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Dutch Syntax
A Minimalist Approach

C. Jan Wouter Zwart

Dissertation
University of Groningen
1993

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Department of General Linguistics
University of Groningen
1993

RIJKSUNIVERSITEIT GRONINGEN

Dutch Syntax

A Minimalist Approach

Promotor: Prof. dr. J. Koster

Proefschrift
ter verkrijging van het doctoraat in de
Letteren
aan de Rijksuniversiteit Groningen
op gezag van de
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in het openbaar te verdedigen op
maandag 29 november 1993
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*„dans toutes les langues du monde il n'y a qu'une même manière
nécessaire pour former un sens avec les mots.”*

César Chesneau du Marais
(*Encyclopédie*, tome IV, 1754, s.l. "Construction")

door

Cornelius Jan Wouter Zwart

geboren op 20 september 1960
te Oss

voor de lieve snoes

Acknowledgments

The idea to set off on the beaten track of Dutch syntax grew out of dissatisfaction with an introductory syntax class that I gave to the first-year students of the faculty of arts of our university in early 1990. As always, we from the general linguistics department were in desperate need of new students, and Jan Koster had left no doubt that this class was supposed to sell the students on the beauty of syntax. To that end, I had decided to illustrate to the students how a few simple rules accounted for the intricate patterns of verb movement in their own native tongue. I had really built up to this, but as I was explaining the standard analysis of verb second, I realized that what I was presenting fell far short of the wonders that I had promised.

I discussed this with Eric Hoekstra and Jan Koster. Jan told me that what had always bothered him about the standard analysis of verb second was the unexpected impossibility of having a weak object in sentence-initial position. Neither of us at that time recalled Travis' discussion of the same paradigm, whose valuable contribution to the syntax of Germanic had been obscured by the success of her Head Movement Constraint. I felt rather silly when colleagues from the University of Tilburg told us that the solution we had found dated from 1984.

Wim Kosmeijer was also very helpful in drawing my attention to Bonnie Schwartz and Sten Vikner's 1989 article in *Working Papers in Scandinavian Syntax*, in which Travis' analysis is critically discussed. I found their arguments against Travis' ECP-account of verb movement in German convincing, but did not share their conclusion that Travis' description of the verb movement phenomena was, for that reason, incorrect. And Travis' description was still the only one in the literature that explained the asymmetry between weak subjects and weak objects that Jan Koster and I had discussed.

I had a hard time convincing Bonnie and Sten of this point. I can still see Sten and me pacing angrily up and down a sweaty classroom in

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Girona, in that wonderful summer of 1990, with Rex Sprouse and Bonnie Schwartz watching in amazement, and Andrea Moro, who happened to be in the same room, in what must have been amusement. All these people have become dear friends, and I am very grateful to Sten for his fierce opposition, which is only one of the ways in which he has supported me over the years. Jan Koster's Ginona 1990 course on my analysis, as it was developing, was also of great help in those early days. And, of course, Eric Hoekstra, with whom I had the fortune to discuss my work on a daily basis from the very start. I will not forget that we made the first pitch together, at the 1990 TABU-dag (Zwart & Hoekstra 1990).

In the meantime, it had become clear that several other aspects of the standard analysis of Dutch syntax were also unsatisfactory. I owe to Eric Reuland much of my critical remarks regarding the assumption that IP in Dutch is head final. This dates from the time that I was still living in Nijmegen and was commuting to Groningen once a week for Eric's class on nominalizations (1986). After the course I did not see Eric for several weeks. When we did get together again I found out that Eric had abandoned his own suggestion (which I had embraced) that the nominalization phenomena in Dutch indicated that there had to be an empty inflectional head. I found Eric's earlier idea much more stimulating, and continued to work in that direction. Eric's critical abilities and stimulating comments have always been a great source of encouragement to me over the years.

The next step was to go overseas. I am grateful to Judy Bernstein for inviting me to give a talk at the CUNY Syntax Lunch, which enabled me to visit MIT for the first time. From the discussions that I had with Richard Kayne and David Pesetsky, I got the distinct impression that something was in the air at MIT. At that time, Noam Chomsky was discussing PRO and proposed that PRO was *not* Case-less. This made a lot of sense to me, but it also appeared to obviate the need for further research on the frictions between Case Theory and Control Theory, which was my original research topic. I am extremely grateful to David Pesetsky for taking the time to talk to me during that first visit, and for encouraging me to focus on my work on verb movement. I made my decision there and then, and also knew that I had to return to MIT the next year.

1991 was a year of torrid developments. Looking back, I would probably have to say that the system of graduate student courses, managed by Peter Coopmans, was paying off for me, as it was for so many other graduate students of my generation. I am grateful to Peter Coopmans, Martin Everaert, Ian Roberts, Teun Hoekstra, Aadke Hulk, Henk van Riemsdijk, Dominique Sportache, Hilda Koopman, and to my brilliant colleagues Eric Hoekstra, René Mulder, Marcel den Dikken, Rint

Sybesma, Pim Wehrmann, Guido Vanden Wyngaerd, Helen de Hoop, and Ad Neeleman.

Ian Roberts' course on middles inspired me to work on expletives in Dutch. I have since found out that writing on expletives is a surefire way of getting your abstract accepted, as I went 4 for 4 during the summer of 1991. I thank Ian Roberts for the inspired discussions we had on this subject, especially on the consequences for the analysis of verb second.¹

Ad Neeleman suggested to me that the complementizer agreement phenomena of East Netherlandic dialects supported my analysis of verb movement in subject initial main clauses in Dutch. I am grateful for this insight, and also for our friendship, dating back from the Cambridge GLOW Colloquium of 1990. I took the complementizer agreement material with me on my second visit to MIT, in the fall of 1991, and presented the first version of my GLOW talk at MIT on December 12 (Sinatra's birthday). This was a Thursday when Noam's class was canceled. I was afraid no one would come, but thanks to the organizational talents of Shigeo Tomioka, who organized the colloquium series, the turnout was gratifying. I thank the MIT community for showing up and for their questions and comments.

There are many people I have to thank for the wonderful time I had at MIT. First of all, Noam Chomsky, whose 1991 fall term class lectures were nothing short of sensational. Apart from being conceptually and esthetically appealing, the theory Noam developed in that semester provided a perfect embedding for my analysis of verb movement in Dutch and seemed to be highly compatible with the representational approach to generative syntax that I knew so well from Jan Koster's work and teaching. I thank Noam for showing interest, then and now, and for putting his students onto my work.

Second, Wayne O'Neil, who assigned to me the *Visiting Scientist* status (which means: no desk), but did not object when the students organized a desk for me. These students were Jonathan D. Bobaljik and Tony Bures, and this is just one of the smaller things for which I owe them gratitude. Also thanks to my other room mates Seth Minkoff, Utpal Lahiri, Rolf Noyer, and Friederike Moltmann. Next, David Pesetsky, who went out of his way to discuss my analysis of verb second in Dutch with me over and over again, and who never ceased to be extremely critical and extremely encouraging. Discussions with Jon Bobaljik, Chris Collins, Ken Hale, Ken Wexler, Doug Jones, Howard Lasnik, Alec Marantz, Peter Culicover, Chris Tancredi, Phil Branigan, Pierre Pica, Anoop Mahajan, Akira Watanabe, Toshifusa Oka, Hubert Truckenbrodt, and many others were wonderful as well. The people from Harvard were also very helpful:

¹ This research is reported in Zwart (1991a), (1992a).

Höskuldur Thráinsson, Joan Maling, Dianne Jonas, and, of course, Rex Sprouse. Many people made my stay in Somerville unforgettable, but most of all Andrea Moro, Albert Branchadell, Sarah Kennelly, Jonathan Bobaljik, Lori Holmes, Harry Leder, Shigeo Tonoike, Rex Sprouse, Katharina Hartmann, Ana Ardic, and Masayuki Oishi.

I thank Ken Safir for inviting me to give a talk at New Brunswick and Judy Bernstein for giving me the floor at CUNY for the second time. Thanks to the audiences at these occasions, especially Edwin Williams, Richard Kayne, Caroline Heycock, and Raffaella Zanuttini.

Back in the Netherlands, I was happy to find that the minimalist approach received a warm welcome from the people who have been working together with me most closely for the past few years: Jan Koster, Eric Hoekstra, and Marcel den Dikken. Also the enthusiasm of our students Edith Kaan, Anko Wiegel and Paulien Rijkhoek was highly stimulating. Together with Edith, I had been working on a new analysis of extraposition in Dutch. The idea was to replace extraposition by short verb movement to the left. Richard Kayne's brilliant 1992 GLOW guest lecture gave this analysis a decisive push.

The hypothesis that Dutch is an SVO language made it possible to recapture a typological regularity that seemed lost in the revised verb second analysis, namely that the lexical projections and the functional projections must all have their heads on the same side. I thank Jan Koster for providing staunch support for this idea. It is to a large extent thanks to his enthusiasm that I have been able to sail through the final stages of this research project with so much comfort.

I thank Werner Abraham for allowing me to discuss complementizer agreement among traditional Germanicists on the Groninger Grammatikgespräche of 1992. I thank the audience at the 1992 Lisbon GLOW Colloquium for questions and comments, especially Christer Platzack. I thank Christer Platzack and Henk van Riemsdijk for inviting me to present my analysis of clitics in Dutch in a workshop organized by Theme Group 8 of the European Science Foundation Eurotyp project. Again, thanks to the audience, especially Joe Emonds and Anna Cardinaletti. Finally, thanks to the audience at the 8th Workshop on Comparative Germanic Syntax at Tromsø, 1992, especially Noam Chomsky, Chris Wilder, Giuliana Giusti, Anders Holmberg, Tarald Taraldsen, Halldor Sigurdsson, Christer Platzack, Tony Kroch, and Riny Huybregts.

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It is my great pleasure at this point to express my gratitude to my thesis supervisor Jan Koster. His acute intelligence and sharp judgment have been of immeasurable value to me over the years. It is impossible to say where I would have been today without his confidence, friendship, and enthusiasm. I am very grateful for the fact that he did not let the pressure of time get in the way of providing me with numerous helpful remarks, suggestions, and corrections.

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There are several other people which I forgot to mention in the autobiographical account above. I would like to thank them here, and apologize to those who I have still left out.

Jaume Solà and Trond Trosterud have made invaluable contributions to my work. I have thoroughly enjoyed the daily discussions I had with Jaume, and have benefited greatly from his vast knowledge of linguistics. Trond came through with much needed data on Norwegian dialects, almost instantly upon request. It is my sincere hope that when the time comes that he needs to have the works on obscure Dutch dialects, I will be able to deliver as swiftly as he was.

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I

INTRODUCTION

1 Where Languages Differ

Language is a function of the human species. It is unclear how this function has developed and in what way its properties are determined by the structure of the human brain. What is clear, however, is that only humans have language.

In this respect, the use of language is comparable to counting and calculating, to staging rituals and creating art, and to contriving deceit. Apparently, only the human brain harbors a computational system of the complexity that is required for performing these functions.

If language is a function of the human species, its properties must be largely determined by the properties of the human computational system. This implies that a number of properties of linguistic structures are universal.

In studying the universal properties of language, considerable progress has been made in recent years within the theoretical framework of generative grammar (Chomsky 1957 and much later work). According to this theory, the computational system creates language particular syntactic representations by deriving them from language independent basic representations. The structure of these representations is simple and universal, hierarchically ordered in a binary branching system. The various representations are related by universal operations, affecting the constituents of the representations by movement, deletion, and insertion.

The basic representations (originally called *deep structures* and later *D-structures*) are considered to be the interface between the computational system and the lexical-conceptual component of the mind. The way the various positions in the basic representations are filled depends on the thematic and aspectual properties of lexical items in a particular language.

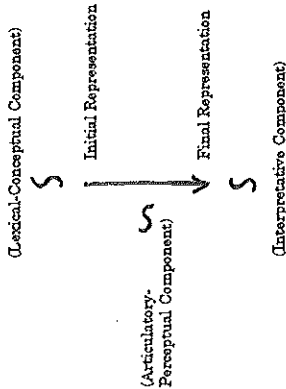
The observable representations (originally called *surface structures* and later *S-structures*) are derived from the basic representations by applying or not applying the universal operations in a language particular way. It is assumed that they are merely intermediate stages in the derivation of a sentence. Eventually, the observable language particular representations will be turned into language independent representations again (called *logical form* or *LF*). These final representations are the interface to another mental component (or set of mental components), which operates independently of the computational system, and takes care of the interpretation of sentences.

Thus, the computational system takes a sentence from an initial state to a final state, through a number of intermediate states. The initial state and the final state are interfaces with other components of the mind. Therefore, the properties of these states are supposed to be universal. The intermediate states, however, are not interfaces with other mental components. Therefore, only at this intermediate stage is language variation to be expected.

At the same time, the intermediate states are the only states which are open to immediate empirical observation. It is assumed that at a certain point in the intermediate stage instructions to the articulatory-perceptual system are issued. These instructions constitute a third interface level (called *phonetic form* or *PF*), and without them sentences could not be spoken or heard. Therefore, sentences that can be empirically observed are always in an intermediate state of their derivation.¹

¹ It may be the case in certain languages that the intermediate state of the derivation differs minimally from or is identical with the initial state or the final state. However, it is crucially assumed that the intermediate state is not necessarily identical to either the initial state or the final state.

(1) derivation of a sentence



Intermediate states can be more or less advanced in the direction of the final state. There is no reason why the derivation of sentences should take place in rigorously identical ways in all languages. A certain arbitrariness is expected here. If the theory developed since Chomsky (1957) is correct, it should be possible to describe all syntactic variation between languages as arbitrary differences in the intermediate states of the derivation of the sentences of these languages.²

In this dissertation, certain phenomena in the syntax of Dutch, a continental West Germanic language of the Indo-Hittite phylum, will be analyzed within the approach to syntactic variation sketched above. The most recent stage of this approach will henceforth be called *the Minimalist Program*, after Chomsky (1992). A fuller exposition of the Minimalist Program will be presented in section 2 of this introductory chapter, and some extensions of the approach will be proposed in section 3.

In Chapter II, the facts of Dutch which will be particularly relevant throughout this study will be presented first in a separate reference section. In sections 2 and 3, the traditional generative analysis of these phenomena, based on Koster (1975) and Dea Besten (1977) will be discussed. In section 4, I will argue that our understanding of the phenomena of Dutch improves greatly when the more restrictive minimalist approach is chosen.

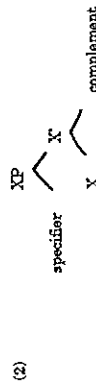
² The existence of implicational universals (Greenberg 1963) suggests that not all variation among languages is arbitrary, and that there are marked and unmarked combinations of parameter settings.

