. Another is to relate it to the fact that while checking of *phi* features and case features considers the licensing of properties intrinsic to the NP/DP and which do not have an impact on the dominating clause, WH-features or NEG-features are encoded on a phrase but they range over the clausal domain, with semantic effects. Another matter which might be related is that in the theory of A-positions and A'-positions outlined in chapter 5 I explicitly assume that while absorption is allowed (and is in fact often mandatory) in the case of operators subject to the AFFECT-criterion, absorption of A-specifiers is impossible in principle. I also assume that while a clause has precisely one head with the feature [NEG] or [WH], the head (and the related projections) associated with *phi* features are recursive.

3.2 *The definition of operators*

In order to account for the difference between languages with WH-movement and those without Rizzi proposes that the application of the WH-criterion is parametrized: in English it applies at S-structure, in Chinese it applies at LF. To account for the fact that constituents which are intrinsic WH-operators need not move to [Spec,CP] at S-structure in languages in which the WH-criterion applies at S-structure, he introduces the functional definition of operator, which distinguishes S-structure operators from LF operators.

- (36) a. WH-operator: a WH-phrase in a scope position;
 b. Scope position: a left-peripheral A'-position (a specifier position or an adjoined position).

In Rizzi's original formulation of the WH-criterion (cf. chapter 2) both a functional definition and an intrinsic definition of the notion 'operator' are needed. Concerning WH-elements which are unmoved in the syntax he says:

the WH-element *in situ* is in an A-position, therefore it does not qualify as an operator under the functional definition [36], hence clause [34a] of the [AFFECT] criterion does not apply to it and no violation is produced at SS.

(Forthcoming: 8)

It is also necessary to assume that the functional definition [36] holds at DS and SS, whereas at LF it is superseded by a stronger principle according to which all elements endowed with intrinsic quantificational force are operators at this level, and must be moved in an appropriate scope position . . .

(Forthcoming: 22, fn. 5).

Languages with obligatory multiple WH- or NEG-movement are those languages in which the functional definition, of the WH-operator and the NEG-operator respectively, is overruled by the intrinsic definition at S-structure. These are also languages whose syntax allows for the movement of the relevant constituent. WH-constituents in their base positions are not in the relevant scope position (36b), hence they are not operators (36a), and they need not have a Spec-head relation with the interrogative head. At LF such WH-constituents *in situ* will undergo WH-raising and satisfy the WH-criterion. In a sense, then, the functional definition in (36) allows one to postpone the movement of WH-phrases till LF.

3.3 Operator CHAINS

In my analysis of the distribution of negative operators I propose an alternative account, inspired by Brody (1993b) and which is similar to work independently developed by Acquaviva (1992, 1993) and by Suner (1993), in which the NEG-criterion is universally applicable at S-structure. The general idea is that where negative operators do not move to attain a Spec-head relation with a head with the NEG-feature at S-structure, they enter into a chain with an expletive operator which itself satisfies the NEG-criterion.

This is illustrated for English in (37):

- (37) a. On no account will he go there .
 b. He will [_{NEG^P} OP_i [NEG^o 0] go there on no account_i].

The obligatory subject-auxiliary inversion in (37a) can be accounted for if the NEG-criterion applies at S-structure. In (37b) I assume that the NEG-criterion is satisfied by an operator CHAIN whose head is a non-overt expletive operator.

The non-overt expletive negative operator must be identified. In (37b) OP enters into a CHAIN with *on no account*. The non-overt operator can also be identified by the presence of an overt head:

- (37) c. John didn't_i [_{NEG^P} OP_i t_i go there]

In (37c) the negative head *n't* identifies OP.

Parametric variation is to be expressed in terms of the Spell-out conditions on the operator chain/CHAIN. In WF, for instance, scrambling enables a negative constituent to be licensed as a head of an operator chain; in English this option is not available, though the negative constituent may be moved for reasons of focus. In Italian too, the contentive negative operator cannot be spelt out at the head of the NEG-chain, i.e. in [Spec, NegP], but again it can be preposed.

Following Aoun and Li (1993) and Brody (1993b) I assume that the account in terms of operator CHAINS can be extended to the application of the WH-criterion. Again the possibility of WH-movement and of multiple movement should be related to the Spell-out conditions on the chain/CHAIN.

This issue raises a number of questions. I discuss some of them here. Consider (38a):

- (38) a. What did you give to whom?

On the assumption that the WH-criterion applies at S-structure and that the contentive WH-constituent *in situ* satisfies the Spec-head requirement, clause (34b), by an operator chain, the S-structure representation of (38a) will be (38b):

- (38) b. [OP_i What_j did you give t_j to whom_i]?

To whom satisfies the WH-criterion by virtue of the CHAIN <OP_i, *to whom_i*>. Observe that this means that at S-structure two WH-constituents are associated with [Spec,CP]: one is overt (*what*), one is non-overt. But then the question arises why English does not have multiple movement:

- (38) c. *Whom what did you give to?

Rizzi ruled out (38c) by arguing that at S-structure only one constituent can move to [Spec,CP], and that multiple movement had to be delayed to LF. The WH-constituent is allowed to remain *in situ* thanks to the functional definition of operators. In the account which uses operator CHAINS, this explanation is no longer available: such an account assumes that multiple operators are associated with [Spec,CP] already at S-structure. One has to restate it in terms of morphological licensing: in English C [+WH] can only license one overt operator.

We have seen that languages may display different types of licensing for WH- and NEG-operators. In WF there is multiple NEG-movement but there is no multiple WH-movement.

- (39) a. Wat ee-j gie an wien gezeid?
b. *An wien wat ee-j gie gezeid?

In (39a) *wat* is moved to [Spec,CP] and the verb has moved to C. Thus the WH-operator *wa* and the WH-head have the required Spec-head relation. But *an wien* is not in [Spec,CP]. On the other hand, multiple NEG-movement is mandatory:

- (40) a. dan-ze an niemand niets nie gezeid een
that they to no one nothing not said have
'that they did not tell anyone anything'
b. *dan ze niets nie an niemand gezeid een

We must assume that WF Neg^o can license the Spell-out of multiple contentive negative operators, while C[+WH] cannot license the Spell-out of multiple contentive WH-operators.

A more conceptual question that arises from the discussion of preposed negative constituents in Italian is that of what I have referred to as 'layered chains', i.e. chains which, though headed by an argument, cannot be established by binding but have to be established by antecedent-government. This question obviously is closely related to that of reconstruction. I hope to pursue this phenomenon in future work.

3.4 For future research

Throughout the discussion of the book I have left many issues open-ended, discussing the advantages and disadvantages of each analysis but without opting for one or the other. However, I hope that in so doing I will have succeeded in developing the main lines of my approach to the syntax of negation which can be extended to other languages than the small sample discussed here. Some of the remaining problems are empirical and can be clarified by detailed investigation of a number of relevant languages. Others are more general issues which have consequences beyond the syntax of negation in a restricted sense. I will list the more central points here.

A conceptual question which arises is to what extent the introduction of the representational (expletive) operator CHAIN makes LF superfluous. A conservative position might be to say that the contentive operator which satisfies the AFFECT-criterion by virtue of a representational chain must move to the head of the CHAIN, i.e. the expletive operator, at LF by a version of expletive replacement. The LF movement effects would then follow. Alternatively we restate the conditions on movement globally in terms of CHAINS/chains.

Another issue which needs more thorough analysis is the status of A- and A'-positions and the way such positions are defined in the grammar. I suggested in chapter 5 that the definitions in terms of syntactic positions had to be supplemented with specifications with respect to featural content. This issue too needs further clarification. As mentioned above, it might also bear on the different modes of application of feature checking in the A-system on the one hand, and the AFFECT-criterion on the other.

Finally we have hinted at a possible account for the contrast between local negation and sentential negation which proposes that the NEG-criterion can be satisfied not only at the clausal level but also constituent internally. This proposal needs to be further examined.

Notes

1 Introduction

¹ Cf. also Hoekstra (1991), Starke (1993a) and (1993b), Stuurman (1985) for similar proposals.

² In English the complementizer *that* can sometimes be omitted:

- (i) a. I believe that John is intelligent.
b. I believe John is intelligent.

We assume that in (ib) C is non-overt. The non-overt complementizer is represented here as *e*.

- (i) c. I believe [_{CP} [_{C^oe}] [John is intelligent]].

Non-overt complementizers cannot freely alternate with overt complementizers, though. On the one hand, when a subject is extracted, as in (ii) then the complementizer of the immediately containing clause must be non-overt:

- (ii) a. *Who do you think that will arrive first?
b. Who do you think will arrive first?

The alternation between overt and non-overt complementizers is related to the conditions on the licensing of non-overt categories, specifically to the ECP. Anticipating the discussion in section 1.5.3 we will say that the movement of the subject in (ii) leaves a non-overt category in the extraction site, here represented as *e*:

- (ii) c. Who do you think (*that) *e* will arrive first?