It will turn out that in Dutch, the derivation from the initial state to later states invariably involves movement of syntactic heads and phrases to the left. This is at variance with previous analyses of Dutch, in which various rightward movements had to be assumed. However, this result is welcome, since it suggests that the directionality of the derivation is the same in Dutch and in English. It might even suggest that this directionality is universal, in that the target positions for the movements are always found to the left of already existing structure, and never to the right of it.

There is no *a priori* conceptual reason why movement should always be to the left and never to the right. It follows from well-known conditions that movement is always upward (picturing syntactic representations as inverted tree structures), but there is no reason why the arbitrary differences between languages determining syntactic variation should not include a directionality parameter.

However, as will become clear in section 3.3 of this introduction, there are several reasons to conclude that movement is in fact invariably leftward (Kayne 1993). If this is correct, the analysis of Dutch that will be developed in this study is in agreement with this universal mechanism, a marked improvement over the standard analysis of Dutch within generative grammar.

This, then, has been my major guideline in writing this book: to argue that the phenomena of Dutch can be profitably analyzed as involving leftward movement only. It follows that the structure of all syntactic categories can be represented as in (2), where *specifier* and *X* are the only possible targets for movement of elements in the *complement* of *X*.



In chapter III, I will argue that the structure in (2) applies to the functional projections in Dutch (which are created in the process of movement, see section 2 of this introduction). This will involve a discussion of clitic placement, complementizer agreement, and verb movement. In chapter IV, I will argue that the structure in (3) also applies to the lexical projections of Dutch (constituting the initial representations). This will be argued mainly on the basis of the syntax of the VP, involving a discussion of verb clusters in Dutch.

The major conclusion of this study is that Dutch is a head initial language throughout. A second conclusion is that a strict application of the minimalist principles leads to a simple and elegant analysis of the

complicated functional domain in Dutch. The analysis presented therefore provides empirical support for the universality of the structure of linguistic representations as well as of the operations affecting these representations.

2 The Minimalist Program (Chomsky 1992)

In this study, the phenomena of Dutch syntax will be analyzed in a way that is at some points sharply diverging from the traditional analysis, discussed in chapter II.

To some extent, the novel character of the analysis is a direct consequence of the theoretical framework adopted. This theoretical framework is the so called *Minimalist Program*, after Chomsky (1992 and MIT class lectures of Fall 1991). It is the latest developmental stage of the theory of (Transformational) Generative Grammar (Chomsky 1957).¹

As in earlier stages of the theory, the Minimalist Program considers grammar to be a *derivational* system. A sentence is first built up in a basic form, then modified through processes of movement, deletion, and insertion, until it reaches a final form which may serve as input to other components of the cognitive system. However, unlike earlier stages of the theory, the mechanism creating the basic representation and the mechanism performing the other operations (movement, insertion, deletion) are the same (it is the mechanism of *Generalized Transformation*).

As in earlier stages of the theory, movement takes place because elements must be *formally licensed*. Unlike earlier stages of the theory, however, the need for formal licensing is the *only* reason for movement to take place. In addition, it is assumed that elements can *never* be formally licensed in a position they occupy in the initial representation.

As in earlier stages of the theory, movement may take place before or after the point in the derivation at which the instructions to the PF-system (the articulatory-perceptual system) are issued. Unlike earlier stages, however, it is now assumed that movement preferably takes place

¹ Earlier stages that can be distinguished are the *Standard Theory* (Chomsky 1965), the *Extended Standard Theory* (Chomsky 1970; Jackendoff 1972), the *Revised Extended Standard Theory* (Chomsky 1973, 1977; Chomsky and Lasnik 1977; Chomsky 1980), the *Government and Binding Theory* or the *Principles and Parameters Approach* (Chomsky 1981, 1986a, 1986b).

after this particular point in the derivation, so that overt movement is, in a way, the marked option.

As before, the amount of overt movement may differ from language to language. But, unlike before, the presence or absence of overt movement is the only instance of parametric variation in syntax among languages.

In the next four subsections, the key aspects of the Minimalist Program are briefly sketched. Some extensions to the program will be introduced in section 3.

2.1 Building Up Trees: Generalized Transformation

Representations are built up in a bottom-up fashion by a mechanism called *Generalized Transformation*. A Generalized Transformation combines two phrase markers. Two phrase markers are combined by expanding one of the two phrase markers (the 'target phrase marker') so as to include an empty position. This expansion takes place by adding to the target phrase marker a *projection* of the target phrase marker. This projection is binary branching and has two daughters: the target phrase marker and an empty position. This empty position is substituted for by the other phrase marker. The whole process, illustrated in (1), yields two sister phrase markers connected in a binary branching subtree.⁴

⁴ Binary branching is a result of this particular formulation of the Generalized Transformation mechanism. The attractiveness of binary branching has been argued for several times in the literature (Kayne 1984, E. Hoekstra 1991).

INTRODUCTION

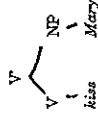
(1) I Two independent phrase markers



II Expansion of the target phrase marker



III Substitution of the empty position in the projection of the target phrase marker



The projection of the target phrase marker has the same categorial features as the target phrase marker. The phrase level of the projection of the target phrase marker is determined by the rules of X-bar Theory (Chomsky 1986b, going back to Chomsky 1970, Jackendoff 1977).

These rules specify that the ultimate projection of an X (or X⁰, or *head*) will be an XP (or Xⁿ, or *maximal projection*), and that there is an intermediate projection X' (X-bar) which is the immediate projection of X. This is illustrated in the following two rewrite rules.⁵

- (2) a. XP → (ZP) X
 b. X' → (YF) X⁰

The order of the elements to the right of the arrows in (2) is irrelevant.⁶ The sister of X⁰, YF in (2b), is called *complement*; the sister of X', ZP in (2a), is called *specifier*.⁷

⁵ Rewrite rules are used to construct tree structures in a top-down fashion. A rule like A → B C yields a binary branching tree in which B and C are each other's sisters and A's daughters.

⁶ But see section 3.3.

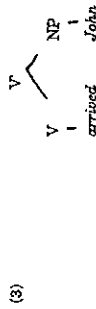
⁷ Shaurman (1985) and E. Hoekstra (1991) propose modified versions of X-bar theory, in which the intermediate bar level category disappears and is replaced by a maximal projection. See section 3.2 for incorporation of the one-level, X-bar theory into the minimalist program.

The Generalized Transformation illustrated in (1) combines two independent phrase markers. Therefore, it is called a *binary operation*. Lexical insertion is a typical binary operation.

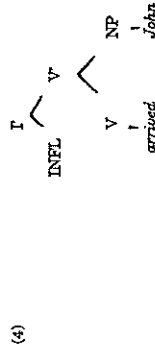
It is also possible that the empty element created by expanding the target phrase marker is substituted for by an element *contained in* the target phrase marker. This would be called a *singularly operation*.

Consider a standard case of raising to subject, as in *John arrived*. In this type of construction, *John* is generated as a complement of *arrived*, and moves to the subject position at some point in the derivation (Burzio 1981, Chomsky 1981).

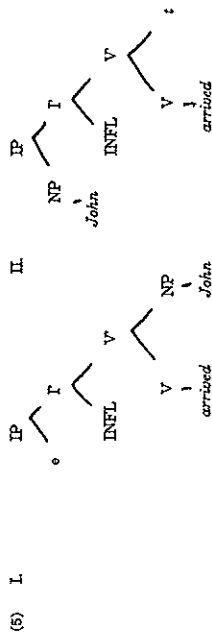
A binary operation of the Generalized Transformation will first combine *arrived* and *John*, as in (3).



Next, another binary operation will combine the phrase marker in (3) with a functional head in which the tense and agreement features are represented (called *INFL*, for the time being).



For reasons that do not concern us here, *John* has to move out of the projection of *V* to a position in the domain of *INFL*. To this end, *I* is expanded in such a way that there will be an empty element in the position of sister of *I*, to be substituted for immediately by *John*.



In (5), the target phrase marker is expanded by adding a former subpart of the target phrase marker. No new phrase marker is added to the construction. Therefore this is called a *singularly operation*. All movement operations that were subsumed under the term *Move α* in the Government and Binding framework are now redefined as singularly operations of the Generalized Transformation.⁹

Chomsky (1992) notes that the expansion of a target phrase marker, the introduction of an empty element, and the substitution of that empty element by a second phrase marker, are all part of one indivisible process. The intermediate stages, represented separately above for expository reasons, are never open to inspection as phenomena of language.

Crucially, the Generalized Transformation always adds material *external* to existing phrase markers. It is not possible, Chomsky (1992) suggests, to insert material *inside* a phrase marker.⁹

⁹ A note on terminology is in order here. In the earliest stages of Transformational Grammar, a distinction was made between *singularly transformations* and *generalized transformations*. The former operate on a single phrase marker, are ordered, and do not introduce meaning-bearing elements; the latter embed a constituent phrase marker into a matrix phrase marker, are unordered, and do introduce meaning-bearing elements (Katz and Postal 1964, Palmarin 1972, and references cited there). In Chomsky (1992: 306), singularly transformations are a subclass of generalized transformations. The two operations work in the same way, the only difference being the origin of the phrase marker substituting for the empty position (the formal identity of generalized transformations and singularly transformations was already pointed out in Chomsky 1966:52, cf. also Chomsky 1961:134 note 35). Generalized transformations, especially those governing sentence embedding, have been replaced by the rewrite rules of the base component (Chomsky 1966:65, 1985 chapter 3). Singularly transformations gradually developed into *Move α* (Chomsky 1981).

⁹ This, then, is the modern version of the *Strict Cycle Condition* (Chomsky 1973).

2.2 Licensing Elements: Morphological Feature Checking

A classic distinction exists in linguistic theory between *contentful elements* and *functional elements*. Word stems are contentful elements, whereas inflectional morphemes are functional elements. Functional elements express *agreement relations* between constituents.

In the Minimalist Program, it is assumed that agreement relations are highly local. A maximal projection α agrees with a head β only if α is a specifier of β . A head α agrees with a head β only if α is adjoined to β .¹⁰ Moreover, β must be a *functional* head.

In the Government and Binding framework, the distinction between contentful (or *lexical*) elements and functional elements gradually took the following shape.¹¹ Functional elements are generated as heads of independent phrasal projections. These functional projections are situated outside and on top of the lexical projections. Thus, the inflectional morphemes for tense, person, number, etc., are generated separately from the lexical stems. The stems have to be united with the inflectional morphemes through a process of movement and adjunction.

This yields a sentence structure as illustrated in Figure 1:

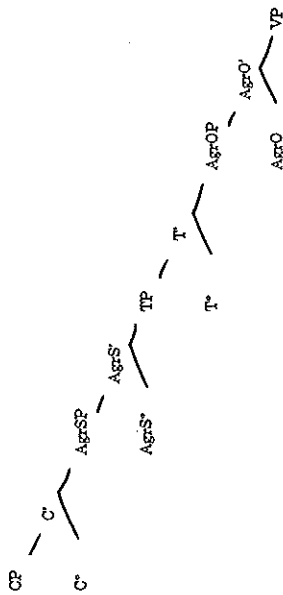


FIGURE 1

In figure 1, *C* stands for the complementizer position, *T* for tense, and *AgrS* and *AgrO* for subject and object agreement morphology, respectively. These functional heads project phrases in accordance with the rules of X-bar Theory given in (2) of section 2.1. *AgrOP*, *TP*, *AgrSP* and *CP* together constitute the functional domain of a syntactic structure, *VP* constitutes the lexical domain.

In the Minimalist Program, this analysis is maintained in a simplified form. The major difference concerns the content of the lexical and functional heads. In the Minimalist Program, lexical heads are occupied by fully inflected forms (stems plus inflectional affixes). These forms carry a *feature* associated with the inflectional affix. The functional heads are likewise occupied by features associated with inflectional morphology (instead of by the inflectional morphology itself).¹²

¹⁰ The assumption that abstract features associated with inflectional morphology are of greater syntactic significance than the overt morphology itself is already a crucial part of the Case Theory module of the Government and Binding framework. This Case Theory refers to abstract *Case features* which are associated with nouns and noun phrases regardless of morphological manifestation of Case on these nouns and noun phrases (Verzard 1979, Chomsky 1981). This theory of abstract Case is subsumed under the Minimalist Program. As a result, the inflectional features associated with Case are assumed to be present on lexical categories, even if there is no overt morphological manifestation of Case on these categories.

¹¹ The locality requirements are further restricted in Zwart (1992b), where it is argued that an element α agrees with an element β only if α adjoins to β . This implies that in a specifier-head agreement relation, the specifier does not agree with the head, but with the immediate projection of a head. See below, section 3.2.

¹² The developments in the Government and Binding period are marked by Stowell (1981) and Pesetsky (1982), on the structure of IP, Chomsky (1986) on the structure of CP, Kayne (1987), Pollock (1989) and Chomsky (1991) on the division of IP into *AgrP* and *TP*, and Abney (1987) on the functional domain of noun phrases, DP. See Fukui and Speas (1986) on the relevance of functional projections for parametrization.

The features associated with the inflectional morphology of lexical categories have to *match* the features represented in the functional heads. Matching is checked under the same strict locality requirements as agreement (in fact, agreement is a subcase of feature matching). Therefore, the requirement that morphological features match triggers movement of lexical elements to positions in the functional domain. *Licensing* inflected elements consists in moving the inflected elements to positions in the functional domain, and checking whether the features associated with the inflection match the features represented in the functional heads.

Recall that movement is an application of the Generalized Transformation mechanism. The structure in figure 1, therefore, is completely built up in the process of moving elements from the lexical domain to positions in which their features can be checked (which yields the functional domain). There is no top-down rule system to ensure that syntactic structures are always like figure 1. The structure in figure 1 is the result of the fact that inflected elements have to be licensed outside of the lexical domain.

The inflectional features relevant to the phenomena of verb movement and noun phrase movement are tense, agreement, and Case.¹³ It is very well possible that other features exist, but these three appear to be indispensable features of sentence structure.¹⁴

The features represented in the functional heads trigger both head movement (to the functional heads) and XP-movement (to the specifier positions of the functional heads). For this reason, Chomsky (1992) distinguishes two types of features represented in the functional heads:

¹³ The exact difference between Case and agreement is not very clear in this system. It is assumed that the specifiers of AgrS and AgrO are the positions for checking Nominative and Accusative Case features, respectively. This suggests that Case and agreement are identical concepts. However, Chomsky (1992:42) suggests that, while Nominative and Accusative Case features are checked in the specifier positions of AgrS and AgrO, respectively, the features relevant for checking Case do not reside in AgrS and AgrO, but in T and V, respectively. I will continue to consider Case as an independent feature of Agr, leaving the relation with T and V a subject for further study.

¹⁴ Intradou (1990) contends that the approach to inflectional morphology sketched here leads to an explosion of functional categories, assuming that every functional category discovered in studying the languages of the world should be present in the grammar of every single language of the world. This does not appear to be sound argumentation, since we cannot conclude, in biology for instance, that every aspect discovered in the study of biological systems should be present in every single species of the world. Yet some biological functions appear to be indispensable in any biological system. Likewise, we may assume that a small number of inflectional features are present in all languages of the world, whereas a larger number may be relevant to specific languages only. What is universal, however, is the way inflectional features determine word order.

N-features and *V-features*. *N-features* are relevant for checking features of XPs (maximal projections), *V-features* are relevant for checking features of heads.

The derivation of a sentence consists in these two processes only: insertion of elements from the Lexicon (by a binary operation), and movement of elements to the functional domain (by a singular operation).

2.3 Restrictions: Economy, Procrastination, Greed

The derivation of a sentence is subject to general conditions of *economy*. The derivation should take as few steps as possible (*economy of derivation*), and the resulting representations should have as few symbols as possible (*economy of representation*) (Chomsky 1991).

One consequence of economy of derivation is that movement always takes the shortest route.¹⁵ Another consequence is that any movement that is not triggered by a well-established requirement of morphological feature checking is excluded.¹⁶ Thus, elements, once licensed, are doomed to inertness.

Economy of representation excludes the presence of irrelevant material at any given level of representation. One instantiation of economy of representation is the principle of *Full Interpretation*, which excludes the presence of uninterpretable material at the interface representations.¹⁷

The derivation of a sentence is a finite process. At a certain point, the process yields a representation that will function as the output of the grammatical system. This representation will serve as the input to other parts of the cognitive system, for instance those having to do with interpretation. The principle of Full Interpretation requires that every

¹⁵ *Shortness* can be interpreted in two ways, viz. as involving the smallest number of steps and as involving the shortest steps. These two interpretations appear to be contradictory (cf. Chomsky 1992:21). I will argue in section 3.1 that the interpretation of economy of derivation as involving the smallest number of steps is the only correct one.

¹⁶ The modification 'well-established' is needed to exclude movements triggered by 'ghost features', whose presence is only motivated in order to account for a specific word order phenomenon.

¹⁷ This principle was first introduced in Chomsky (1986a:38), in the context of a discussion of the relation between Case assignment and theta-role assignment. The idea was that noun phrases must be assigned Case at S-structure, because only then would they be viable for theta-role assignments at LF. Since only noun phrases that carry a theta-role are interpretable at the interface of LF and other components of the cognitive system, the principle of Full Interpretation requires Case assignment at S-structure. This concept has been slightly changed in the Minimalist Program. Case checking eliminates features that cannot be interpreted at the interfaces. Without Case checking, Full Interpretation (and economy of representation) is violated, since unchecked features are uninterpretable.

element of an output representation should provide a meaningful input to the relevant other parts of the cognitive system. Only these elements are considered to be *legitimate objects* at the interface level.

The features associated with inflectional morphology are considered to be relevant for syntax only. They play a crucial part in the licensing of inflected elements. However, these features are of no direct relevance to components of the cognitive system external to the grammatical component. In other words, the features associated with inflectional morphology are not legitimate objects at the interface level; they cannot be a part of the final representation that is to serve as input to other components of the cognitive system.

For this reason, these features have to be *eliminated* during the derivation. It is assumed that matching features are eliminated as soon as they are checked.

Therefore, a minimal number of derivational steps is required to achieve a minimal representation at the interface of the grammatical component and other components of the cognitive system.

Two other principles are directly derived from economy of derivation. First, picture the derivation as a step-wise procedure. At each step, economy of derivation will allow only a minimum of activity. Eventually, movements will have to take place, but economy of derivation dictates that these activities take place as late in the derivation as possible. This can be formulated as a separate principle, *Procrastinate* (Chomsky 1992:43).

Second, movement is triggered by the need to license inflected elements (more exactly, by the need to check off the abstract features associated with inflected elements). Elements that are already licensed, or that do not need licensing, are neither forced nor allowed to move. It follows that such elements can never be forced to move in order to assist in the licensing of another element. The trigger for movement always works directly on the element to be licensed. The principle that movement only to help out other elements is disallowed is called *Creed* (Chomsky 1992:47).

2.4 Parametric Variation: Strength of Features

According to the Minimalist Program, the derivation of a sentence yields interface representations which are subject to the principle of Full Interpretation: they must consist of legitimate objects only. If they do, the derivation is said to *converge*. If not, the derivation is said to *crash*.

The other components of the cognitive system that the grammatical component interacts with are *performance systems*, having to do with, roughly, speech and interpretation. Therefore, there are two types of performance systems: articulatory-perceptual and conceptual-intentional

(Chomsky 1992:3). In accordance with this, the grammatical system will yield *two* interface representations, each consisting of instructions for one of the two performance systems. These interface representations are called *PF* (for the articulatory-perceptual performance system) and *LF* (for the conceptual-intentional performance system).

On the assumption that the conceptual-intentional performance system is identical in all humans, the interface representation called *LF* must be largely identical in all languages. In contrast, the interface representation called *PF* varies from language to language, as can easily be observed.¹⁸ It follows that the two interface levels *PF* and *LF* are not identical.

In the Minimalist Program, it is assumed that the *LF* interface level is the final stage of a derivation, and that the *PF* interface level is the reflection of an intermediate stage in the derivation. That is, at a certain point in the derivation, instructions to the articulatory-perceptual system will be issued. This point is called *Spell Out*. The part of the derivation before *Spell Out* is called *overt syntax*, the part of the derivation after *Spell Out* is called *covert syntax*.¹⁹

The problem of comparative linguistics is to find out how and why languages differ in their overt syntax. Recall that the principle of Procrastination dictates that movements take place as late in the derivation as possible. This principle, then, has to be violated to some extent in the grammar of certain, perhaps all, languages. The question is, *Why?*

The only possible answer to this question is that Procrastination must be violated to ensure convergence at the *PF* interface level. In other words, certain elements that would count as illegitimate objects at *PF* have to be eliminated in overt syntax. Sticking to the minimalist assumptions made above, it must be the case that certain inflectional features count as illegitimate objects at *PF*. These features, then, have to be checked and eliminated in overt syntax, through a process of movement of heads and phrases to positions in the functional domain.

¹⁸ The point to be made here is actually more subtle. What differs in the *PF* representation in the various languages is the order of words and phenomena in a string. The way the corresponding instructions are handled by the articulatory-perceptual performance system is just as universal as the way the *LF* instructions are handled by the conceptual-intentional performance system. The difference between the two interface levels is that word order and/or hierarchical order affects interpretation in the conceptual-intentional system, but not in the articulatory-perceptual system. Therefore, word order must be universal at the *LF* interface, but not at the *PF* interface.

¹⁹ There are two significant differences between overt syntax and covert syntax: binary transformations are only allowed in overt syntax (Chomsky 1992:31), and the Strict Cycle Condition does not apply in covert syntax (Chomsky 1992:33).

The surprising aspect of this mechanism is that *not all* inflectional features count as illegitimate objects at PF. If that were the case, overt syntax would be largely, perhaps completely identical in all languages of the world. As we know, there are very distinct differences in word order between even so closely related languages as English and French (Pollock 1989).²⁰

This, then, appears to be the locus of parameterization between languages: an inflectional feature may or may not be *visible* as an *illegitimate object* at PF. Those that are visible as illegitimate objects at PF will have to be eliminated in overt syntax. Those that are not visible at PF will *not* be eliminated in overt syntax, by the principle of Procrastination. Features that are *visible* (thus: potentially harmful) at PF are called *strong*; features that are *invisible* (thus: harmless) at PF are called *weak*.²¹

A minimal assumption is that the strong/weak distinction is the *only* instance of parametric variation among languages. This implies that parametric variation is restricted to functional categories (Fukui and Speas 1986). It furthermore implies that there are no directionality parameters, such as directionality of government.²² The latter implication is supported empirically by Kayne (1983), who argues that movement is always leftward.

This concludes the presentation of the minimalist approach to syntax, as put forward in Chomsky (1992). I will adopt this approach throughout this study.²³ However, many parts of the approach are left unresolved in Chomsky (1992). At the same time, it has become clear that certain other recent developments can be advantageously combined with the minimalist approach (E. Hoekstra 1991, Kayne 1993).

In the final section of this introductory chapter, I will briefly mention a few theoretical points which result from the most recent developments, and which I consider as welcome additions to the minimalist program as sketched above.

²⁰ English and French are called 'closely related' here not for typological or genetic reasons, but because the same set of functional categories appears to suffice in the description of the two languages.

²¹ See Koester 1986, Pollock 1989 for the origin of this terminology.

²² In fact, *government* has no formal status in the Minimalist Program. For example, Case assignment is reduced to feature checking in a specifier-head configuration. See section 3.1 for the consequences for the Empty Category Principle of Chomsky (1981), which includes the notion proper government.

²³ Certain crucial aspects of the analyses presented in this book antedate the emergence of the minimalist program, however, as is clear from Zwart 1991a.

These points, which will also be adhered to throughout this book are:

1. Economy of derivations does not involve a 'shortest steps' requirement (section 3.1; cf. Zwart 1993c);
2. Feature checking is matching of features between sisters (section 3.2; cf. Zwart 1992d);
3. Directionality is not a possible linguistic parameter (section 3.3; cf. Kayne 1993).

3 Minimalist Extensions

3.1 Shortest Steps vs. Fewest Steps

In Chomsky (1992), economy of derivation (the requirement that derivations be as short as possible, see 2.3) is implemented in two, apparently contradictory ways:

- (1) *Economy of derivation*
Use the shortest steps
- a.
- b. Use the smallest number of steps

(1b) appears to be firmly rooted in the minimalist approach. Both Procrastinate (2) and Greed (3) can be reduced to (1b).

- (2) *Procrastinate*
Move as late as possible

- (3) *Greed*
Move α only if moving α contributes to licensing α

Both restrictions can be summarized as 'move as little as possible', which is equivalent to (1b).²⁴

(1a) is firmly rooted in the generative tradition. I will argue, however, that it is superfluous in the minimalist approach. Given that (1a) and (1b) are contradictory, we have to conclude that the shortest steps requirement does not exist.

²⁴ Procrastinate consists in applying the fewest steps requirement to stages in the derivation before Spell Out.

It is generally accepted that steps in a derivation may not exceed a certain length (cf. Chomsky 1973, 1981, 1986b; Koster 1978a, 1987; Rizzi 1990a). Thus, nonlocal movement yields a deviant sentence:

- (4) * *What did he wonder where John put t?*

It is not *a priori* clear, however, whether (4) is bad because the movement of *what* from the position indicated by its trace *t* is nonlocal, or because *what* cannot be construed with a trace in a different local domain (in (4), a so-called *wh-island*).

Research in the past decade has clearly gravitated towards the latter point of view. The Empty Category Principle (ECP), according to which empty elements must be properly governed (i.e., antecedent governed, following Chomsky 1986b:88) is essentially a condition on the interpretation of traces (cf. Chomsky 1991:429). A trace can be construed with its antecedent if the two are connected by a chain consisting of local links. If not, the interpretation of the trace becomes more difficult.

Crucially, as has been clear from the outset (cf. Chomsky 1973:244), *wh-island* constructions give rise to considerable variation in grammaticality judgments. Thus, (4) is relatively acceptable in comparison with (5):

- (5) ** *Where did he wonder what John put t?*

Since any violation of economy yields a crashing derivation, the difference between (4) and (5) cannot be described in terms of economy. Moreover, the relatively mild ungrammaticality of (4) is unexpected if the derivation of (4) contains a violation of economy of derivation.

Cinque (1990) and Rizzi (1990a, 1991b) have argued that *wh-island* constructions involving argument traces are relatively grammatical because of the availability of an interpretation mechanism for these traces that does not rely on conditions on chain formation (cf. also Koster 1987, chapter 4). If so, it is clear that a theory of interpretation, incorporating locality conditions on chain formation, holds more promise for an explanation of the local character of movement than economy of derivation.

If this is correct, locality conditions on *wh*-movement reduce to a principle of interpretability. A *wh*-trace is most easily interpreted when it is part of a chain which links it locally with its antecedent. If not, other options are open when the *wh*-trace is an argument trace, yielding a slightly degraded representation. Otherwise, the derivation will converge, but the trace will not be able to receive the required interpretation.

This suggests that (1a) is superfluous as a condition on *wh*-movement. Interestingly, similar considerations make (1a) superfluous in the domain of head movement and raising to subject.

Conditions on head movement are expressed in terms of the Head Movement Constraint (Travis 1984:131):

- (6) *Head Movement Constraint*
An Xⁿ may only move to a Yⁿ which properly governs it

It is generally assumed that the Head Movement Constraint reduces to the ECP (Travis 1984:133, Chomsky 1991:429). However, head movement constructions never show the kind of variation exemplified in (4)-(5), and nonlocal head movement, as in (7a), always appears to yield a crashing derivation, rather than a converging derivation that is hard to interpret:

- (7) a. * *Who kiss John will?*
b. *Who will John kiss?*

This suggests that nonlocal head movement is ruled out by economy. However, it is not clear that (1a), rather than (1b), plays a role here.

The question that must be asked first is, What is the trigger for verb movement in *wh*-constructions like (7)? It is generally assumed that the verb in (7b) moves to the complementizer position, C. The principle of Greed dictates that the verb itself has something to gain by moving to C. Therefore, the verb movement in (7b) must also result in the elimination of a feature of *will*.

There is ample evidence that verb movement to C in Germanic is closely linked to tense (Den Besten 1977:Appendix II). Consider the following facts from Dutch:

- (8) *Koopt Jan een huis?*
buys John a house
'Does John buy a house?'
- (9) a. *Jan een huis kopen?*
John a house buy-INF
'John buy a house?'
b. * *Kopen Jan een huis?*
buy-INF John a house

Assuming that the structure of yes/no questions matches that of *wh*-questions, (8) and (9) are comparable to (7). We may consider the counterpart of the *wh*-word in (7) to be empty in (8) and (9). This suggests that the verb movement in (8), as in (7b), targets C. As can be seen in (9), such verb movement only takes place when the verb is finite.

In terms of Chomsky (1992), we may suppose that C hosts a tense feature, comparable to the V-features of AgrS etc., which must be checked by moving T(ense) to C (cf. Wilder and Cavar 1993). This triggers movement of the finite auxiliary in (7b).²⁸

Likewise, the movement in (7a) is never triggered, hence excluded by the fewest steps requirement (1b). At the same time, we may assume that the tense feature on the auxiliary in (7) must be checked against the tense feature in C. From this perspective, moving the infinitive to C in (7a) robs the finite auxiliary of the possibility to check its tense feature. This again yields a violation of economy of representation, assuming the relevant feature to be strong (as the overt movement in (7b) bears out). More generally, movement of a head α across a head β which contains a V-feature to be checked against the features of α is trivially excluded by economy of representation, because it yields an interface representation with unchecked features.