This non-overt category is subject to a formal licensing condition: it has to be properly governed by a head (cf. (48b)). We assume, following Rizzi (1990a) that non-overt C^o is a governor, while *that* is not. For further discussion of the ECP see also Haegeman (1994a, chapters 8, 9 and 12).

Consider also (iii) (due to Stowell 1981):

- (iii) a. I believe (that) John is intelligent.
b. *(That) John is intelligent is widely believed.

In (iiia) the complement clause may have a non-overt C° ; in (iiib) the complement clause is moved to the beginning of the sentence and the complementizer must be overt. Stowell (1981) accounts for this contrast in terms of the licensing condition on the non-overt C: in (iva) the non-overt C° will be head-governed (cf. above) by the lexical verb *believe*; in (ivb) it cannot be head-governed:

- (iv) a. I believe [_{CP} [_{C[◦]e}] [John is intelligent].
 b. *_{CP} [_{C[◦]e}] [John is intelligent] is generally believed.

³ There appear to be instances of non-local selection. First, observe that in French (i) the matrix verb *vouloir* ('want') seems to select the subjunctive inflection of the verb in the embedded clause 'across' the complementizer *que*:

- (i) Je veux que tu reviennes /*reviens.
 I want that you come back subjunctive/*indicative
 'I want you to come back.'

One way of analysing this phenomenon is to argue that there are two items *que* in French, one which selects the indicative IP, one which selects a subjunctive IP, and to propose that *vouloir* selects the 'subjunctive' variant. Such an approach reduces the data to local selection: V selects C and C selects I.

Alternatively, it could be proposed that there is some form of movement between the inflection of the embedded clause and the C position (cf. Watanabe (1993), Zwart (1993)).

Puskas (1992) discusses the following data from Hungarian:

- (ii) a. Kérdeztem [_{CP} hogy mit adott Peter a gyereknek]
 ask-1sgn-PAS that what-ACC give-3sgn PAS Peter-NOM the child-DAT
 'I asked what Peter gave to the child.'
 b. Kérdeztem [_{CP} hogy Peter mit adott a gyereknek]
 ask- + Sgn-PAS that Peter-NOM what-ACC give-3sgn-PAS the child-DAT
 (1992: 158-9)

Puskas (1992: 159) writes:

In subordinate clauses, the matrix verb selects a [+WH] C° . But the data in (ii) confirm that WH-phrases do not move to spec CP: they appear to the right of the obligatory complementizer *hogy* (iia) and topicalized constituents like *Peter* can appear between *hogy* and the WH-phrase (iib). So we conclude that spec CP is distinct from the landing-site Spec FP.

Puskas proposes that the feature [+WH] is transmitted from C° to F° . I leave the issue of long-distance selection for future research.

⁴ The moved WH-phrase *what* should also c-command its trace. Under the definition given in (5a) this would not be true: in (13d) the first branching node dominating *what* is [Spec,CP], which does not dominate the trace of *what*. We

will assume (cf. Kayne 1993) that the node [Spec,CP] created by adjunction does not count for determining c-command.

- ⁵ For expository reasons, I simplify matters drastically here. (Cf. May (1985).
- ⁶ For an early approach which dispenses entirely with transformations, cf. Koster (1987). For a recent survey of the development of the generative model cf. Koster (1993a).
- ⁷ I do not develop this point here. As mentioned, in the Minimalist Program structures are built up of more elementary units. Cf. Chomsky 1993, Zwart 1993.
- ⁸ The syntax of negative adverbials such as *pas* and *plus* in French merits further study. For important discussion the reader is referred to Belletti (1990) and Rowlett (1993) who offers arguments against base generating *pas* in [Spec,NegP]. Degraff (1992) discusses the head status of *pas* in Haitian Creole. For the diachronic development of French see also Hirschbühler and Labelle (1993) and Pearce (1991, forthcoming).
- ⁹ Cf. Friedemann and Siloni (1993) and den Dikken (1993) for discussion of Agro.
- ¹⁰ I omit discussion of verbless clauses or ‘small clauses’ which are extended projections of other lexical heads:
- (i) Je considère cette fille très intelligente.
I consider this girl very intelligent.
- In (i) the complement of *considère* (‘consider’) is a verbless clause: it contains the predicate *intelligente*, i.e. an adjective with its feminine singular agreement. Arguably the complement of *considère* in (i) is an extended projection of an adjectival head, augmented with AgrP.
- ¹¹ Cf. Koster (1993a) for some discussion of the impact of structure preservation on linguistic theory.
- ¹² Similarly, the movement of an object into the specifier of AgroP is A-movement (cf. Chomsky 1991, Belletti 1990, den Dikken 1993, Friedemann and Siloni 1993). We return to this kind of movement in chapter 5.
- ¹³ X m-commands Y iff the first maximal projection dominating X also dominates Y; X does not dominate Y nor does Y dominate X.
- ¹⁴ There is no discussion of I-to-C movement in Japanese.
- ¹⁵ In Brody’s approach, there is no contrast between chains and CHAINS, since both types are created by the same chain-formation algorithm.
- ¹⁶ In a checking approach as advocated by Chomsky (1993) and applied to V-movement by Pollock (1993) it might be the case that AgrP is dominated by TP, and that there is a higher functional projection MoodP.

¹⁷ Müller and Sternefeld (1993) and Zwart (1993) provide a refined analysis in which the CP is decomposed in various levels: the CP level properly speaking and the TopicP level. When an interrogative constituent is moved it is taken to move to [Spec,CP]; a non-interrogative constituent moves to [Spec,TopicP]. I do not go into this issue here but return to it briefly in chapter 4.

¹⁸ One might be tempted to equate *te* with T, as is sometimes done for English *to*. The proposal would be problematic in the light of Zwart (1993) and Koster (1993b). Consider (i):

- (i) a. me Valère nie in den of te werken . . .
 with Valère not in the garden to work
 b. me Valère die deure groen te verwen . . .
 with Valère that door green to paint

Koster (1993b) proposes that PP complements such as *in den of* ('in the garden') in (ia) or predicates of small clauses such as *groen* ('green') in (ib) move to [Spec,PredP] and that the inflected V moves to the head Pred (cf. (74) above). If we were to assume that *in den of* is in [Spec,PredP] in (ia) then one might argue that *te* is in Pred°. Arguably *te* is the infinitival inflectional head. Zwart (1993) offers little discussion of *te*. I hope to examine this issue in future research.

¹⁹ Observe that the fact that the clausal complement is not in its base position should not create a problem for movement. Under the Kayne–Zwart approach it is clear that extraction out of moved constituents must be admitted independently:

- (i) a. Waar heb je die boeken [_{PP} t voor] gekocht?
 where have you those books for bought
 'What did you buy those books for?'

In (ia) *waar* is extracted from the PP *waarvoor*. Since the PP precedes V we assume it has scrambled to the left.

The same argument must now be advanced in the well-known cases of *was für/wat voor* split:

- (i) b. Wat heb je [t voor boeken] gelezen?
 what have you for books bought
 'What books did you buy?'

In Dutch (ib) *wat* is extracted from the object NP *wat voor boeken*. Again under the Zwart–Kayne hypothesis *wat voor boeken* originates in a position to the right of V and the position of *voor boeken* in (ib) is not the base position.

In chapter 4, section 1.4, we turn to the so-called split topic construction in German (Van Riemsdijk 1989):

- (ii) Bücher hat er keine.
 books has he no
 'Books he has none.'

In (ii) the direct object of *haben* is ‘split’: *Bücher* is topicalized, the associated quantifier *keine* occupies a lower position.

- ²⁰ Or to [Spec,TopP] if we assume following among others Müller and Sternefeld (1993) and Zwart (1993) that topicalization is not movement to [Spec,CP]. See also chapter 3 n. 14.
- ²¹ Zwart (1993) proposes right-adjunction of heads, but this seems to me to be a costly addition to the theory which initially only admits for leftward movement and left-adjunction. For discussion of Verb Raising see also Lattewitz (1994).

2 The WH-Criterion and the NEG-Criterion

¹ See Progovac (1988, 1991, forthcoming) for discussion and a survey of the literature. See also Laka (1990), Duffield (forthcoming). For the semantics of polarity items see also Ladusaw (1980a and 1980b), Linebarger (1981). For the semantics of negative quantifiers, see Acquaviva (1992, 1993).

² When polarity items occur in WH-interrogatives they often give rise to a rhetorical interpretation. (2a) will have as the most natural answer ‘No one said anything’ (cf. Progovac 1992, forthcoming). *Why* does not give rise to this reading, though:

(i) Why did you buy anything else?

³ I leave it open at this point whether the polarity item is licensed by a negative/interrogative head, i.e. a category of the X⁰ level, or by a negative/interrogative operator, a category of the XP level. Following my own analysis where each negative/interrogative operator is licensed by a negative/interrogative head either option seems available.