Thus, economy of representation and the fewest steps requirement of economy of derivation suffice to exclude a standard nonlocal head movement construction like (7a).

In the domain of raising to subject, the shortest steps requirement excludes the superraising constructions in (10):

- (10) a. * John seems to win
b. * John seems it is likely to win

The sentences in (10) are derived from more basic representations in which *John* is the subject of *win*, generated inside the VP as previously assumed. As (11) shows, the subject position of the embedded clause is a legitimate target for subject movement:

- (11) It seems John is likely to win

It seems, then, that the sentences in (10) are derived by moving *John* across a legitimate target for subject movement, in violation of the shortest steps requirement of economy of derivation (Chomsky 1992:21).

However, it is immediately obvious that (10a), at least, is excluded on standard minimalist assumptions regarding movement and feature checking. If *John* moves to the subject position of the embedded clause, as in (11), its features are checked, and it will from then on be doomed to inermess (unless additional features like [topic] or [wh] are present). On the other hand, if *John* in (10a) is moved to the subject position of the

²⁸ In section III.5.2 I will present a slightly different analysis of verb movement to C, linking the phenomenon to agreement rather than tense.

matrix clause directly, the N-features in the AgrS of the embedded clause will remain unchecked. Hence, (10a) always yields a crashing derivation.

In (10b), the N-features of the embedded AgrS can be checked against the features of *it*. However, in (10b) the problems lie elsewhere. Following Bennis (1986), we must assume that *it* is not a dummy pronoun, inserted in the specifier position of AgrS, but an argument generated in the complement domain of a raising verb. If *it* is generated as an internal argument of *seems*, (11) results. In that case, *John* is likely to win must be analyzed as an adjunct clause associated with *it*, and *John* is the only candidate for checking the N-features of AgrS inside the adjunct clause. Hence, (10b) cannot be derived from the representation underlying (11), illustrated in (12a).²⁹

- (12) a. * seems [_i] [_i is likely John to win]_i

Alternatively, one could assume that *it* is generated as the internal argument of the lower raising verb (assuming *be likely* to be a single raising verb, for ease of exposition). This yields the underlying representation in (12b):

- (12) b. * seems [_i is likely [_i] [_i John to win]_i]

In (12b), *it* could raise to the AgrSP associated with *is likely*, and *John* could raise to the AgrSP associated with *seems*. This would yield (10b), in violation of the shortest steps requirement. However, if (12b) were the structure underlying multiple raising verb constructions, (11) could not be derived without violating the shortest steps requirement either: *it* would have to cross the AgrSP position associated with the lower raising verb. Hence, the shortest steps requirement cannot exist if we assume (12b) to be the structure underlying multiple raising verb constructions. Therefore, no argument that assumes the structure in (12b) supports the shortest steps requirement.

I assume that the internal argument of raising verbs must be either *it* (in combination with a finite clause) or a nonfinite clause, but not a single finite clause (without *it*) or a combination of *it* and a nonfinite clause. This excludes (12b) as a possible structure. Consequently, there is no derivation of the sentences in (10) that violates the shortest steps requirement without also violating standard feature checking

²⁹ Alternatively, *John* is likely to win in (11) is not analyzed as an adjunct clause but as the subject of a Small Clause, of which *it* is the predicate (cf. Moro 1993). (11) would then be the result of predicates raising, structurally similar to locative inversion in the analysis of Hoekstra and Mulder 1990. This does not affect the argument, however, which is that *John* must be licensed inside the subordinate clause.

requirements. Hence, superraising constructions are excluded by economy of representation, which requires features to be checked before the derivation reaches the interface state.²⁷

It seems, then, that none of the standard phenomena indicating that movement must be local support the shortest steps requirement of economy of derivation.

An even stronger argument against (1a) would be to show that the shortest steps requirement is incompatible with other minimalist principles. This can actually be demonstrated, as argued in Zwart (1993c). The argument can be summarized as follows.

Recall that in the minimalist approach, representations are built up by joining two phrase markers (Generalized Transformations). By the condition of *strict cyclicity*, it is not allowed to insert one phrase marker inside another phrase marker. It follows from this condition that nonlocal wh-movement, as in (13), always violates the shortest steps requirement.

- (13) *What do you think [e that he will do t]?*

In the traditional approach to (13), *what* moves from the position indicated by *t* to the specifier position of the embedded CP, indicated by *e*, and from there on to the specifier position of the matrix CP. Chomsky (1992:21), noting that this derivation violates the fewest steps requirement (1b), proposes to describe long distance wh-movement in terms of the operation *Form Chain*. This operation performs the movement from *t* to the specifier position of the matrix CP in one step, while at the same time introducing an intermediate trace *e* in the specifier position of the embedded CP. This yields a chain with local links, needed to facilitate the interpretation of (13).

However, if we think of Form Chain in terms of the structure building process Generalized Transformation, it becomes clear that *e* cannot be introduced after the embedded CP has been joined with the matrix verb *think*. This derivation would violate the condition of strict cyclicity.²⁸ To comply with the condition of strict cyclicity, the intermediate empty wh-element *e* must be introduced before the embedded clause and *think* are joined together, hence, also before movement of *what* to the specifier position of the matrix CP takes place. We may assume that after the wh-movement has taken place, *e* functions as an intermediate trace in the chain linking *what* and *t*.

²⁷ We will return to the derivation of superraising constructions in section III.5.3.1.

²⁸ Chomsky (1992:33) restricts the condition of strict cyclicity to overt syntax. This means that the empty element in the intermediate position could be generated in covert syntax, but then Form Chain would no longer be a single operation in cases of overt wh-movement.

The crucial point here is that if the strict cyclicity condition is obeyed, long distance wh-movement necessarily violates the shortest steps requirement of economy of derivation. Since the condition of strict cyclicity is a crucial part of the minimalist structure building process, the shortest steps requirement cannot exist.

I therefore conclude that economy of derivation contains a fewest steps requirement only. The picture that emerges is that movement must take place as little as possible, and that if it takes place, it must immediately result in feature checking. No intermediate steps are allowed.

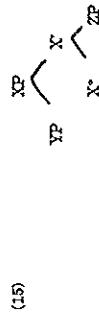
This revision of economy of derivation will become especially relevant in the domain of head movement.

3.2 Matching

In the minimalist program as developed in Chomsky (1992), the structure building process of Generalized Transformations interacts with the traditional theory of phrase structure, *X-bar theory*. The X-bar theory specifies that all phrases are built up according to a category neutral schema of phrase structure rules (Chomsky 1986b:3):

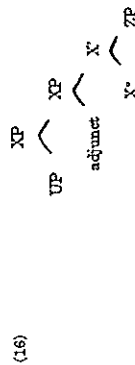
- (14) a. $XP \rightarrow YP X$
 b. $X \rightarrow X^{\circ} ZP$

The structures described by (14) have the following tree structure representation:



In (15), *XP* is the *maximal projection* of the head *X^o*, *YP* is the specifier of *XP*, and *ZP* is the complement of *X^o*.

If *X^o* is a functional head, the N-features of *X^o* can only be checked by moving an appropriate *XP*, say *UP*, into *YP*. Thus, the N-feature of *X^o* cannot be checked when an adjunct is generated in *YP*, and *UP* is adjoined to *XP*, as in (16):

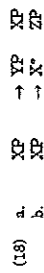


The ungrammaticality of (17), for example, is explained by the fact that (16) is not a possible configuration for checking off the features of UP (*who* in (17)) against the N-features of X* (*did*):²⁹

(17) * Who suddenly did Bill discover?

Thus, YP in (15) is the *designated* checking position for the N-features of X*. The question is whether this follows from any independent aspect of the minimalist approach.³⁰

Another question that the X-bar schema in (14) raises, is whether it is necessary to distinguish an intermediate projection X' next to the maximal projection XP. It has been argued several times in the literature that the intermediate level X' is redundant (Stuurman 1985, E.Hoekstra 1991). If it does not exist, (14) reduces to (18):



(18a) instantiates the possibility of adjunction of a maximal projection to another maximal projection. Since this possibility exists independently of X-bar theory, (18) can be reduced to (19):



(19) contains the following information: a) there is a distinction between heads and maximal projections, b) a maximal projection α has a head of the same categorial status as α (cf. Lyons 1968:331).

Obviously, b) is already expressed in the mechanism of generalized transformations (cf. section 2.1). As we have seen, a phrase marker α is combined with a phrase marker β iff α projects a mother node, which dominates both α and an empty position, to be filled by β .

²⁹ Take the relevant N-features to be wh-features, cf. Rizzi 1990b.

³⁰ Chomsky (1992:169) includes UP in (16) in the checking domain of X*, in view of Kayne's (1987) analysis of past participle agreement in wh-constructions in Romance (class lectures Fall 1991). This, however, does not detract from the observation that in general (3) is not a legitimate configuration for licensing UP, which calls for an explanation.

Therefore, if the intermediate projection does not exist, X-bar theory reduces to a), the statement that there is a distinction between heads and maximal projections.

Notice that if the intermediate projection does not exist, the mechanism of generalized transformations can be simplified. Without the distinction between intermediate projections and maximal projections, the following two statements are required:

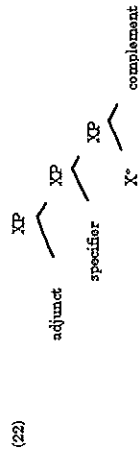
- (20) a. If a head is adjoined to α , the projection of α is a head
 b. If a nonhead is adjoined to α , the projection of α is a nonhead

These two statements can be reduced to one:

- (21) If a β^0 is adjoined to α , the projection of α is an α^0

On the other hand, if the intermediate projection does exist, the two statements in (20) do not suffice. It has to be stated that if α is a head, the projection of α is an X', unless the element adjoined to α is a head, in which case the projection of α is also a head; that if α is an X', the projection of α is an XP; and that if α is an XP, the projection of α is an XP. Consequently, the reduction to (21), or a statement of comparable simplicity, is impossible.

Let us therefore assume that the intermediate X'-level does not exist. X-bar theory reduces to the distinction between heads and XPs. The mechanism of generalized transformations ensures that all nodes in a projection line have the same categorial features. The tree structure resulting from these assumptions is represented in (22):



This takes us back to the question why the specifier of a head α is the designated checking position for the N-features of α . Intuitively, the specifier position in (22) is the position closest to X* where the N-features are represented. The only position closer to X* is the position adjoined to X*, but this position can be excluded as an adjunction site for XPs on the assumption that only heads may adjoin to heads (cf. Baltin 1982, Chomsky 1986b).

However, we must allow adjunction of an XP to a head α when the XP is the complement of α .²¹ Apparently, only left-adjunction of an XP to a head must be blocked. The ban on left adjunction of an XP to a head can be derived from the condition of strict cyclicity.

Suppose α , a head, has a complement. If so, it has projected an XP. Therefore, adjunction of YP to α would involve projecting an additional XP between α and the projection of α XP (the mother node of α and the complement of α). Let us take the condition of strict cyclicity to exclude precisely that. On this interpretation of the Strict Cycle Condition, left-adjunction of a head to α is not excluded, since adjunction of a head does not involve the projection of an additional XP.²²

On this interpretation of the condition of strict cyclicity, adjunction of a maximal projection to a head can be excluded. However, the intuitive notion 'closeness' still has to be defined more exactly, to ensure that the adjunct position in (22) is not close enough to X'.

In order to define the special relation between a head and a specifier, I propose that the first XP projection of X', the sister of the specifier, has a special status. This special status is not expressed in terms of bar levels, but in terms of features. More specifically, I propose that the morphological features of a head α are also present on the first XP projection of α .

Let us call the first XP projection of X' in (22) *Projection*, and the remaining XP projections *Segment*, according to the following definitions (cf. Zwart 1992d):²³

(23) For α , β where α dominates β , and X' = XP:

(23a) PROJECTION
 α is a Projection of β iff (i) for $\alpha = X'$, $\beta = X'$, and
 (ii) there is no γ , $\gamma = X'$, such that
 α dominates γ and γ dominates β

²¹ Technically, the complement of a head α is adjoined to α by generalized transformation, even though complements are not generally regarded as adjuncts.

²² This definition of the Strict Cycle Condition differs slightly from the one assumed in Chomsky 1992:33, but the two definitions share the underlying idea that cyclicity is violated only if target recursion occurs.

²³ In the definitions in the text, *domination* is understood in the classical sense, i.e. as an asymmetric, irreflexive, and transitive relation between nodes in a tree structure. α dominates β , γ , if α results from joining β and γ by generalized transformation. It is assumed in the definitions in the text that the status of α as a segment or projection is irrelevant for the domination relation between α and any β .

(23b) SEGMENT
 α is a Segment of β iff (i) for $\alpha = X'$, $\beta = X'$, and
 (ii) there is no γ , $\gamma = X'$, such that
 γ dominates β and α dominates γ

Specifier and *Adjunct* can now be defined as follows:²⁴

(24) a. SPECIFIER
 α is a Specifier of β iff (i) α and β are sisters, and
 (ii) β is a Projection

b. ADJUNCT
 α is an Adjunct of β iff (i) α and β are sisters, and
 (ii) β is a Segment

We can now formulate the proposal regarding the special status of Projections as follows:

(25) FEATURE SHARING
 α and β share morphological features only if α is the Projection of β

According to (25), the N-features and the V-features that are represented in a functional head α may also be present on the Projection of α .

I assume that the special status of Projections results from the mechanism of generalized transformations. The only way for a head X' to be integrated in a larger structure is to project an XP Projection. Heads, therefore, cannot exist without a Projection. They can, however, exist without a Segment, on the assumption that not every head has a specifier associated with it (cf. Fukui and Speas 1986). The mechanism of generalized transformations therefore leads us to consider the combination of a Head and its Projection as an indivisible unit.²⁵

It follows that a Head and its Projection have the same set of features. A Segment is added to a Projection only in order to make room for a specifier. But neither the Head nor the Projection need a Segment in order to be integrated in a larger structure. It follows that the Segment does not constitute an indivisible unit with either the Projection or the Head.

²⁴ α and β are sisters iff there is no γ such that γ dominates α and does not dominate β , or such that γ dominates β and does not dominate α .

²⁵ Head movement does not really separate the Head from its Projection, assuming that head movement leaves a trace.