⁴ Duffield (forthcoming) discusses interesting exceptions to this generalization from Hiberno English. The following are some of the data cited (Duffield forthcoming: 5; italics mine):

- (i) a. you know, *any fellow* wouldn’t be joining if he wasn’t interested enough to try
(cited from Henry 1977)
- b. *any country* couldn’t stand it (Henry 1977)

Duffield proposes that the licensing condition of negative polarity items should be stated in terms of a case condition:

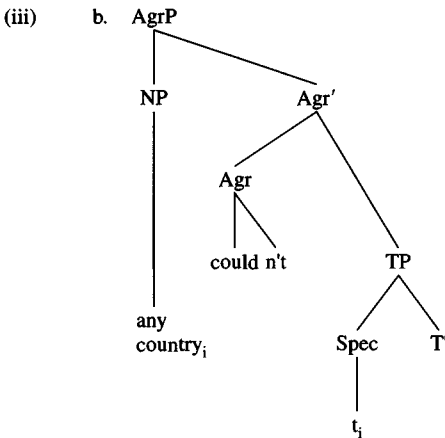
(ii) Case condition

For a Negative Polarity Item to be properly licensed, at least one Case-marked member of the NPI chain must be c-commanded by a negative operator. (Forthcoming: 9, his (22))

He assumes that in Standard English the subject NP is assigned nominative case in the canonical subject position, while in Hiberno English Nominative case can also be assigned in [Spec,TP]. Hence (ib) will have the representation in (iii):

- (iii) a. [_{AgrsP} Any country_i [_{Agrs} couldn't_j] [_{NegP} t_j] [_{TP} t_i [_T t_j] [_{VP} t_i [_{V'} stand it]]]]

In Hiberno English (iii) *any country* is case-marked in [Spec,TP]. Its trace t_i is case-marked; it is c-commanded by $n't$ which is cliticized to the auxiliary *could* in Agrs. Hence *any country* satisfies the Case condition. In Standard English, on the other hand, *any country* is case-marked in [Spec,AgrP], but this position is not c-commanded by the negative element $n't$. Under a strict definition of c-command, the first branching node dominating $n't$ is Agr', and Agr' does not dominate [Spec,AgrP]. In Standard English t_i is not case-marked, hence cannot serve to satisfy the Case condition.



⁵ Apart from cases of echoic WH-elements.

- (i) a. John talked to Mary.
John talked *to whom*?
b. Did you go to the cinema last night?
Did I go *where* last night?

In (ia) and (ib) the italicized WH-constituent remains *in situ*. Examples like (i) are referred to as echo questions: such questions serve to echo a preceding utterance replacing one constituent by a WH-phrase. I will not consider these here. They can be treated on a par with negative constituents whose function is to deny a preceding element:

- (ii) John will talk with you.
John will talk with NO ONE.

I shall occasionally refer to these examples. I do not have a full analysis to offer but crucially I assume that the WH-constituent in (i) and the negative constituent in (ii) is not a sentential operator.

As pointed out by a reviewer of this book the subject WH-element does not trigger inversion in root clauses:

- (iii) a Who went there?
b *Who did go there?

These data obviously cast doubt on the descriptive generalization in the text that all pre-posed WH-constituents trigger inversion. However, observe that it is only a local subject which fails to trigger inversion:

- (iii) c Who did you say arrived first?
d *Who you said arrived first?

In (iiic) a subject of an embedded clause is pre-posed and triggers subject-auxiliary inversion. For an analysis of WH-movement of local subjects which is compatible with the WH-criterion I refer the reader to the detailed discussion in Rizzi (forthcoming).

⁶ To deal with the apparent A'-properties of the subject position in French, Moritz and Valois (1992) opt for a more radical proposal and assume that the specifier of AgrP is an A'-position.

⁷ I ignore the echoic interpretation.

⁸ There is an asymmetry between WH-raising and the movement of negative operators at LF. Consider (i) (Lasnik and Saito: 1984: 252):

- (i) Who wonders where we bought what?

(i) is ambiguous: *what* is either paired with matrix *who* or with embedded *where*. This means that *what* can undergo LF raising to the matrix [Spec,CP], crossing *where* in the intermediate [Spec,CP], an expected result since *what* is an argument, hence it carries a referential index.

⁹ As can be seen there is no 'double WH' interpretation available. If there is no absorption then the multiple occurrence of WH-constituents is ungrammatical.

¹⁰ Klima's decomposition of the WH-constituent into a WH-component and the indefinite is similar to Watanabe's (1991) analysis. Similarly, Chomsky's (1993) proposal to analyse reconstruction in terms of copying and deletion results in a decomposing of the WH-constituent.

¹¹ For reasons of space I cannot go into the details of Negative Concord in this book (cf. Haegeman and Zanuttini (forthcoming) and also Haegeman (1991b) for some discussion), but it is worth referring briefly to Labov's approach to Negative Concord in English. Labov (1972) considers the following pair:

- (i) a. He didn't know anything.

b. He knew nothing.

(ib) is derived from (ia) by a rule of ‘negative attraction’ which has the effect of moving [NEG] down onto an indeterminate constituent. Negative Concord, illustrated in (ic) can then be seen as a copying rule whereby [NEG] is not lowered onto one indeterminate constituent but copied onto it, leaving NEG associated with the auxiliary:

(i) c. He didn’t know nothing.

The copying mechanism can be extended to more than one constituent, hence overcoming the restrictions on either one (Klima) or two (Lasnik) negative constituents per clause.

The negative feature copying is subject to constraints. For a discussion I refer the reader to Labov’s own work. See also Ladusaw (1991).

¹² Selectional properties of heads are stated in terms of head selection: a verb like *wonder* selects for an interrogative sentence, i.e. a CP whose head has the WH-feature. Selection is thus not stated in terms of the filler of [Spec,CP]. The presence of a WH-constituent in the specifier of an embedded interrogative is due to the WH-criterion.

¹³ In an approach which bans all rightward movement, heavy NP shift has to be derived differently. For some cases of what at first sight looks like rightward heavy NP shift in Italian Belletti and Shlonsky (forthcoming) in fact propose that there is leftward movement of the PP *a Gianni*.

- (i) a. ?Ho dato un libro che mi avevano consigliato la settimana scorsa a Gianni.
 have given a book that me they-had suggested last week to Gianni
 b. Ho dato a Gianni un libro che mi avevano consigliato la settimana scorsa.
 have given to Gianni a book that they me had advised last week
 ‘I gave a book to Gianni which they had suggested to me last week.’

Evidence that the object NP occupies its base position in (ib) is that *ne* extraction is possible out of the object NP.

- (i) c. Ne ho dato a Gianni uno che me avevano consigliato la settimana scorsa.
 of them I have given to Gianni one that they me had recommended last week

However, Belletti and Shlonsky propose that in the examples in (iia) the order PP-NP is derived by rightward movement of the object:

- (ii) a. Hanno dato a Gianni un premio.
 they have given to Gianni a prize
 ‘They gave Gianni a prize.’

Indeed, in (iia) *ne*-extraction is not possible:

- (ii) b. *Ne hanno dato a Gianni uno.
of them they have given to Gianni one
‘They have given one to Gianni.’

For more discussion of object movement see also Johnson (1991).

- ¹⁴ Cf. the discussion of Verb Second (V2) in chapter 1.
- ¹⁵ Recall that in absorption we propose that one operator binds multiple variables. Apparently there is some kind of parallelism requirement on these variables. The WH-operator of *yes/no* questions arguably ranges over propositions, the WH-operator of constituent questions ranges over arguments and adjuncts. This difference might block absorption.
- ¹⁶ There are differences between the languages that exhibit multiple fronting, as discussed in detail by Rudin. Basing her analysis on various tests she concludes that: ‘the behaviour of multiple WH-words in Bulgarian and Romanian indicates that they are all in SpecCP, while in Serbo-Croatian, Polish, and Czech only one of the fronted WH-words is in SpecCP’ (Rudin 1988: 450). I do not go into this difference here (cf. Puskas 1992).
- ¹⁷ Observe that Transparency expresses intuitions similar to Earliness since, for an element to be high in the structure, it must move. ‘Being as high as possible’ is ‘moving as high as possible’.
- ¹⁸ The reader may also wonder in what way the AFFECT-criterion applies to relative clauses:
- (i) a. The book which I bought yesterday is not uninteresting.
b. The book that I bought yesterday is not uninteresting.

In (ia) one might ascribe the obligatory movement of the operator *which* to the effect of the WH-criterion as implemented for relative clauses. In (ib) there is no overt operator, and in fact Rizzi (1990) crucially assumes that *that* is the [-WH] complementizer. Presumably we assume that the relative clause in (ib) contains a non-overt operator, as in (ic), but if that is [-WH] then the matching WH-operator will also have to be [-WH].

- (i) c. The book [_{CP} OP[-WH] that [-WH] [I bought . . .

Under this view we could assume that the movement of the non-overt operator is also triggered by the AFFECT-criterion; the latter is conceived of as an ‘operator’ criterion, applying both to [+WH] operators and to [-WH] operators.

3 NEG movement and the NEG-criterion

- ¹ The V2 phenomenon requires further study. The reader is referred to Rizzi and Roberts (1989) for multiple specifiers in French. Important recent work is by Shlonsky (1992) and Zwart (1993).

² The morphology of the WF past tense is not clear to me. With regular verbs, it would appear as if there sometimes is a doubling of the past tense morpheme. Both (ia) with the double morphology and (ib) are used as the past tense of *werken* ('work').

- (i) a. ik werk-tigd-en
b. ik werk-ten

(iia) and (iib) are the WF past tense of *veranderen* ('change'):

- (ii) a. ik verander-digd-en
b. ik verander-den

In Dutch, the past tense of verbs ending in a voiceless consonant is formed by means of the morpheme *te*, that of other verbs by *de*. In WF it would appear as if the past tense ending contains *te/de* as well as another morpheme *dig*.

In (iii) I illustrate the present and past tenses of some irregular verbs in WF.

- (iii) a. ik kuop-en ik kocht-en
b. ik wet-en ik wist-en
c. ik goa-n ik ging-en

In the dialect the regular past tense forms are not used very frequently, being usually replaced by the perfective construction. I hope to pursue these matters in future work.

The data above, though raising many complex issues concerning WF morphology, support the idea that T and Agr are distinct in the language.

³ I will assume that the direct object is the closest argument to the V and that the IO, whether NP or PP is hierarchically higher in the structure. This assumption follows Haerberli (1993). It has been argued by Müller and Sternefeld (1991) and also Müller (1992) that the base order in double-object constructions is DO-IO and that IO-DO is a derived order. Haerberli (1993) offers convincing arguments against this. In any case, the syntax of the double-object construction seems to be tangential to the syntax of negation.

⁴ See Bayer (1990) for an account of Bavarian negation.

⁵ Afrikaans offers interesting data which I briefly illustrate here (for further discussion Blancquaert 1923, den Besten 1986, Robbers 1992, 1993, Luijckx 1991):

- (i) ik kan nie kom nie.
I can not come not
'I can't come.'

Afrikaans allows for a doubling of negative markers: one element *nie*₁ occurs in the middle field, the other one, *nie*₂, occurs in a sentence-final position. Robbers (1993) shows convincingly that *nie*₂ does not have the status of a negation marker. Specifically, *nie*₂ co-occurs obligatorily both with constituent negation (iia) and with sentential negation (iib):

- (ii) a. Jan het *nie*₁ die BOEK gelees *nie*₂, maar die tydskrif.
 Jan has not the book read *nie*, but the journal
 'Jan hasn't read the book, but the journal.'
 b. Jan het die werk *nie*₁ gedoen *nie*₂.
 Jan has the work not done *nie*
 'Jan didn't do the work.'

Robbers (1993) proposes that *nie*₂ is a focus marker and occupies a position relatively high in the structure. This analysis raises the problem, though, that *nie*₂ would be associated with *nie*₁ also when the latter takes constituent scope.

Note in passing that the Afrikaans data are also problematic for the strictly head-initial approach to Germanic syntax.

⁶ In Bayer's data we find three variants of *nicht*: *nicht*, *nichd* and *ned*:

- (i) a. (Bayer's (5b))
 Ich bin froh, dass ich keine Rede nicht halten brauch.
 I am glad that I no talk not give need
 'I am glad that I don't need to give a talk.'
 b. (Bayer's (7a))
 das keine Unanstendikeit nichd bassirt isd
 that no indecency not happened is
 'that no indecency has occurred'
 c. (Bayer's (20b))
 das'n koa Hund ned beisd
 that him no dog not bites
 'that no dog bites him'

Perhaps these alternations are simply variants of transcription. Bayer does not comment on them.

⁷ Cf. Haegeman and Van Riemsdijk (1986), for instance, where it is argued that the head of a complex cluster created by VR can be extracted. The assumption will be that while the lower V *kuopen* ('buy') has been incorporated by the higher verb *wilt* ('wants') in (ia), a case of VR, the finite V *wilt* exorporates and moves to C in the root clause (ib):

- (i) a. da Valère dienen boek nog atent t_j [_V *wilt kuopen*]_i
 that Valère that book still always wants buy
 'that Valère still wants to buy that book'
 b. *Wilt*_i Valère dienen boek nog atent t_j [_V t_i *kuopen*]_i
 wants Valère that book still always buy
 'Does Valère still want to buy that book?'

⁸ For more discussion of scrambling and its relevance for negation the reader is referred to chapter 5.

⁹ There is a lot of cross-dialectal and diachronic variation with respect to the use of the bipartite negation with *en* in Dutch and in Flemish. The reader is

referred to the literature for some discussion (Jongen 1972, Koelmans 1967, Stoops 1972).

- ¹⁰ For more discussion of the interaction between imperatives and negation see also Rivero (forthcoming a and forthcoming b) and Zanuttini (forthcoming a and forthcoming b) and the literature cited there.
- ¹¹ However, in French *ne* can sometimes express sentential negation on its own in stylistically restricted contexts (cf. Muller 1991).
- ¹² The WF data are strikingly different from the diachronic data discussed by Burridge (1983). In a historical study of the development of negation in Dutch Burridge considers the distribution of the negative head *ne* and concludes that ‘as the verb-second order also becomes fixed, so too is *ne* under pressure to delete so as not to violate the emerging verb-second constraint’ (1983: 38). She also writes: ‘*ne* will not appear in imperatives, interrogatives and conditionals where its appearance would destroy the verb-initial character’ (1983: 37). As seen in the text, the WF negative head *en* can appear in V2 patterns, whether these be subject-initial or not:

- (i) a. Valère en-is nie geweest.
Valère *en* is not been
‘Valère did not come.’
b. Gisteren en-is Valère nie geweest.
yesterday *en* is Valère not been
‘Valère did not come yesterday.’

It also appears in imperatives:

- (ii) a. En-doe da nie!
en do that not
‘Don’t do that.’

in interrogatives:

- (ii) b. Woarom en-ee-j da nie gedoan?
why *en* have you that not done
‘Why did you not do that?’

and in V-initial concessive clauses:

- (ii) c. En-ee me geen geld, m’en een gien zorgen ook.
en have we no money, we *en* have no worries also
‘If we don’t have any money, we don’t have any worries either.’

- ¹³ French *ne* apparently does not have to be prefixed to V°, in (24) *ne* cliticizes to *pas* or to a higher abstract functional head.

- ¹⁴ If we distinguish between a CP level, a TopicP level (cf. Müller and Sternefeld 1993) and a Focus Phrase (cf. Puskas 1992), then it is not obvious that *me niets*

moves to [Spec,CP]. In English, for instance, NEG-preposing does not move a negative operator to [Spec,CP], as seen in (i):

- (i) I swear that never in my life will I meet him again.

In (i) *never in my life* follows the embedded C, suggesting that it occupies the specifier of a focus phrase or of a Topic Phrase. Cf. Culicover 1991.

- ¹⁵ Note in passing that NC readings which involve the adverbial of sentential negation are not available in French:

- (i) *Je n'ai pas vu personne.
I *ne* have not seen no one.

The other types of NC discussed in the text are available. I have no explanation for this contrast here and hope to return to it in future research.

- ¹⁶ Obviously, an account along the lines of Kayne (1993) and Zwart (1993), where WF is considered as an SVO language, will have to address the data differently. In (44a), for instance, the AP is not in its base position, which would be a complement position to the right of the V, but has moved leftward, possibly to the specifier of the Predicate Phrase discussed by Zwart (1993) and Koster (1993b). Similarly, what we call an extraposed PP, such as *me niets* in (44d) would not necessarily be extraposed. If, as argued by Koster (1993b) and Zwart (1993) the inflected V moves to the head of PredP, then it is conceivable that *me niets* occupies its base position. On the other hand, we have seen in chapter 1, section 2.1.3.1 that the hypothesis that extraposed constituents occupy their base position cannot be maintained in general. In (ja), for instance, the PP *vu niets* ('for nothing') follows the finite V, but it modifies the verb *gewerkt* ('worked') which has been moved to the left. If we assume that the movement of *gewerkt* in fact affects the projection of the V, then this means that *vu niets* must have been moved out of the VP prior to the leftward VP movement (cf. the discussion in chapter 1, section 2.1.3.1).