Hence, no complete feature sharing between a Head and a Segment is expected.³⁶

It has now become possible to define 'closeness', the proximity condition on feature checking needed to explain (17), in terms of sisterhood. The closest relation between two nodes that are not in a domination relation is the sisterhood relation. The most restrictive condition on feature checking therefore requires a sisterhood configuration. Let us propose this (following Zwart 1992d):

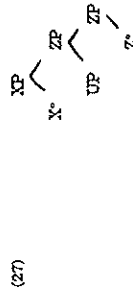
(26) FEATURE MATCHING

Matching features of α and β takes place only if α and β are sisters

Suppose we want to check the features of an XP against the N-features of a functional head α . By (25), the N-features of α are also represented on the Projection of α . By (26), XP must adjoin to a node carrying the relevant N-features, in order to create the sisterhood configuration required for feature matching. It follows independently that adjunction of XP to α is excluded. Hence, the Projection of α is the only possible target for adjunction for the purpose of N-feature checking.³⁷

In short, the specifier is the designated position for N-feature checking, because its sister is the only node the XP can adjoin to in which the relevant N-features are represented. Adjunction of XP to the functional head α itself is excluded by the condition of strict cyclicity. Adjunction to a Segment of α is excluded because the Segment of α does not carry the N-feature of α .

It also follows that the specifier position of the complement of α is not a possible landing site for checking the features of an XP against the N-features of α . This configuration is illustrated in (27):



³⁶ This is not intended to exclude standard percolation of features from a head to its maximal projection.

³⁷ I assume that the N-feature represented in the head α is automatically eliminated as a result of the feature matching operation involving the specifier and the Projection of α . Likewise, for the V-feature of α represented in the Projection of α : it will disappear immediately when the V-feature in α is checked. See section III.4.4 for a refinement of the analysis which makes this assumption superfluous.

By (25), X^c does not share its N-features with ZP. Hence, the sisterhood relation required by (26) is not established when UP is moved into the specifier position of ZP.

Notice that X^c does govern UP in (27), assuming any standard definition of government (cf. Chomsky 1981, Aoun and Sportiche 1983). It therefore follows from (25) and (26) that government is not a sufficiently restrictive relation for licensing operations. If all syntactic relations involve feature checking in the functional domain, and if feature checking involves matching between sisters, it follows that government can be dispensed with as a meaningful relation in syntax (cf. Chomsky 1992:9).

Chomsky (1992:8f), noting that basic relations are typically local, describes the head-complement relation as the core local relation. The head-specifier relation, in this view, falls into an 'elsewhere' category. If I am correct, there is no distinction between 'core' local relations and 'elsewhere' local relations. All local relations require the same configuration: sisterhood. Sisterhood is relevant for θ -role assignment (by head-complement sisterhood), checking of V-features (by head-head sisterhood), and checking of N-features (by specifier-Projection sisterhood). The division of labor between the various sisterhood relations follows from the basic assumption that checking takes place in the functional domain, and from the condition of strict cyclicity.

As we will see later on in this study, adopting the restrictive matching condition (26) will have the effect that the definition of the notions checking domain and complement domain of Chomsky (1992) can be made more restrictive (see section III.4.3).

A second consequence of the assumptions made here is that an additional locus of parametric variation becomes available. At present, the only parametric variation in the system resides in the strength of the morphological features represented in the functional heads. The parameter setting forces or disallows overt movement to positions in the functional domain. The formulation of the feature sharing mechanism (25), however, allows a second parametric choice: the features of α can or cannot be shared with the Projection of α .

We may assume that functional heads carry a feature [α -accessible], where the features of a [α -accessible] head do not automatically spread to the Projection. I will propose that various operations affecting the functional head can remove the [α -accessible] feature in this case. Since the N-features cannot be removed before α becomes accessible to the Projection, the operations that remove the [α -accessible] feature are a precondition for N-feature checking in the relevant constructions. The [α -accessible] feature, then, makes it possible to account for verb movements which appear to take place for no other reason than to make N-feature checking possible. This will turn out to be a characteristic aspect of verb movement in Dutch.

3.3 Directionality

Neither the structure building process of generalized transformations of Chomsky 1992 (section 2.1), nor the sisterhood condition on feature checking of Zwart 1992d (section 3.2) contains a specification of the linear order of head, complement, specifier, and adjunct. Superficial crosslinguistic examination suggests that languages may differ with respect to the linear order of these elements. In the tradition of generative grammar, the attested variation is described in terms of a parametric option: heads may govern to the left or to the right. A head that governs to the left takes its complement to the left in the initial representation, yielding a basic OV structure.

In the minimalist approach, a directionality parameter is no longer available. First, parametric variation must be expressed in terms of the features of functional heads only. A directionality parameter would therefore not suffice to account for the ordering of elements in the lexical domain. Second, government no longer plays a role in the minimalist approach (cf. section 3.2). Therefore, it is unclear whether a directionality parameter could be reduced to properties of an independently established grammatical relation. Third, a directionality parameter would be redundant, since much of the word order variation can be accounted for by the interaction of overt and covert movement.

Kayne (1992) presented empirical evidence showing that movement into the functional domain is invariably leftward. The evidence consists in what we do *not* find, in comparing movement phenomena in the languages of the world. Thus, we can conclude from the general lack of Wh-movement to the right that the specifier position of CP is always to the left. Similarly, there are no known cases where verb movement changes a verb-complement order from VO to OV, which suggests that verb movement to the right does not exist. Hence, the functional projections hosting V-features must all be head initial. Also, the subject precedes the object in almost all languages of the world (Greenberg 1963, Universal 1). Assuming, in connection with this, that AgrSP is hierarchically higher than AgrOP, it also follows that the specifier of AgrSP is situated to the left. Likewise, if the complement of a preposition is extracted, the complement always ends up to the left of the preposition, never to the right of it. Again, this suggests that licensing positions, i.e. specifier positions, under our assumptions, are on the left hand side. For a fuller exposition of this line of argumentation, see Kayne (1993).

Let us therefore assume that functional projections are head initial, and that the specifier of functional projections are always to the left of the

projection line. In other words, singular operations invariably consist in left-adjunction to a Projection.

As we will see, the assumption that the functional projections are universally head initial is problematic for the standard analysis of Dutch within the generative tradition. However, I will argue extensively in chapter III that the relevant phenomena provide clear support for the head initial character of the functional projections in Dutch. That the specifiers of the functional projections in Dutch are situated to the left I will assume without discussion.

Kayne (1993) in addition argues that the lexical projections in the world's languages are invariably head initial as well. This is an attractive hypothesis, considering the empirical evidence for the universal structure of the projections of the functional domain. However, empirical evidence in support of this hypothesis is infinitely more difficult to obtain, in view of the fact that the observable word order reflects an intermediate state in the derivation of a sentence. In other words, one never knows whether the constituents are in a basic position or not.

I will nevertheless present some arguments based on the syntax of Dutch multi-verb constructions and complex prepositional phrases in support of the hypothesis that the lexical projections in Dutch are head initial (chapter IV).²⁸

Kayne (1993) also presents conceptual argumentation in support of the idea that all phrases are head initial. Kayne proposes that asymmetric c-command invariably maps into linear precedence. In order for this mapping to be successful, it must be possible to express the relations between the nodes of a phrase marker that asymmetrically c-command each other into a set of ordered pairs $\langle x, y \rangle$ of the terminal ('lexical') elements dominated by these nodes. The pairing of two terminal elements x, y thus expresses a relation between x and y . Kayne proposes that the set of ordered pairs of these relations must express a *linear ordering*, i.e. a total, transitive, and antisymmetric ordering.

Thus, according to this proposal it must be possible to read the relation of each terminal element to all other terminal elements off of the set of ordered pairs. Crucially, these relations must be antisymmetric, i.e., it is

²⁸ The position of the specifier in lexical projections is extremely unclear. Possibly, as Fukui and Speas (1986) suggest, lexical projections do not have a specifier (cf. also E.Hoekstra 1991). I am sympathetic to the idea, but will accept in the remainder of this book that at least VP has a specifier, and that the external argument of the verb is generated there in the initial stage of the derivation, as is currently assumed.

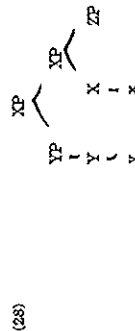
excluded that two terminal elements L each other, where L stands for the relevant relation between these two elements.³⁹

The axiom that the set of ordered pairs of terminal elements derived from the set of relations between the nodes of a phrase marker that asymmetrically c-command each other is a linear ordering of the terminal elements is called the *Linear Correspondence Axiom (LCA)*.

In addition to the LCA, Kayne proposes that the relation expressed by the pairing of terminal elements is a *precedence* relation. I will refer to this hypothesis as the *Extended Linear Correspondence Axiom (ELCA)*.⁴⁰ Kayne shows that the adoption of the LCA explains many basic facts of phrase structure, such as binary branching and endocentricity. In this respect, the LCA is compatible with the mechanism of generalized transformations as presented in section 2.1. It follows from the ELCA that adjunction always takes place on the left hand side.

In some respects, however, the LCA appears to be too restrictive, as Kayne notes. In fact, the LCA excludes adjunction of specifiers and adjuncts. Kayne therefore modifies the definitions entering into the notion *c-command* in order to allow adjunction of specifiers. He argues, however, that adjunction of adjuncts (i.e. in addition to adjunction of a specifier) is excluded.

To see why adjunction of specifiers is difficult, consider the tree structure in (28), where y and x represent terminal elements:



Assume the following definition of c-command:

³⁹ 'Asymmetry' and 'totality' are two of the three defining properties of linear relations. Kayne assumes that the third defining property, transitivity, also applies to the relations between the terminal elements expressing the relations between the nodes that asymmetrically c-command each other.

⁴⁰ Kayne (1993:section 5.3) derives the definition of the relation between the terminal elements in a phrase marker as a precedence relation from the hypothesis that every phrase marker contains a root node dominating all other nodes except itself. On the assumption that this root node also dominates an abstract terminal element α , which, as Kayne argues, has to precede all other terminal elements of the phrase marker, it follows that the linear relation between α and the other terminal elements is also a precedence relation. Hence, the linear relation between terminal elements must always be a precedence relation. For empirical justification of the Extended LCA, see above.

(29) α c-commands β iff every γ that dominates α dominates β

C-command is asymmetric where, for α c-commanding β , β does not c-command α .

In (28), YP asymmetrically c-commands X and XP asymmetrically c-commands Y. YP dominates the terminal element y , and X dominates the terminal element x . The relation between YP and X therefore can be expressed in the ordered pair of terminal elements $\langle y, x \rangle$. But since XP dominates x and Y dominates y , the ordered pair of these terminal elements $\langle x, y \rangle$ is also part of the set of ordered pairs expressing the relations between YP, XP, Y, and X. So now this set contains $\langle y, x \rangle$ and $\langle x, y \rangle$. Hence, the relation between x and y (i.e., between a head and its specifier) is not linear, because it is not antisymmetric.

To solve this problem, the pair $\langle x, y \rangle$ or the pair $\langle y, x \rangle$ must be excluded. This can be achieved if either YP does not c-command X (kicking out the pair $\langle y, x \rangle$) or XP does not c-command Y (kicking out $\langle x, y \rangle$). Kayne proposes to modify the definition of c-command in such a way that XP no longer c-commands Y. This can be done by excluding segments from the definition of c-command, assuming XP and XP in (28) to be two segments of the same category.⁴¹

(30) α c-commands β iff (i) α and β are not segments, and
(ii) α excludes β , and
(iii) every γ dominating α dominates β

(31) α excludes β if no segment of α dominates β

In (28), XP is a segment, hence does not c-command Y by clause (i) of the definition of c-command in (30). This gives the desired result that the relation between x and y in (28) is described by $\langle y, x \rangle$, hence is a linear relation (hence, following Kayne, a precedence relation).

Notice that the fact that the higher XP is a segment of the lower XP suffices to exclude that the lower XP c-commands Y. Since the higher XP is a segment, the lower XP does not exclude Y, and the c-command relation is barred by clause (ii) of the definition of c-command in (30) (cf. Kayne 1993, note 9).

It follows that the lower XP does not c-command Y, even if the lower XP is not a segment. According to the definitions of Segment and Projection proposed in section 3.2, the higher XP in (28) is a Segment, and the lower XP is a Projection. The Projection XP does not exclude Y in (28).

⁴¹ Following Chomsky 1986b:7, I will turn to the consequences of the definitions of Segment and Projection of section 3.2 below.

This problem disappears, however, if the distinction between Segments and Projections as defined in section 3.2 is accepted. According to the relevant definitions, only the top two XPs in (32) are Segments, and the lowest XP is a Projection. Applying the definition of domination in (33) now gives the result that UP is dominated by all Segments of XP. Y, on the other hand, is *not* dominated by all Segments of XP, and hence is not dominated by XP. It follows that XP in (32) dominates UP but not Y, and hence UP does not c-command Y.⁴

This is the desired result. The pair <u,y> that is the image of the c-command relation between UP and Y disappears, and the relation between the terminal elements y and u is characterized by the pair <y,u> only. Therefore, (32), like (29), is allowed by the LCA.

It follows, however, that a third adjunction operation is excluded. In that case, the problems described above for (32) surface again, because the top three XPs would have to be regarded as Segments.

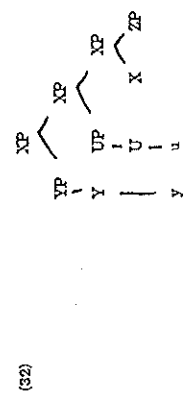
I will therefore assume throughout that adjunction of a single element in addition to adjunction of a specifier is possible. This will become relevant in the discussion of scrambling phenomena, in which I assume that adjunction of adverbs to various maximal projections is possible.

The upshot of this minimalist extension, however, remains that directionality specifications are redundant. Since directionality was considered to be a property of government, this result again undermines the conceptual and empirical basis for the relevance of the government relation in syntax.

⁴ This requires that (33) be redefined as: *a* is dominated by β , β a Segment, only if *a* is dominated by every Segment of β . This modification of *dominate* applies only when β is a Segment, not when β is a Projection. Thus, X in (28) is dominated by the XP Projection. This is needed to ensure that X does not c-command XP in (28) (thanks to Marcel den Dikken for discussing this point with me).

because the Segment XP includes Y. Hence, the Projection XP does not c-command Y, because of (30)(ii).⁴

To see why adjunction is difficult, consider (32):



In (32), not only the specifier UP, but also the adjunct YP is adjoined to XP. YP asymmetrically c-commands U, yielding <y,u>, and UP asymmetrically c-commands Y, yielding <y,u>. Hence the relation between the terminal elements y and u is not antisymmetric and therefore (32) is not allowed by the LCA.

Kayne concludes that multiple adjunction (i.e., adjunction of an element in addition to adjunction of a specifier, as in (32)) is universally impossible. It follows that adjunct elements, such as adverbs, can only be present in a structure as specifiers. Thus, for every adjunct there must be a head in the structure creating the required specifier position.