- (i) a. da-se gewerkt eet vu niets
that she worked has for nothing
'that she has worked for free'
b. da-se [_{VP} gewerkt t_j] eet [_{FP} [_{PP} vu niets] t_k]

Observe that the extraposed PP does not have sentential scope. Anticipating the discussion, we will assume that it is not an operator. Analyses which consider extraposition phenomena as PF reorderings will have to account for the semantic effects observed above and in Kosta (1993b).

- ¹⁷ I leave it open whether the movement targets the CP level or a lower TopicP level (cf. Müller and Sternefeld 1993; Zwart 1993) (cf. n. 14 above).
- ¹⁸ In chapter 4 we will see that some languages such as Italian have a non-overt operator for expressing bare sentential negation. This is not the case in WF nor in French.

- (i) a. Gianni non ha telefonato.
Gianni *non* has telephoned
'Gianni did not telephone.'
b. Valère en-ee *(nie) gebeld.
Valère *en* has not called
'Valère did not telephone.'
c. Jean n'a *(pas) téléphoné.
Jean *ne* has not telephoned
'Jean did not telephone.'

¹⁹ It is not clear why there should be such an asymmetry. If Rizzi (forthcoming) is correct in assuming that in root clauses the *WH*-feature is associated with I, then one might expect that the relevant Spec-head relation can be reached between a *WH*-element and the base position of the *WH*-feature. Note, though, that there is an important difference between the *WH*-feature and the *NEG*-feature. The *WH*-feature is either generated as a feature of C (in selected clauses) or as a feature on I, in root contexts. One option is to say that the *WH*-criterion must be satisfied at the level of C, maybe because there is an intrinsic association between C and the *WH*-feature. Observe, for instance, that verbs select for an interrogative or a non-interrogative CP, while they do not select for a negative CP. Progovac (forthcoming) proposes that [*NEG*] may in fact be generated also on C, but in this case it will not give the sentence negative force.

²⁰ In the terminology of the Minimalist Program (Chomsky 1993) we can say that both criteria must be satisfied *before Spell-out*.

²¹ (60c) and (60d) might be problematic in this view if we adopt the Kayne/Zwart analysis of clause structure. Recall that it could be argued that the extraposed PP in (60d) must be in an adjoined position (cf. fn. 16). If this is true, then it is not clear how the 'extraposed' PP does not qualify as an operator at S-structure. On one particular analysis of extraposition, the embedded clause in (60d) would have the partial structure in (i), where prior to the leftward movement of the VP, the PP complement *van wien* extraposes by moving to the specifier of a functional projection dominating VP.

- (i) da-se [_{VP} tmeest ketent t_j geweest] eet [_{FP} [_{PP_j} van wien] t_k]

²² Scrambling seems to be a property of SOV languages. If Kayne is right that there is a universal SVO base then obviously all SOV orders are derived by leftward movement of the object, i.e. 'scrambling'.

²³ I assume that *mee* is a preposition which selects a CP complement with non-overt C. An alternative would be to argue that *mee* is a prepositional complementizer like English *for*.

²⁴ I use a perfective aspect of *beloven* ('promise') because this makes it clear we do not have an instance of Verb Projection Raising (cf. den Besten and Rutten 1989).

²⁵ The judgements and the conclusions drawn from them concerning object clitics and VPR differ from those discussed in Jaspers (1989). It may well be that there is dialectal variation with respect to the type of constituent which undergoes VPR: Robbers (1993), for instance, points out that definite arguments cannot be contained in the cluster created by VPR in Afrikaans. This could suggest that in that language VPR is restricted to a reduced extended projection of VP. Since the cluster created by VPR can contain *nie*, we assume that it is at least VP.

Similarly, some Flemish dialects, such as WF, allow an indefinite subject to be inside the cluster created by VPR, others don't:

- (i) %*dan-der moeten vee mensen dienen boek kuopen.*
 that there must many people that book buy
 'that many people should buy that book'

It seems to be the case that the Eastern dialects in Flanders have a reduced form of VPR.

²⁶ For very detailed discussion of expletive negation in Romance, with special focus on Catalan, see Espinal (1992). For Spanish see Palacios (1992).

4 The application of the NEG-criterion

¹ I have not looked at the Scandinavian languages. Diesing (1994) suggests though that the obligatory object shifting of negative quantifiers in Icelandic might be taken to follow from the NEG-criterion.

² Standard Dutch and Standard German do not exhibit Negative Concord, though some of the dialects do (cf. Bayer 1990 for Bavarian). Afrikaans has NC between the negative marker *nie* and one negative constituent, but it does not tolerate NC between two negative constituents (thanks to Karin Robbers for information on Afrikaans). It is not clear what is the distinctive property of NC languages. Cf. the brief discussion in section 1.1.1.

³ I do not deal with all the aspects of negation of the languages discussed, I focus on the level of application of the NEG-criterion. A detailed description of negation in German, Dutch, Afrikaans, English, Italian, Spanish, Portuguese and French would go beyond the scope of a single book. For probably the most comprehensive description of negation in Romance the reader is referred to Zanuttini (1991).

I hope that the discussion in the present book may furnish a basis for future research on the syntax of negation of particular languages.

⁴ For a discussion of negation in the history of German cf. Matthewson (1990), Schoenenberger (1994).

⁵ In (i) Hamann detects no marked preference for the position of the adjectival complement:

- (i) a. weil Peter sauer auf seinem Freund ist
because Peter annoyed with his friend is
- b. weil Peter böse mit seinem Freund ist
because Peter angry with his friend is
- c. weil Peter stolz auf seinem Auto ist
because Peter proud of his car is

⁶ Thanks to Eric Haeberli, Henk Van Riemsdijk, Manuela Schoenenberger and Michal Starke for interesting discussion of this construction. They cannot be held responsible for the present analysis.

⁷ The labels TOPIC and SOURCE are adopted from Van Riemsdijk (1989). The split topic construction is also reported to be found in archaic English.

- (i) Brothers and sisters have I none. (Van Riemsdijk 1989: 106)

For lack of further data I will not discuss the English data. One point that is interesting in (i) is that the preposed constituent triggers inversion. I hope to return to this material in future work.

⁸ The judgements in (14a) and (14b) are taken from Van Riemsdijk's paper. I thank Henk Van Riemsdijk for the judgements in (15).

⁹ Thanks to Michal Starke for the suggestion.

¹⁰ One might also think of the relation TOPIC-SOURCE in terms of a discontinuous operator (Branigan 1992).

¹¹ In future research I will try to pursue an account which postulates that both N and A can be (or must be) dominated by an associated DP, resulting in a doubling of D. This option exists, for instance, in Hebrew (ia), Standard Arabic (ib), Gulf Arabic (ic), and Classical Greek (id) (Siloni 1994: chapter 5), where D is spelt out both in association with N and in association with A:

- (i) a. ha-'ish ha-yafe
the man the beautiful
'the beautiful man'
- b. 'ar-rajulu 'at-tawiil
the man the tall
'the tall man'
- c. l-bint l-matina
the girl the fat
'the fat girl'
- d. to bibliion to kalon
the scroll the beautiful
'the beautiful scroll'

In order to account for the determiner reduplication in the split topic constructions, one could propose that each AP is associated with a functional projection DP, whose head is non-overt unless it is not properly identified by head-government. A complete account of such an analysis requires in-depth study of the structure of DP, an issue which is beyond the scope of this book. I hope to return to this issue in later work. (Cf. Siloni 1994 for a discussion of DP in Hebrew.)

- ¹² For discussion of the status of PP in the Minimalist approach cf. Koster (1993b). Klooster (1993) extends the application of the NEG-criterion to the licensing of negative polarity items in Dutch.
- ¹³ For negation in Afrikaans see also den Besten (1986), Blancquaert (1923), Pauwels (1958), Luijks (1991).
- ¹⁴ For a discussion of Old English negation I refer the reader to Haerberli (1991, 1992) and Haerberli and Haegeman (1992).
- ¹⁵ In independent work based essentially on a careful semantic study of negative constituents such as *no one*, *nothing* etc. Acquaviva comes to the same conclusion (1993, forthcoming).
- ¹⁶ For the following contrast see note 33:
- (i) a. I gave him three books, of which I expected that he would like none.
 b. I gave him three books, none of which I expected that he would like.
 c. *I gave him three books none of which I did not expect that he would like
- ¹⁷ Another problem is raised by instances such as (i) taken from Quirk et al. (1985: 809)
- (i) a. Is not history a social science?
 b. Does not everything we see about us testify to the power of Divine Providence?

The authors comment:

Some speakers accept a . . . construction, also rather formal, in which the full particle is in the same position as the en-clitic . . . This construction is especially likely in formal contexts where the subject is lengthy . . . The construction is an apparent exception to the regular placement of the subject immediately after the operator, but in print it may merely represent the printed equivalent of the attached *en*-clitic. (Quirk et al. 1985: 809)

Note that the authors use a terminology different from ours. *Not* is referred to as a particle, and the term operator is used for the auxiliary.