This seems overly restrictive, in the sense that numerous 'adjunct phrases' in various positions must be assumed. Kayne acknowledges this, but doubts 'that other theories can do without such entities' (p.45). Be that as it may, it remains the case that the adjunct phrases are unacceptable from a minimalist point of view, if no demonstrable morphological features are associated with them.

Let us therefore try to make (32) acceptable for the LCA, by eliminating the asymmetric c-command relation between UP and Y.

The problem in (32) is that the middle XP does not dominate UP, because it is a segment. Kayne adopts the standard definition of domination in relation to segments of Chomsky (1986b:7):

(33) α is dominated by β only if it is dominated by every segment of β

Assuming all XPs in (32) to be segments, UP is not dominated by all segments of XP. Hence, there is no γ that dominates UP but not Y, and UP c-commands Y by (30)(iii).

⁴ This requires that (31) be modified as: *a* excludes β if no Segment of *a* dominates β , where an XP Segment is a Segment of the XP Projection, but an XP Projection is not a Segment of an XP Segment.

II

A MINIMALIST APPROACH TO THE SYNTAX OF DUTCH

This chapter contains four sections. Section 1 is intended as a reference section. It contains the basic facts of Dutch inflectional morphology and syntax that are discussed in this book. Section 2 reviews the standard analysis of these facts within the generative framework. Section 3 discusses the problematic aspects of the standard analysis on its own terms, i.e. as an implementation of the so-called *Government and Binding* approach.¹ In section 4, the consequences of the Minimalist Program for the analysis of Dutch syntax are briefly sketched; it contains a review of the traditional analysis, this time on minimalist terms, and the first outline of a minimalist approach to the syntax of Dutch.

1. Phenomena of Dutch Syntax

1.1 Inflectional Morphology

1.1.1 Verbs

Dutch has an inflectional paradigm for the formation of the present and past tense verb forms. All other tenses are formed periphrastically.

The present tense is formed as in (1), the past tense as in (2):

¹ See chapter I, note 3.

- (1) Present tense
- | | | | | |
|-----|-----------|-----|--------|--------|
| 1SG | kus | 1PL | kussen | 'kiss' |
| 2SG | kust, kus | 2PL | kussen | |
| 3SG | kust | 3PL | kussen | |
- (2) Past tense²
- | | | | | |
|-----|-------|-----|--------|--------|
| 1SG | kuste | 1PL | kusten | 'kiss' |
| 2SG | kuste | 2PL | kusten | |
| 3SG | kuste | 3PL | kusten | |

The present tense 2SG verb form is *kust* when the subject precedes the verb, and *kus* when the verb precedes the subject. This is the case in topicalizations and wh-constructions, for which see section 1.3.

The imperative verb forms are *kus* for the singular and *kust* for the plural.³

The non-tensed verb forms of Dutch are the bare infinitive, the infinitive with *te*, the present participle, and the past participle.⁴

(3) Non-tensed verb forms

- | | |
|-----------------------------|-----------|
| Bare Infinitive: | kussen |
| Infinitive with <i>te</i> : | te kussen |
| Present Participle: | kussend |
| Past Participle: | gekust |

The future tense is formed by the auxiliary *zullen* 'shall, will' in combination with a bare infinitive:

- (4)
- | | | | |
|------------------------|------|-------|--------|
| Jan | zal | Marie | kussen |
| John | will | Mary | kiss |
| "John will kiss Mary." | | | |

The perfect tense is formed by a combination of one of the auxiliaries *hebben* 'have' and *zijn* 'be' and a past participle.⁵

² The *-t* in the past tense inflection is a *-t* if the verbal stem ends in a vowel or a voiced consonant.
³ In addition, there are subjunctive verb forms, *kusse* for the SG and *kussen* for the PL. These are hardly ever used.
⁴ On the status of *te*, see III.1.

⁵ More complex tenses are created by changing the tense of the auxiliaries, either inflectionally in the case of the pluperfect (*had gekust* 'had kissed') and the past future (*zou kussen* 'would kiss'), or periphrastically, in the case of the future perfect (*gekust zal hebben* 'will have kissed'), or by a combination of inflectional and periphrastic techniques, as in the past future perfect (*gekust zou hebben* 'would have kissed').

- (5) a.

Jan	heeft	Marie	gekust
John	has	Mary	kissed
"John kissed Mary."			

 b.

Marie	is	door Jan	gekust
Mary	is	by John	kissed
"Mary has been kissed by John."			

The bare infinitive can be nominalized, as in (6), and is also used in tenseless main clauses (7) (cf. Koster 1984):

- (6)

Dat	alsmaar	Marie	kussen	is leuk
that	all the time	Mary	kiss	is fun
"This kissing Mary all the time is fun."				

- (7)

Jan	Marie	kussen?	Dat nooit!
John	Mary	kiss	That never
"John kiss Mary? Never!"			

The bare infinitive and the infinitive with *te* are used in infinitival complement clauses. In adjunct clauses only the infinitive with *te* is used. The present participle is used only as a secondary predicate or as an adjective.

1.1.2 Nominal projections

Nouns in Dutch are inflected for *number* (singular and plural). The plural is formed by adding *-er*, pronounced *-e* in the South and West of the country (*-e*-a schwa), or *-s* to the stem.⁶

Nouns in Dutch have no Case inflection, with the exception of pronouns (see section 1.1.5).

Gender agreement is marked on the adjective, only when used attributively in singular indefinite noun phrases. The masculine/feminine agreement suffix is *-e*, the neuter suffix is zero.⁷ In the plural, and in definite noun phrases, the adjective invariably has a *-e* suffix. Predicative adjectives show no agreement with the noun.

Definite determiners are *de* (plural, and masculine/feminine singular) and *het* (neuter singular). The plural indefinite determiner is zero, the

⁶ In the variety of Standard Dutch that is spoken in the North and East of the Netherlands, the plural suffix is pronounced as *-er*. In the dialects of these regions, the plural suffix actually appears to be a syllabic *-r*.

⁷ See Koster (1983) on other forms of adjectival agreement in Dutch.

singular indefinite determiner is *een*, apparently a weak form of the numeral 'one'.

1.2 Main Clauses and Embedded Clauses

1.2.1 The Position of the Verb

The neutral order of main clauses in Dutch containing a finite verb is Subject-Verb-Object (SVO):

- (8) a. Jan kust Marie
John kisses Mary
"John kisses Mary"
b. * Jan Marie kust
John Mary kisses

For non-neutral word orders, see section 1.3.

The word order of main clauses containing no finite verb is SOV:⁹

- (9) a. * Jan kussen Marie
John kiss Mary
b. Jan Marie kussen
John Mary kiss
"John kiss Mary."

The neutral word order of main clauses containing both a finite verb and a non-finite verb is SVOV, with the non-finite verb following the object. In (10), the finite verb is an auxiliary and the non-finite verb is a past participle. In (11)-(12), the finite verb takes an infinitival complement clause, and the non-finite verb is an infinitive:

⁹ Zwarts (1992:178) argues that the indefinite determiner is an adjective, like the numeral *één* 'one'. In that case, the indefinite determiner would be zero in both the singular and the plural. In connection with this, note that *een* is inflected as an adjective in certain dialects, e.g. Brabantish (*‘de goete mens* 'a good man' vs. *‘n goet part* 'a good horse').

¹⁰ Nonfinite main clauses are used in narration and in certain questions. In the first case, modal particles like *maar*, expressing habituality or iteration, are often required. Acceptability also increases when the object is indefinite. A perfect example is: *Een kind roept* *huzen kopen* (and he just houses buy). "And he just goes/went on buying houses". In the second case, a certain intonation expressing denial or disapproval is required, as in English "What? Me worry?" or "John kiss Mary? Over my dead body!". The sentences in the text express the correct word order generalizations, if not correct usage.

- (10) a. Jan heeft Marie gekust
John has Marie kissed
"John (has) kissed Mary."
b. * Jan heeft gekust Marie
John has kissed Marie
c. * Jan Marie heeft gekust
John Marie has kissed
d. * Jan Marie gekust heeft
John Marie kissed has

- (11) a. Jan wil Marie kussen
John wants Marie kiss
"John wants to kiss Mary."
b. * Jan wil kussen Marie
John wants kiss Marie
c. * Jan Marie wil kussen
John Marie wants kiss
d. * Jan Marie kussen wil
John Marie kiss wants

- (12) a. Jan probeert Marie te kussen
John tries Marie to kiss
"John tries to kiss Mary."
b. * Jan probeert te kussen Marie
John tries to kiss Marie
c. * Jan Marie probeert te kussen
John Marie probeert to kussen
d. * Jan Marie tries te kussen
John Marie to kussen probeert tries

When a main clause contains one finite verb and more than one non-finite verb, the non-finite verbs form a cluster. This cluster occupies the same position as the non-finite verb in (10)-(12), to the extent that the object of the most deeply embedded verb appears to the left of the cluster as a whole.¹⁰ The finite verb again precedes the object:

- (13) a. Jan heeft Marie willen kussen
John has Marie want kiss
"John (has) wanted to kiss Mary."
b. * Jan heeft willen Marie kussen
John has wanted Marie kiss

In each of the grammatical sentences in (8)-(13), the finite verb is strictly adjacent to the subject, as is illustrated for (8a) in (14):

¹⁰ The syntax of the verb clusters in Dutch is infinitely more complicated. A more detailed exposition will be given in chapter IV. See Evers (1975) for seminal work. For recent studies, see Rutgers (1991) and Broekhuis (1992), and references cited there.

- (14) * Jan altijd kust Marie
John always kisses Mary

On the correct position of the adverb, see section 1.4.

In embedded clauses, the neutral word order is SOV. This is independent of the finiteness of the verb:¹¹

- (15) a. * .dat Jan kust Marie
that John kisses Mary
b. .dat Jan Marie kust
that John Marie kisses
".that John kisses Mary."
(16) a. * Piet ziet Jan kussen Marie
Pete sees John kiss Mary
b. Piet ziet Jan Marie kussen
Pete sees John Marie kiss
"Pete sees John kiss Mary."

See also (11b) and (12b).

For non-neutral word orders, see 1.3 and 1.4.

Embedded SVO orders are not employed in Standard Dutch. In colloquial Dutch, however, two types of embedded SVO constructions are used (cf. De Rooij 1965a, 1965b). First, the *erlechte Rede* type discussed in Weerman (1989) and De Haan (1990):

- (17) Jan zei, hij kon niet komen Spoken Dutch
John said he could not come
"John said that he couldn't come."

Second, a construction with an embedded SVO order in the complement of a complementizer:

- (18) Jan zei dat hij kon niet komen Spoken Dutch
John said that he could not come

The properties of these constructions will be discussed in section III.5.3.¹²

The verb in the final position in embedded clauses need not be adjacent to the object. See section 1.4. The term 'final position' is slightly

¹¹ Throughout this book, embedded clauses will be introduced by two dots (..) when presented in isolation.

¹² In previous work, I have been less clear about these phenomena (cf. Zwart 1990a,b, 1991a note 23).

misleading, since the verb may be followed by complement clauses and adjuncts. See section 1.6.

1.2.2 Complementizers and Complementizer Agreement

Complement clauses containing a finite verb must be introduced by one of the two complementizers *of* and *dat*, or by the combination *ofdat* (cf. De Rooij 1965a, Hoekstra and Zwart 1993a).¹³

- (19) a. Piet zei dat^{of}ofdat Jan Marie kuste
Pete said that^{if/that} John Marie kissed
"Pete said that John kissed Mary."
b. Piet vroeg ofdat^{of}ofdat Jan Marie kuste
Pete asked if/that^{if/that} John Marie kissed
"Pete asked whether John kissed Mary."

The choice between *of*, *dat*, and *ofdat* is determined by properties of the verb selecting the complement clause, but also by properties of the construction as a whole. For example, the complement clause selected by *zeggen* 'say' must be introduced by *dat* (see (19a)). But the complement clause selected by *vroeg* can be introduced by both *dat* and *ofdat* when a wh-element has been extracted out of it (Hoekstra and Zwart 1993a):

- (20) Wie zei Piet dat^{of}ofdat Jan kuste?
who said Pete that^{if/that} John kissed
"Who did Pete say John kissed?"

In many dialects of Dutch, the complementizers introducing a tensed complement clause can be inflected. The inflection expresses person and/or number agreement with the subject. A typical example is given in (21).¹⁴

- (21) a. Piet zei dat^{of}ofdatte Jan Marie kuste
Pete said that^{if/that-PL} John Marie kissed
"Pete said that John kissed Mary."
b. Piet zei dat^{of}ofdatte de jonges Marie kuste
Pete said that^{if/that-PL} the boys Marie kissed
"Pete said that the boys kissed Mary."

This phenomenon will be discussed extensively in section III.3.

¹³ In addition to *of*, *dat*, and *ofdat* the combination *aisdat* is also possible, but restricted to substandard Dutch.

¹⁴ The morphology of the plural verb forms and noun forms in the example is adapted to colloquial speech. Complementizer agreement is absent in written Dutch.

Complement clauses containing an infinitive with *te*, except those in the complement of raising verbs (like *schijnen* 'seem') and certain control verbs (like *mensen* 'think'), may be introduced by the complementizer *om*, which is optional.¹⁵ If *te* is absent, so is *om*:¹⁶

- (22) a. Jan probeert (om) Marie te kussen/*kussen
John tries Mary to kiss/kiss
"John tries to kiss Mary."
b. Jan schijnt (*om) Marie te kussen/*kussen
John seems Mary to kiss/kiss
"John seems to kiss Mary."
c. Jan wil (*om) Marie kussen/*te kussen
John wants Mary kiss/to kiss
"John wants to kiss Mary."

The complementizer *om* is never inflected.

Embedded questions containing a tensed verb are introduced by a *wh*-word and an optional complementizer. The complementizer can be *of*, *ofdat*, or *dat*. An example is given in (23):¹⁷

- (23) Ik weet niet wie of/ofdat/dat Marie gekust heeft
I know not who if/that/that Mary kissed has
"I don't know who Mary kissed."
"I don't know who kissed Mary."

The complementizer, if present, can be inflected in those dialects that have complementizer agreement. If the complementizer is absent, the inflection shows up on the *wh*-element.

- (24) a. Ik weet niet wat ofdatte de jonges gedaan hebbe
I know not what ifthat-PL the boys done have
"I don't know what the boys have done."
b. Ik weet niet wachte de jonges gedaan hebbe
I know not what-PL the boys done have
"I don't know what the boys have done."