An analysis of the data in (i) would require more information concerning the patterning of such sentences. I leave it for future study.

¹⁸ I assume that the movement of the negative operator in (ia) is not triggered by the NEG-criterion:

- (i) a. On no account will I do that.

Observe that *on no account* does not have to move to the initial position.

- b. I will do that on no account.

On the other hand, the movement of the auxiliary *will* in (ia) is triggered by the NEG-criterion: as *on no account* is a negative operator in (ia) it is subject to (1a) of the NEG-criterion.

¹⁹ Cf. Belletti and Shlonsky (forthcoming) though for restricted patterns of leftward movement in Italian. Cf. chapter 2 note 13.

²⁰ In this book I only discuss a small sample of languages. Obviously further extension of the research should clarify the parametric variation. Schafer (forthcoming) suggests that Breton is like the Romance languages and lacks NEG-movement. Following my own earlier work she proposes that the NEG-criterion applies as late as LF in Breton. Obviously I would like to reinterpret this conclusion in terms of the CHAIN formation analysis elaborated here.

²¹ There is some variation with respect to the status of examples with pre-verbal negation and *non*. It seems that generally the pre-verbal negative subject is less compatible with *non* than a preposed non-subject. The *Grande grammatica italiana di consultazione* (264-5) gives the following examples:

- (i) a. Nessuna delle piante sembra malata.
 none of the plants seems ill
 b. Niente gli fa piacere.
 nothing him makes pleasure
 ‘Nothing pleases him.’
 c. A nessuno lo ha detto.
 to no one it has told
 ‘He hasn’t told anyone.’
 d. Niente ha fatto.
 nothing has done
 ‘He has not done anything.’
 e. Da nessuna parte potrebbe stare meglio.
 of no side could be better
 ‘In no way could it be better.’
 f. Mai io glielo avrei detto.
 never I it him would have said
 ‘I would never have told it to him.’

It is pointed out that: ‘Più precisamente, la presenza della particella negativa *non* produrrebbe agrammaticalità in [ia-d]. In [ie-f] l’aggiunta di *non* può esprimere una intensificazione della negatività della frase’ [translation LH: ‘More precisely, the presence of the negative particle *non* would produce

ungrammaticality in [ja-d]. In [ie-f] adding *non* can express an intensification of the sentential negation]:

- (ii) a. Da nessuna parte non potrebbe stare meglio
b. Mai io non glielo avrai detto

(264)

When the preposed constituent is focalized as in (iii) *non* is possible:

- (iii) a. A NESSUNO, (non) lo ha detto.
to no one *non* it has said
b. NIENTE, (non) ha fatto
nothing *non* has done
(examples p. 264)

I hope to return to the variation with respect to the use of *non* in later work. This study is based on the register illustrated by the text examples.

A problem for the head status of *non* is raised by the following sentence which is discussed extensively in the literature (Kayne 1991: 59, due to Benincà; Zanuttini 1991; Acquaviva 1992; Belletti 1992):

- (iv) a. Non lo prendo adesso e (poi) te lo riporto tra due giorni.
non it I take now and (then) you it return in two days
'It is not the case that I will take it now and then return it in two days.'

Pre-verbal *non* in (iva) has scope over both conjoined clauses. It is difficult to see how this can be achieved if *non* is a clitic on the finite V *prendo*. Belletti (1992) shows convincingly that examples such as (iva) cannot be used as an argument to invalidate the idea that sentential negation *non* in Italian has head status. I do not repeat her discussion here, the reader is referred to her own work. Suffice it to point out here that though *non* has scope over the second conjunct, as the translation shows, it does not license a post-verbal negative constituent in the second conjunct while it does so in the first (Belletti 1992: 8):

- (iv) b. Non lo prendo più il martedì e te lo riporto il giovedì.
I *non* it take any more on Tuesday and to you it take back on Thursday
c. *Non lo prendo il martedì e te lo riporto più il giovedì.
I *non* it take on Tuesday and to you it take back any more on Thursday

Belletti (1992: 8) tentatively proposes that what looks like a coordinate clause introduced by *e* is probably a type of subordinate structure. Following her arguments I assume that the data in (iv) are admittedly problematic but that they do not constitute solid evidence against the hypothesis that *non* is a head.

²² Carlo Cecchetto points out that (43b) and (43c) are grammatical with pre-verbal *non* when they are given a double negation reading. With pre-verbal *non*

(43b), for instance, would mean ‘Someone calls Gianni.’ Similar observations apply to (44b) and (44c) below.

- ²³ Negative quantifiers like *niente* (‘nothing’) and *nessun* (‘no one’) do not behave identically to polarity items such as *granché* (‘anything significant’) as illustrated, for instance, by the following example (Rizzi 1982: 175: fn. 12):

- (i) Non credo che *niente/?? granché sia stato fatto per aiutare i profughi
non I believe that anything/anything significant has been done to help
 refugees

In (i) *niente* cannot have matrix scope, (i) is grammatical with *niente* having embedded scope, leading to a DN negation reading where *non* cancels *niente*. The polarity item *granché* has to be licensed by a c-commanding negation, but apparently matrix negation can license a polarity item in a lower subject position. So even if one were to treat negative constituents like *niente* as polarity items, some special proviso must be made.

- ²⁴ Italian *non* differs in some ways from the pronominal (object) clitics. I quote Zanuttini’s discussion at length:

In languages like Italian and Spanish . . . the negative markers (*non* and *no*, respectively) do not share all the same properties as pronominal clitics. First, they can sometimes bear stress, while pronominal clitics cannot. Pronominal clitics can only take stress when in a contrastive context of repair:

- [ia] Non *gli* ma *le* ho parlato.
non to him but to her have spoken
 ‘Not to HIM, but to HER I have spoken.’

The negative marker, on the other hand, can be stressed for the purpose of emphasis, without need for a context of repair:

- [ib] Preferirei NON farlo.
 I’d rather *non* do it.’

Secondly, while the order ‘Verb adverb clitic’ is always impossible, as shown in [jia], the order ‘Verb adverb negative marker’ is marginally possible, as we can see in [iib], where the gerund has arguably moved past the negative marker:

- [jia] *Essendo di certo vi un dottore, . . .
 being for sure there a doctor,
 ‘There certainly being a doctor, . . .’
 [iib] ?Essendo di certo non un dottore . . .
 being for sure *non* a doctor . . .

A similar contrast can be construed with an intervening subject: while a verb can never move past the subject leaving the clitic behind, as shown

in [iia], it can marginally do so leaving *non* behind, as we can see in [iib]:

- [iia] *Avendo Gianni lo finito in tempo . . .
 having Gianni it finished on time
 [iib] ?Avendo Gianni non finito in tempo . . .
 'Gianni not having finished on time . . .'

Moreover, pronominal clitics precede the finite verbs but follow the non-finite forms . . . ; whereas the negative markers *always* precede the verb, whether finite or not:

- [iva] E meglio che non le parli.
 is better that *non* her-talk
 'It's better that I don't talk to her.'
 [ivb] E meglio non parlarle.
 is better *non* talk her
 'It's better not to talk to her.'

(Zanuttini 1991: 39–40)

These differences must be subject to future study. Observe that examples like [iib] and [iib] can be treated in terms of constituent negation. The contrast in [iv] could be related to the type of head-movement which affects *non* (cf. Moritz 1989 and Belletti 1990). In spite of the obvious problems I assume that the text examples offer a basis for assigning head status to *non*.

- ²⁵ The contrast between WH-movement and NEG-movement at LF needs to be examined. There are some points to consider. Observe that [Spec,CP], the position of *where* in (55e) is a landing site for WH-movement, while [Spec,NegP], which contains the intervening operator in (55d/e), is not. If Shlonsky (1989) is correct, the relation between a negative head and the negative quantifier is not established via [Spec,CP]. Finally, in (55c/d) the intervening negation is a NegP, containing a negative head and a non-overt negative operator.

Another point which requires further study is the following:

- (i) a. Non ho dato niente a nessuno
non I-have given nothing to no one
 b. Non ho dato nessuno dei libri che mi avevi mostrati a nessuno
 studente
non I-have given none of the books that me you had shown to no
 student
 (ii) a. *Non ho dato a nessuno niente
 b. Non ho dato a nessuno studente nessuno dei libri che mi avevi
 mostrati

In (ia) the reordering of indirect object and direct object is impossible, in (ib) it is not. Belletti and Shlonsky (forthcoming) propose that structures like (ia)

are derived by rightward movement of the object to an A-position (a focus position in their proposal), while in (iib) the indirect object PP moves leftward. They also propose that in (iia) [Spec,AgroP] contains an expletive *pro*.

The ungrammaticality of (iia) could be related to the fact that *niente* is part of two expletive chains: the operator chain headed by the non-overt operator in [Spec,NegP] and the expletive chain headed by the expletive *pro* in [Spec,AgroP].

- ²⁶ Focus is another way of licensing bare quantifier and predicate preposing. Presumably focus also turns the preposed constituents into operators.
- ²⁷ Lucienne Rasetti (1994) points out that the negative subject does not block movement of quantifiers or predicates in Portuguese. I assume this difference derives from independent differences between Italian and Portuguese.
- ²⁸ The analysis proposed here entails that in sentences with negative subjects, there can be no further preposed negative constituent. The one exception to this constraint seems to be examples like (ia) and (ib) where *mai* co-occurs with *nessuno* in pre-verbal position.

- (i) a. *Mai nessuno ha detto questo.*
 never no one has said this
 ‘No one ever said this.’
 b. *Nessuno mai ha detto questo.*

Following Belletti’s analysis (1990) of the sequence *mai più* in (ic) I propose that *mai* and *nessuno* in (ia) and (ib) form one constituent, and that the order in (ib) is derived by movement.

- (i) c. *Gianni non ha mai più parlato di questo.*
 Gianni *non* has never more talked of this
 ‘Gianni hasn’t ever mentioned this any more.’

For examples like (ii) see chapter 6:

- (ii) *Non molto tempo fa nessuno lo conosceva.*
 not much time ago no one him knew
 ‘Not long ago, no one knew him.’

- ²⁹ The importance of these data was first brought to my attention by Magui Suner.
- ³⁰ Shlonsky (1989) shows that the hypothesis that NEG-raising, the movement of a negative operator to a negative head in a higher clause, does not take place via [Spec,CP] is implicit in Kayne (1984) and in Rizzi (1982). He provides direct evidence from Hebrew that NEG-raising does not pass through [Spec,CP].

This is also confirmed by the following data from French.

- (i) a. *Il ne faut rien que tu dises.*
 there *ne* must nothing which you say
 ‘You should not say anything.’

- b. *Il ne faut rien qui soit dit
 there *ne* should nothing *qui* be said

As shown also by (ic) *rien* is moved from the lower clause into the matrix domain:

- (i) c. Il n'a rien fallu que je dise.
 there *ne* has nothing must that I say
 'I did not have to say anything.'

As can be seen in (ib) *rien* does not move through [Spec,CP], as this movement would trigger the *que/qui* alternation typical of subject extraction in French:

- (ii) a. le livre que j'ai acheté
 the book which I have bought
 b. le livre qui vient de paraître
 the book which comes of appearing

³¹ Carlo Cecchetto observes that (75a), repeated here as (ia), is grammatical with *nessuno* acting as a constituent negation:

- (i) a. Non faccio questo per aiutare nessuno.
 b. Faccio questo ma non per aiutare nessuno.
 I do this but *non* to help anyone.

It is not clear how to deal with this issue. Note though that the point of the text that *nessuno* in (ia) cannot have matrix scope holds.

³² In the literature there are standardly assumed to be two types of parasitic gaps, illustrated in (i):

- (i) a. Poirot is a man whom you trust t when you meet pg
 b. Poirot is a man that anyone that talks to pg usually likes t

In (ia) the parasitic gap (*pg*) is contained in an adjunct, in (ib) it is contained in a subject. In the text we illustrate a case of parasitic negation in adjuncts; for a case involving subjects consider the following:

- (ii) a. *Je n'exige que personne dise cela.
 I *ne* demand that no one say that
 b. ??Je n'exige que personne dise rien. (Kayne 1981, 1984; Rizzi 1982: 175, fn. 13)
- (iii) a. Non pretendo che nessuno dica questo.
 'I do not pretend that nobody say that.'
 b. Non pretendo che nessuno dica niente.
 'I do not pretend that anybody say anything.' (Rizzi 1982: 175, fn. 13)

(iia) is ungrammatical; the traditional explanation for this is that the linking of *personne* and *ne* by LF movement gives rise to a *that*-trace effect, i.e. an ECP violation (Rizzi 1982). In (iib) inserting a negative operator in the object

position improves the sentence. The same effect is achieved in Italian. (iia) is grammatical with *nessuno* having scope over the embedded clause only; (iiib) is grammatical with *nessuno* having matrix scope. Apparently adding *niente* in the object position of the embedded clause gives rise to improvement. The analysis of text example (76) extends to the data in (ii) and (iii).

³³ The notion of layered chain will also account for the following contrast:

- (i) a. I gave him three books, of which I expected he would like some.
b. I gave him three books, some of which I expected he would like some.
- (ii) a. I gave him three books, of which I expected that he would like none.
b. I gave him three books of which I did not expect that he would like none.
c. I gave him three books none of which I expected that he would like.
d. *I gave him three books none of which I did not expect that he would like.

As can be seen the quantifiers *some* in (i) and *none* in (ii) can be pied piped in relative clauses, but this is not possible when *none* is moved across an intervening negation. The contrast between (iib) and (iid) shows that what matters is the intervening negation. The question arises how to account for this in a Relativized Minimality framework, where argument extraction should not be blocked by negation. In terms of the structure outlined above, we assume that in the lower clause *none* takes sentential scope via an operator chain. In the case where the negative constituent is fronted, the relevant chain will be a layered chain:

- (iii) [none of which]_i I didn't OP expect [that [he would OP_i like t_i]]

Again the contentive operator passes across a non-overt operator. Again I would like to say that the composite chain $\langle \textit{none of which}_i, \text{OP}_i, t_i \rangle$ has an argument layer and a non-argument layer, the latter starts as from OP_i . The non-argument layer is determined by the negative feature of the chain and is subject to antecedent-government (thanks to Claire Foley for discussing this example with me).

³⁴ For interesting proposals concerning the Spell-out of *non* cf. Zanuttini (1993).

³⁵ In Old Spanish *no* was overt with pre-verbal negation:

- (i) a. Ninguno non los ose devender.
nobody *non* dare to defend them
b. Nada non acabo.
nothing *non* I finish

(Suner 1993: 5, from Llorens 1929)

and Suner also cites the following attested examples:

- (ii) a. para que ya nunca nadie no venga jamás a arreglarse a mi casa

- so that never nobody *no* come ever to get ready in my home
 b. Pues tú tampoco no malmetas a nadie
 well you neither *no* ill-put nobody
 ‘Well you shouldn’t put anybody in a difficult situation’
 (cf. Suner 1993: 5, examples (13))

In Catalan the negative head is compatible with pre-verbal negation:

- (iii) a. Ningú no ho va fer.
 no one *no* did it (Suner 1993: 2)
 b. Mai no ve.
 never *no* come -3sg (from Badia Margarit 1962: 131, in Suner 1993: 6)

³⁶ Data from Lucienne Rasetti (1994).

³⁷ For arguments that Neg° is present in (i) cf. also Acquaviva (forthcoming):

- (i) J’ai vu personne.
 I have seen no one

³⁸ For the contrast between

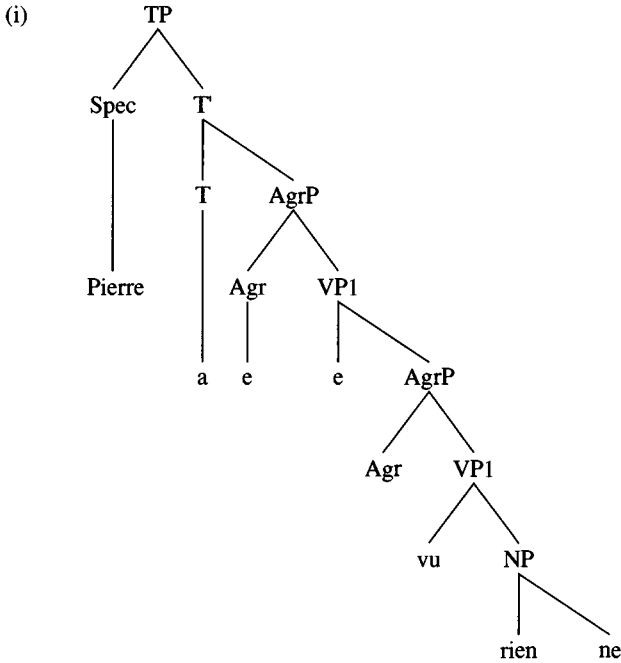
- (i) a. *Je n’exige que personne dise cela.
 I *ne* demand that no one say that
 b. ??Je n’exige que personne dise rien.
 I *ne* demand that anyone say anything
 ‘I don’t demand that anyone say anything.’ (Kayne 1981)

see the discussion of parasitic negation and especially note 30.

³⁹ Based on the analysis in terms of CHAIN formation with an empty operator (Brody 1993b), the ECP effect in (85b) will either be interpreted as resulting from the LF movement to ensure expletive replacement, where *personne* would adjoin to the empty operator in the specifier position of the matrix Neg° (cf. (i)) for Full Interpretation, or, alternatively, in a one-level model, the ECP has to be restated on CHAINS.