Embedded questions containing infinitival verb forms only are introduced by a *wh*-word, but not by a complementizer:

¹⁵ In certain infinitival adjunct clauses, such as purpose clauses, *om* is obligatory.
¹⁶ The combination of *om* and *te* appears to have been pleonastic at first. In Middle Dutch (c.1200-1500), *te* was optional after prepositions like *om*. This is still the case in certain dialects of Dutch, such as West Flemish and Gronings, which have constructions like *mooi om zien* [beautiful for see], 'good looking'. Alternatively, *om* could be left out in adjunct clauses with *te*, like *oeten die cassette in t'onsafenze* [turns the cassette in to receive] turns to receive the ashes in (Schoett 1977:202f).
¹⁷ *Dat* alone is strange, unless the matrix verb selects a noninterrogative complement clause.

- (25) Ik weet niet wat (*om) te doen
I know not what if to do
"I don't know what to do."

The *wh*-word in this case never shows any inflection.

1.3 Topicalization and Wh-Movement

Dutch main clauses may be introduced by elements other than the subject. In that case, the finite verb immediately follows the first constituent:¹⁸

- (26) a. * Weer Jan kust Marie
again John kisses Mary
b. Weer kust Jan Marie
again kisses John Mary
"Again John kisses Mary."
(27) a. * Marie de jongens kussen vaak
Mary the boys kiss often
b. Marie kussen de jongens vaak
Mary kiss the boys often
"Mary the boys kiss a lot."
(28) a. * Waarom Jan kust Marie?
why John kisses Marie
b. Waarom kust Jan Marie?
why kisses John Mary
"Why does John kiss Mary?"

¹⁸ Except when the verb itself is the first element, as in imperatives, counterfactuals, and yes/no-questions. Orders with the verb in third position are possible when the first constituent and the verb are separated by an unstressed sentence connecting adverb like *nu* (non-temporal) 'now', *dan* (non-temporal) 'then', *echter* 'however', *daarentegen* 'in contrast', *immers* 'as is known'. It is not clear that these adverbs are not part of the first constituent, even though their syntactic function clearly lies on the sentence level. They are comparable to the Ancient Greek connective particles *de* 'but', *gar* 'as we know', and may also appear inside the first constituent (though not preceding the lexical head of the first constituent in contrast with Ancient Greek). Cf. Zwicky 1986, Zwart 1991b:298. Other verb third orders involve topicalization in combination with a resumptive demonstrative pronoun (*Jan die ken ik* [John that-one know I, cf. Koster 1978] and section 2.3) and stacking of adjuncts (*Gisteren, tijdens de pauze, zag ik Piet* [yesterday during the break saw I Peter]).

- (29) a. * Wie Jan kust?
 who John kisses
 b. Wie kust Jan?
 who kisses John
 "Who does John kiss?"
 "Who kisses John?"

In (26), the first element is an adverb, in (27), it is a fronted argument. These two constructions are grouped together as *topicalizations*.¹⁹ In the *wh-constructions* (28)-(29), the first element is a fronted *wh*-phrase.

Topicalizations and *wh*-constructions invariably trigger inversion of the subject and the verb in tensed main clauses. The topic/*wh*-element and the finite verb are strictly adjacent. The finite verb and the subject no longer have to be adjacent:

- (30) a. Marie ("vandaag") kussen de jongens vaak
 Mary today kiss the boys often
 b. Marie kussen (vandaag) de jongens vaak
 Mary kiss today the boys often
 "Mary the boys kiss a lot (today)."
 (31) a. Waarom ("altijd") kust Jan Marie?
 why always kisses John Mary
 b. Waarom kust (altijd) Jan Marie?
 why kisses always John Mary
 "Why does John (always) kiss Mary?"

In infinitival main clauses, topicalizations and *wh*-constructions are very marginal at best. However, it is clear that the verb must stay in the final position typical for non-finite verb forms:

¹⁹ The term *topicalization* suggests that the first constituent is a *topic*. But the first constituent can also be a *non-topic*, assuming 'topic' to be 'what the sentence is about' (Hoekst 1958:201), as in *MARIE kust Jan MARY John kisses*, where the preposed constituent *Marie* is a focused part of the comment rather than a topic. On the other hand, subjects (even *wh* pronouns) can be topics in the 'aboutness' sense. It is not clear, however, whether preposed constituents in Dutch should always be characterized as *focus* elements. As noted by Jansen (1978:107, 1981:82) and Koop (1978:34), fronted constituents in Dutch do not generally receive a marked intonation (as *Marie* does in *MARIE kust Jan MARY John kisses*), and appear to be part of the ground rather than the focus in most cases. It appears that neither the topic-comment distinction nor the focus-ground distinction is instrumental in characterizing fronting phenomena in Dutch. The topic-comment distinction appears to be a function of linear ordering, but intonation may have an overruling effect. The focus-ground distinction appears to be more closely linked to intonation. I will continue to use the term *topicalization* for the fronting of XPs in Dutch, while keeping the terminological difficulties in mind. (A posting by Eric Valldavi on sci.lang, April 13, 1993, was very helpful to me in sorting out the terminological distinctions.)

- (32) a. ?? Marie de jongens kussen? Dat nooit!
 Mary the boys kiss that never
 "The boys kiss Mary? Never!"
 b. * Marie kussen de jongens? Dat nooit!
 Mary kiss the boys that never
 "Mary, the boys kiss? Never!"

Wh-movement in embedded clauses does not cause a change of position for the verb:

- (33) a. -wie (of/ofdat) Jan gekust heeft
 who if/that John kissed has
 "-who John (has) kissed."
 b. -waarom (of/ofdat) Jan Marie gekust heeft
 why if/that John Mary kissed has
 "-why John (has) kissed Mary."

Nonwh-elements can also be fronted inside embedded clauses. For objects the fronting is only possible under certain conditions of intonation (see section 1.4). These frontings likewise never cause a change of position for the finite verb.²⁰

- (34) a. .dat MARIE de jongens vaak KUSSEN
 that Mary the boys often kiss
 ".that the boys kiss Mary a lot."
 b. .dat daarom de jongens Marie vaak kussen
 that therefore the boys Mary often kiss
 "-that because of that the boys kiss Mary a lot."

Notice that the fronted elements in (34), unlike in (33), appear to the right of the complementizer *dat*. This suggests that these constructions do not involve topicalization (see section III.5.3).

In infinitival complement clauses, topicalization is hard to identify. *Wh*-constructions do exist, but no effect on the position of the verb is visible:

- (35) a. Jan weet niet waar Marie te kussen
 John knows not where Mary to kiss
 "John does not know where to kiss Mary."
 b. - Jan weet niet waar te kussen Marie
 John knows not where to kiss Mary

²⁰ In embedded passive double object constructions, the indirect object preferably precedes the derived subject (*dat de jongens het boek gegeven werd* [that the boys the book given was-SCI]). Broekhaus (1992) argues that in these constructions the subject is not in the subject position, so that it is unclear whether the indirect object is topicalized.

1.4 Scrambling

The direct object in Dutch does not have to be adjacent to the verb.²¹ Irrespective of the position of the verb, the direct object can always be separated from it by adverbs.²²

- (36) a. Jan heeft (gisteren) Marie gekust
John has yesterday Mary kissed
"John kissed Mary yesterday."
b. Jan heeft Marie (gisteren) gekust
John has Mary yesterday kissed
"John kissed Mary yesterday."
- (37) a. .dat Jan (gisteren) Marie gekust heeft
that John yesterday Mary kissed has
".that John kissed Mary yesterday."
b. .dat Jan Marie (gisteren) gekust heeft
that John Mary yesterday kissed has
".that John kissed Mary yesterday."

In neutral speech, distinct intonational patterns are associated with the word orders in the a- and b-sentences, respectively.²³ In the a-sentences, the stressed syllable of *Marie*, *-rie*, is pronounced in a higher pitch than the preceding elements of the sentence, which are neutrally pitched, and the past participle *gekust* receives an even, low intonation. In the b-sentences, *Marie* has neutral pitch; the adverb *gisteren* receives an even, high intonation, which is continued up to the stressed syllable of the past participle, *-kust*, which is pronounced at an even higher pitch. In (37b), the auxiliary *heeft* gets a neutral, hence lower, intonation.

Many other intonational patterns are possible, however. In general, when *Marie* presents old information, it will be evenly pitched, at the same level of intonation as the preceding elements. In that case, the past participle in the a-sentences above will have the rising pitch described above for the b-sentences. When *Marie* presents new information it will have the low-high intonation described above for the a-sentences. In that case, everything following *Marie* will have an even, low intonation. More generally, any stressed element in the sentence may have a high intonation of its stress bearing syllable, and in that case everything following it will receive a flat, low intonation.

²¹ Except when the direct object is topicalized and the finite verb is in second position.

²² For indefinite objects, see section IV.2.3.

²³ See Van Buuren (1980) for discussion of the general features of intonation in Dutch.

When a sentence has a neutral intonational pattern, the direct object will present old information when it occurs to the left of the adverb, as in the a-sentences above, and new information when it occurs to the right of the adverb, as in the b-sentences above. As a result, indefinite noun phrases appearing to the left of an adverb receive a special interpretation, as is generally the case when an indefinite element presents old information (see section IV.2.2.4). Assuming that intonation is related to focus, the neutral intonation pattern in Dutch suggests that the position to the immediate left of the verb in embedded clauses is a default focus position.

The phenomenon that direct objects do not have to be adjacent to the verb will be referred to as *scrambling*.²⁴ As demonstrated by Neeleman (1990), two types of scrambling exist. The first type is described above. Its properties will be examined in more detail in section IV.2.2. The second type of scrambling, called *focus scrambling* by Neeleman, has entirely different properties. Through focus scrambling, objects may appear to the left of a subject, which is not possible through ordinary scrambling. The phenomenon is illustrated in (34a). The marked, balanced intonational pattern indicated there is characteristic of focus scrambling. Other distinguishing features are its unbounded character, and the fact that nonscrambling elements, like resultative predicates, may display it as well. Focus scrambling will be ignored in this study.

Indirect objects appear to the left of direct objects, and may be separated from them by adverbial material:

- (38) a. .dat Jan Marie (gisteren) het boek gegeven heeft
that John Mary yesterday the book given has
".that John gave Mary the book yesterday."
b. ? .dat Jan het boek Marie gegeven heeft
that John the book Mary given has
".that John gave Mary the book."
c. .dat Jan het boek Marie terug gegeven heeft
that John the book Mary back given has
".that John gave the book back to Mary."

(38b) is unacceptable in a neutral stress pattern, i.e. with *Marie* slightly focused. Almost any marked stress pattern makes (38b) acceptable, though. Thus, in (38c) the particle *terug* is in the default focus position, and the order of the objects appears to be free.

²⁴ This should not be confused with the use of the term *scrambling* for free order of meaningful elements. The term *object shift* would also be appropriate, but is also used for pronominal movement in the Scandinavian languages, where clitic placement would be a better term.

Indirect objects expressed in a PP have their neutral position to the right of the direct object:

- (39) a. .dat Jan het boek aan Marie gegeven heeft
 that John the book to Mary given has
 "...that John gave the book to Mary."
 b. .dat Jan aan Marie het boek gegeven heeft
 that John to Mary the book given has
 "...that John gave the book to Mary."

When the direct object and the indirect object are clitics, the word order phenomena are different, as will be discussed in section III.2.1.5.b.

1.5 Clitics

Dutch has sets of strong and weak subject and object pronouns (Koster 1978a, Berendsen 1986, Everaert 1986, Zwart 1991a).²⁷

(40) Strong subject pronouns

1SG	ik	1PL	wij
2SG	ji	2SG	jullie
3SG	hij/zij	3SG	zij

(41) Weak subject pronouns

1SG	'k	1PL	we
2SG	je	2PL	-
3SG	ie/ze	3PL	ze

(42) Strong object pronouns

1SG	mij	1PL	ons
2SG	jou	2PL	jullie
3SG	hem/haar	3PL	hen, hun

(43) Weak object pronouns²⁸

1SG	me	1PL	-
2SG	je	2PL	-
3SG	'm/'r/t	3PL	ze

²⁷ Object pronouns and indirect object pronouns are identical.

²⁸ In addition to the object clitics listed here, some dialects of Dutch have a partitive object clitic *r- some*. The expletive/locative element *er* 'there' and the reflexive pronoun *zich* 'Latin *se*' are generally regarded as clitics, too.

For reasons that will become clear in section III.2, I will refer to the weak pronouns as *clitics* (cf. Zwart 1992b).

When a subject clitic is the first element in a main clause, it is proclitic to the finite verb in second position.²⁹

- (44) 'k Heb Marie gekust
 I have Mary kissed
 'I kissed Mary.'

In constructions involving subject-verb inversion, the subject pronoun is enclitic to the verb.³⁰

- (45) Marie heb 'k gekust
 Mary have I kissed
 'Mary I kissed.'

In embedded clauses, the subject clitic is enclitic to the complementizer.

- (46) .dat 'k Marie gekust heb
 that I Mary kissed have
 "...that I kissed Mary."

Enclitic subject clitics cannot be separated from the verb, unlike full noun phrases (section 1.2) and strong pronouns (cf. Koster 1978a, chapter 1):

- (47) a. Marie heb ("gisteren) 'k niet gekust
 Mary have yesterday I not kissed
 "Mary I did not kiss yesterday."
 b. .dat ("gisteren) 'k Marie niet gekust heb
 that yesterday I Mary not kissed have
 "...that I did not kiss Mary yesterday."

²⁹ The 3SG masculine clitic *ie* is exceptional, in that it cannot appear as the first element of a main clause, unless the main clause in question is the second element in a coordinated construction. In that case, *ie* may be enclitic to the conjunction (*want i zat niec dieid* [for he-SCI sat not always] 'for he did not always sit down', from Nestio, *De uitbreiter* (1911), 6th impression, p. 15).

³⁰ The encliticization does not bleed the devoicing of the final consonant of the verb. Thus, *wand-je* [found he] is pronounced [wɔndj] instead of [wɔndj̥] (Booij 1985).

- (48) a. Marie heb (†gisteren) ik niet gekust
 Mary have yesterday I not kissed
 "Mary I did not kiss yesterday."
 b. .dat (gisteren) ik Marie niet gekust heb
 that yesterday I Mary not kissed have
 ".that I did not kiss Mary yesterday."

Object clitics are enclitic to the finite verb in subject initial main clauses, and cannot be separated from them:

- (49) Jan heeft (†gisteren) 'r gekust
 John has yesterday her kissed
 "John kissed her yesterday."

In main clauses introduced by an element other than the subject, the object clitics are separated from the verb by the subject.²⁰

- (50) a. Gisteren heeft Jan 'r gekust
 yesterday has John her kissed
 "Yesterday John kissed her."
 b. * Gisteren heeft 'r Jan gekust
 yesterday has her John kissed

In this case, the object clitic cannot be separated from the subject:

- (51) Daaron heeft Jan (†gisteren) 'r gekust
 therefore has John yesterday her kissed
 "That's why John kissed her yesterday."