- (i) a. *Je ne_i demande_v [_{NegP} OP t_i [_{VP} t_v [_{CP} que [_{AgRP} personne soit arrêté]]]]
 b. *Je ne_i demande_v [_{NegP} personne_j OP t_i [_{VP} t_v [_{CP} que [_{AgRP} t_j soit arrêté]]]]

- ⁴⁰ Pollock (1989: 415–16) proposes that *ne rien* is a D-structure NP constituent, with *ne* moving to the highest functional head of the clausal domain, in his approach: T :



Observe that this would mean that there is no NegP in (iia) while there is a NegP in (iib):

- (ii) a. Pierre n'a rien vu. (cf. (i))
 Pierre *ne* has nothing seen
 b. Pierre ne mange pas.
 Pierre *ne* eats not

Pollock proposes that the NP complement of *vu, ne rien*, first moves to adjoin to VP1 and then *ne* cliticizes to T. The movement of NP is required to allow *ne* to move to T. I refer the reader to his account for further discussion.

The advantages of this approach are not clear to me. Consider (iii):

- (iii) a. Jean n'a vu personne.
 Jean *ne* has seen no one
 'Jean did not see anyone.'
 b. Jean ne m'a parlé de rien.
 Jean *ne* me has talked of nothing
 'Jean has not talked about anything.'

It seems counterintuitive to me to postulate that there is no NegP in (iia) and that there is a NegP in (iii). Still, this is what would follow from Pollock's account. I leave the analysis of the individual quantifiers in French for future study. (Cf. Haegeman and Zanuttini forthcoming for a discussion of different types of negative operators in WF.)

Another problem is that it is not clear what the analysis would be for (iva) without overt *ne*:

- (iv) a. Jean leur a rien donné.
Jean them has nothing given

On the assumption that there is no movement of *ne* to T, one would not expect the intervention effects in (ivb):

- (iv) b. *Je lui leur ai fait rien donner
I him them have made nothing give
c. Je lui leur ai fait donner le cadeau
I him them have made give the present

In (ivc) the subject of the lower clause (*lui*) and the indirect object (*leur*) have both moved to the matrix domain of the causative V. It is generally assumed that at least part of the movement of such elements as *lui* and *leur* is done by head-to-head movement (cf. Kayne 1975, 1989). In (ivb) this is not possible. In order to account for the contrast between the possibility of clitic climbing in (ivd) and the ungrammaticality of (ive) Kayne (1989) proposes that the negative head *ne* blocks the movement of the clitic:

- (iv) d. Je le lui ai fait manger.
I it him have made eat
'I made him eat it.'
e. *Je le lui ai fait ne pas manger.
I him it have made not eat

If there is no negative head in (ivb) then the ungrammaticality is unexpected.

Given these various points I will maintain that in sentences with *ne rien*, *ne* is like the WF negative head *en* and is the head of NegP.

5 A-positions and A'-positions and the syntax of negation

¹ WF has three pronominal object elements which show a different syntactic behaviour from the related NPs and which I have referred to as clitics (Haegeman 1993a,b,c). These clitics are *t* ('it'), *er* ('some'), *ze* ('her'; 'them'). When we examine the distribution of these clitics the following pattern emerges:

- (i) object clitics must appear to the left of the non-argument (adverbs, PPs);
(ii) object clitics must be at least as high – i.e. as far left – as the corresponding argument NP;

- (iii) object clitics may move higher than the related NP;
- (iv) indirect and direct object clitics appear not to be subject to ordering constraints;
- (v) when a direct object precedes a non-argument (adverb, PP) then an indirect object NP must also appear to the left of the adverb.

This pattern is illustrated in (ii) where *ze* is the clitic corresponding to the definite plural object and in (iii) where *t* is the definite neuter and *ze* the indirect object feminine clitic.

- (ii)
 - a. da Valère Marie ze gisteren getoogd eet
that Valère Marie them yesterday shown has
 - b. da Valère ze Marie gisteren getoogd eet
that Valère them Marie yesterday shown has
 - c. da ze Valère Marie gisteren getoogd eet
 - d. *da Valère Marie gisteren ze getoogd eet
 - e. *da Valère gisteren ze Marie getoogd eet
 - f. *da Valère ze gisteren Marie getoogd eet

- (iii)
 - a. da Valère ze t gisteren getoogd eet
that Valère her it yesterday shown has
 - b. da Valère t ze gisteren getoogd eet
 - c. da t Valère ze gisteren getoogd eet
 - d. da ze Valère t gisteren getoogd eet
 - e. da t ze Valère gisteren getoogd eet
 - f. da ze t Valère gisteren getoogd eet
 - g. *da Valère ze gisteren t getoogd eet
 - h. *da Valère gisteren t ze getoogd eet
 - i. *da Valère t gisteren ze getoogd eet
 - j. *da t Valère gisteren ze getoogd eet
 - k. *da ze Valère gisteren t getoogd eet

Schematically the position of clitics and the corresponding argument NPs can be summarized as in (iv):

- (iv) C cl_{su} NP_{su} cl_{io} NP_{io} cl_{do} NP_{do} Adv NP_{io} NP_{do}

where

- C means complementizer
- Adv means any non-argument element such as adverbs or PPs
- NP_{su} means subject NP
- NP_{io} means indirect object NP
- NP_{do} means direct object NP
- cl_{su} means subject clitic
- cl_{io} means indirect object clitic
- cl_{do} means direct object clitic

For an analysis of these data I refer the reader to my other work. Summarizing the proposal here I would argue that clitics head head-medial functional projections which dominate AgrP. For an alternative analysis cf. Haegeman (1993a,b,c).

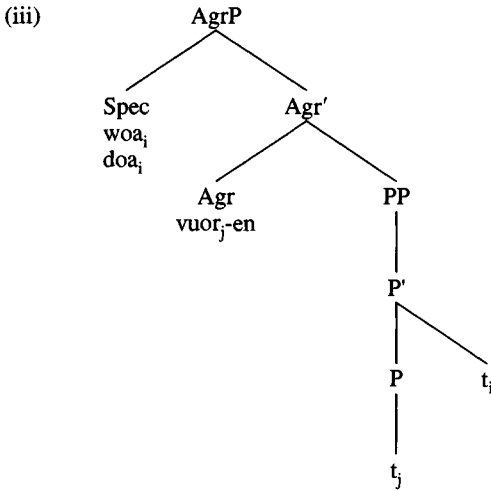
- ² This discussion is very much inspired by work by Luigi Rizzi (1991 and class lectures, Geneva 1992, 1993). His work offers an explicit proposal for the definition of A-positions in terms of features, and for the idea that some positions may be mixed positions. Though his work has inspired this part of the book he should not be held responsible for the errors, which are, of course, my own.
- ³ Traces within the VP are A-positions, hence ought to have a blocking effect on movement. Rizzi (1992 class lectures) proposes that thematic positions, not being landing sites for movement, are not potential antecedents and hence do not intervene in A-movement.
- ⁴ In an account which positively characterizes A-positions and A'-positions it is conceivable that some positions fail both definitions. I shall not go into this issue here.
- ⁵ The status of [Spec,TP] is not clear. Rizzi and Roberts (1989) consider it an A'-position. If, as argued by Chomsky (1993) [Spec,TP] is associated with case assignment, i.e. identification or licensing of arguments, one would be led to conclude it is an A-position. Jonas and Bobaljik (1993) show convincingly that the indefinite subject in Icelandic occupies [Spec,TP], hence that this position is an A-position.
- ⁶ In the 'split-CP' analyses matters are slightly different. If we assume that CP may decompose into a number of different projections then conceivably some of those will have A-specifiers, other A'-specifiers. Shlonsky (1992) proposes that CP should contain an AgrP, the latter with an A-specifier; on the other hand TopicP and FocusP, two other projections which are seen as components of CP, presumably have an A'-specifier.
- ⁷ Laenzlinger (1993) and Zwart (1993) both propose that each maximal projection may have one A-specifier and one A'-specifier.
- ⁸ I thank Luigi Rizzi for pointing out the relevance of these data to me. Obviously he cannot be held responsible for the way I have used his comments.

6 The syntax of negative operators

- ¹ Or to the specifier of a functional projection dominating PP. The latter option is suggested by the fact that when P is preceded by its R-complement this has morphological reflexes, suggesting that P undergoes some form of Spec-head agreement. The preposition *vuο* in WF, for instance, takes the form *vuο* when followed by a complement and *vuοren* when preceded:

- (i) a. vuo wadde?
for what
b. woa vuoren
where for
- (ii) a. vuo dadde
for that
b. doa vuoren
there fore

One might think of a structure as that in (iii):



I hope to return this issue in future work (cf. Koopman 1993, Van Riemsdijk 1990, Starke 1993b).

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