Object clitics, unlike subject clitics, can never appear in the first position (Kruisinga 1938:95, Merckens 1961:152, Koster 1978a:210, Travis 1984:123):

- (52) a. Ze heeft Jan gekust
 she-SCL has John kissed
 "She kissed John."
 b. * 'r heeft Jan gekust
 her-OCL has John kissed
 "John kissed her."

²⁰ In West Flemish the order *verb/complementizer-object-clitic-subject* is grammatical (Haegeman 1991). I have also observed this in dialects spoken in the South of the Netherlands (e.g. *omdat 'r dat niet is* [because there that not is] 'because it's not there', instead of Standard Dutch *omdat dat 'r niet is* [because that there not is]).

In embedded clauses the object clitic again appears immediately to the right of the subject.²⁰

- (53) a. .dat Jan 'r gekust heeft
 that John her kissed has
 ".that John kissed her."
 b. * .dat 'r Jan gekust heeft
 that her John kissed has
 (54) .dat Jan (†gisteren) 'r gekust heeft
 that John yesterday her kissed has
 ".that John kissed her yesterday."

In double object constructions, when both objects are expressed as clitics, the two objects cluster together in the object clitic position. In the preferred order, the direct object precedes the indirect object, but the other order is also possible:

- (55) Jan heeft 'r gegeven
 John has it her given
 "John gave it her."

In Exceptional Case Marking constructions, the object of the embedded clause may precede the subject of the embedded clause if and only if the former is a clitic.²¹

- (56) a. Piet heeft 'r Jan zien kussen
 Pete has her John see kiss
 "Pete saw John kiss her."
 b. * Piet heeft Marie Jan zien kussen
 Pete has Mary John see kiss
 "Pete saw John kiss Mary."

1.6 Extraposition

When the verb is in final position (see section 1.2), a limited class of elements may appear to the right of the verb or the verbal cluster. These phenomena are usually grouped together under the name of *extraposition*.

²⁰ See note 29.

²¹ The full noun phrase object of the embedded clause may precede the subject of the embedded clause only as an instance of focus scrambling, see section 1.4.

Complement clauses invariably follow the verb.²²

- (57) a. .dat Piet zei dat Jan Marie kuste
that Pete said that John Mary kissed
"that Pete said that John kissed Mary."
b. .dat Piet dat Jan Marie kuste zei
that Pete that John Mary kissed said
- (58) a. .dat Jan wilde proberen om Marie te kussen
that John wanted try OM Mary to kiss
"that John wanted to try to kiss Mary."
b. .dat Jan om Marie te kussen wilde proberen
that John OM Mary to kiss wanted try

Adjunct clauses may also follow the verb, but they may appear in various positions further to the left:

- (59) a. .dat Jan Marie kuste toen de film begon
that John Mary kissed when the movie started
"that John kissed Mary when the movie started."
b. .dat Jan Marie toen de film begon kuste
that John Mary when the movie started kissed
"that John kissed Mary when the movie started."
c. .dat Jan toen de film begon Marie kuste
that John when the movie started Mary kissed
"that John kissed Mary when the movie started."
d. .dat toen de film begon Jan Marie kuste
that when the movie started John Mary kissed
"that when the movie started John kissed Mary."

Relative clauses may appear to the right of the verb, but also to the immediate right of their antecedent:

²² Koster (1989) notes examples of complement clauses to the left of a finite verb in final position. These constructions appear to have the focus scrambling characteristics (see L4). Thus Koster's example *.dat Jan (dat...) altijd betreurde heeft* 'that John always regretted [that...]' is only grammatical with the intonational pattern found in focus scrambling constructions, with a balance of two stressed elements (in this case, some part of the embedded clause must be stressed, as well as either *altijd* 'always' or *betreurde* 'regretted').

- (60) a. .dat Jan het meisje gisteren kuste dat hij liefhad
that John the girl yesterday kissed that he loved
"that John kissed the girl yesterday that he loved."
b. .dat Jan het meisje dat hij liefhad gisteren kuste
that John the girl that he loved yesterday kissed
"that John kissed the girl he loved yesterday."
c. Het meisje dat hij liefhad heeft Jan gekust
the girl that he loved has John kissed
"The girl he loved, John kissed."
"The girl he loved kissed John."

In the latter case, the relative clause and its antecedent may not be separated (Kaan 1992):

- (61) a. .dat Jan het meisje gisteren dat hij liefhad kuste
that John the girl yesterday that he loved kissed
b. Het meisje heeft Jan dat hij liefhad gekust
the girl has John that he loved kissed

Free relatives may also appear on either side of the verb (cf. Smits 1989:379):

- (62) a. .dat Jan kust wie hij liefheeft
that John kisses who he loves
b. .dat Jan wie hij liefheeft kust
that John who he loves kisses
"that John kisses who he loves."

Prepositional phrases are always allowed to appear to the right of the verb in final position, with one significant exception. The exception concerns predicative PPs, which must appear to the immediate left of the verb or verb cluster. The rule is illustrated in (63)-(67), the exception in (68):

- (63) a. .dat Jan houdt van Marie
that John holds of Mary
"that John loves Mary."
b. .dat Jan van Marie houdt
that John of Mary loves
"that John loves Mary."
- (64) a. .dat Jan een boek geeft aan Marie
that John a book gives to Mary
"that John gives a book to Mary."
b. .dat Jan een boek aan Marie geeft
that John a book to Mary gives
"that John gives a book to Mary."

- (65) a. *.dat Jan vertieft is op Marie*
that John in love is on Mary
"that John is in love with Mary."
b. *.dat Jan vertieft op Marie is*
that John in love on Mary is
"that John is in love with Mary."
- (66) a. *.dat Jan de jas van de zus droeg van Marie*
that John the coat of the sister wore of Marie
"that John was wearing Mary's sister's coat."
b. *.dat Jan de jas van de zus van Marie droeg*
that John the coat of the sister of Marie wore
"that John was wearing Mary's sister's coat."
- (67) a. *.dat Jan Marie kuste tijdens de film*
that John Marie kissed during the movie
"that John kissed Mary during the movie."
b. *.dat Jan Marie tijdens de film kuste*
that John Marie during the film kissed
"that John kissed Mary during the movie."
- (68) a. * *.dat het lijk was in de kast*
that the body was in the closet
"that the body was in the closet."
b. *.dat het lijk in de kast was*
that the body in the closet was
"that the body was in the closet."

In (63)-(64), the PP can be regarded as a complement to the verb. In the a-sentences of (65)-(66) the PP appears to be extracted out of an AP and an NP, respectively. In (67), the PP is an adjunct and may in fact appear in various positions further to the left as well. In (68) finally, the PP is a locational predicate with *het lijk* 'the body' as its subject. In this case is the PP not allowed to appear to the right of the verb in embedded clauses.³³

Adverbs show the same distribution as adjunct PPs, and hence may appear to the right of the verb in embedded clauses as well (cf. (67)):

³³ Another type of exception involves idioms containing PPs. These PPs may not appear to the right of the verb in final position, even if they cannot be analyzed as predicates. Thus, whereas *Deet kon je op je vingers nasleuten* [that can you on your fingers after-count] 'You can check that (by calculating) on your fingers has an idiomatic meaning that is an invariable result', this reading is lost when the PP *op je vingers* 'on your fingers' appears to the right of the verb *nasleuten* 'check'. See Koster (1983) for a minimalist account of the distribution of these PPs in Dutch.

- (69) a. *.dat Jan Marie kuste gisteren*
that John Marie kissed yesterday
"that John kissed Mary yesterday."
b. *.dat Jan Marie gisteren kuste*
that John Marie yesterday kissed
"that John kissed Mary yesterday."

Predicative elements, like the locative PP in (68), invariably appear to the immediate left of the verb in embedded clauses:

- (70) a. * *.dat Jan de kast vond leeg*
that John the closet found empty
"that John found the closet empty."
b. *.dat Jan de kast leeg vond*
that John the closet empty found
"that John found the closet empty."

2 Previous Treatments within Generative Grammar

This section briefly summarizes the standard analysis of Dutch syntax within the theoretical framework of generative grammar.

The standard analysis goes back to the pioneering work of Jan Koster and Hans den Besten in the 1970s. This work yielded the two cornerstones for every analysis of Dutch syntax in the two decades to follow. These two cornerstones are the following hypotheses:

1. Dutch is an SOV language.
2. In Dutch tensed main clauses the verb invariably moves to C.¹

These two hypotheses, and their consequences, will be discussed in the following two subsections.

¹ C is the position of the complementizer. It is assumed to be the head of a functional projection CP since Chomsky (1986b) (cf. Figure 1 in section 1.2). Before that, the complementizer position was referred to as COMP. The COMP position was not a functional head, and could be adjoined to by maximal projections.

2.1 Dutch as an SOV Language

In generative grammar, a language *L* is defined as an SOV language if all possible word orders of *L* are derived from an initial representation in which the order of meaningful elements is Subject-Object-Verb.

It was concluded as early as Bach (1962) and Bierwisch (1963) that German is an SOV language in this sense.² German displays by and large the same word order phenomena as described for Dutch in section 1.2.1 (the position of the verb), 1.3 (topicalization and wh-movement), and 1.4 (scrambling).

Bach (1962) shows that the position of the finite verb in German main clauses (i.e. the second position) can be derived by a single transformation, if we assume that the basic order in German is SOV. To make sure that this transformation does not apply in embedded clauses, Bach makes crucial reference to the sentence boundary symbol in the description of the rule.³ Bach's *Verb Second* transformation obligatorily moves the finite verb to the second position to the right of the sentence boundary. This transformation follows the other rules which determine the order of subject and object, for instance. This ordering makes the formulation of a single rule governing verb movement possible.⁴

Koster (1975) is the first generativist treatment of the basic order question for Dutch.⁵ In the spirit of Bach (1962), Koster argues for a

² For a discussion of the status of German in traditional grammatical frameworks, see Scaglione (1981). In the 19th century a consensus arose as to the SOV status of Proto-Indo-European and Proto-Germanic (cf. Behagel 1878, Delbrück 1911). It was assumed that the present asymmetric character of German is due to an unfinished shift from SOV to SVO status. After a period of uncertainty, the shift was apparently halted around 1500-1600. For unclear reasons, the embedded clause word order reverted to SOV, whereas the main clause word order remained SVO.

³ This requires a distinction between a clause boundary and a sentence boundary, and a rule changing the first into the latter at some point in the derivation of a sentence in the proper contexts.

⁴ Bach's view was challenged by J.R. Ross (1970), who concluded that German was an SVO language on account of the fact that it allows forward gapping, which is unexpected in a truly verb final language. Bach appears to have been convinced by this argument (cf. Bach 1971). Ross on his turn became convinced that German was SOV after his analysis of gapping was challenged by Maling (Maling 1972, see Koster 1975:112). Koster (1975) is in part an improvement of Maling's argument. The discussion concerning basic word order typology was obscured in the late 1960's, early 1970's by the emergence of the theory of generative semantics, which on principled grounds favored a VSO base, or a base without linear ordering. This explains the hesitance of Koopij (1973:26) on the matter. For recent suggestions in this direction within the principles and parameters approach, see Ouhalla (1991).

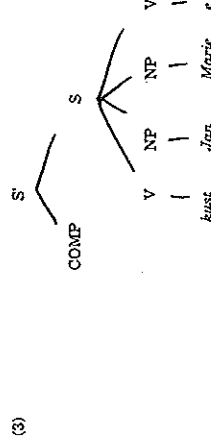
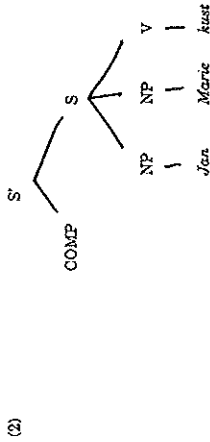
⁵ The paper was first read at the first annual meeting of the Algemene Vereniging voor Taalwetenschap in January 1973 and published in the proceedings of that meeting as Dutch as a SOV Language (Krank, ed., 1975).

single verb movement transformation deriving the various main clause word orders of Dutch. This transformation (called *Verb Placement*) moves finite verbs to the left of the subject and to the right of a clause initial position called COMP.⁶ This COMP position must be substituted for by either the subject (in subject initial main clauses), or a wh-phrase (in wh-constructions), or a non-subject (in topicalizations).

Koster defines Verb Placement as follows:

(1)	Verb Placement
	X - COMP - Y - V - Z
S.D.	1 2 3 4 5
S.C.	1 2 4+3 Ø 5
	→ obl.

Verb Placement turns the initial representation (2) into the intermediate representation (3):



⁶ See note 1 of this section.

The COMP position is filled by subsequent transformations, so that the verb ends up in the second position in the final representation.

In (3), the finite verb is immediately dominated by the root node S. Thus, Verb Placement is a root transformation (see Emonds 1970). It follows that Verb Placement cannot take place in embedded clauses.

To be more exact, it must be stipulated that Verb Placement is a root transformation *only*, or a *last cyclic rule*. Koster notes that there are many transformations that are last cyclic only, but no known cases of transformations that take place in every cycle but the last. If the embedded clause word order were derived from the main clause word order, we would be forced to accept a non-last cyclic verb postposing rule. This is less attractive than positing Verb Placement as a last cyclic rule.

Thus, by embedding Verb Placement in a general theory of possible transformations, and by characterizing it as a last cyclic rule, Koster maintains Bach's result that a single rule takes care of the position of the finite verb in all constructions.

In addition, Koster presents an empirical argument for the basic SOV order of Dutch which has become influential.⁷ Koster notes that in main clauses in Dutch containing a particle-verb construction, the particle and the verb constitute a discontinuous category embracing all other categories (except the first element):

- (4) a. Jan beide gisteren Marie op
 John called yesterday Mary up
 "John called Mary up yesterday."
 b. * Jan beide gisteren op Marie
 John called yesterday up Mary
 c. * Jan beide op gisteren Marie
 John called up yesterday Mary
 d. * Jan op beide gisteren Marie
 Jan up called yesterday Mary

Koster assumes that verb-particle combinations are compound verbs, i.e. the particle and the verb are both generated in V.⁸

This implies that one of two situations obtains in Dutch. Either there is a rule moving particles to the right in main clauses and embedded clauses, and a second rule moving the finite verb to the right in embedded clauses; in that case Dutch has a basic SVO order. Or there is no rule affecting the position of the particle and there is a rule moving the finite

⁷ Koster (1975) also presents another empirical argument in support of the hypothesis that the main clause word order is derived from the embedded clause word order, involving the distribution of PPs in main and embedded clauses.

⁸ According to Koster's present analysis, the particle is either incorporated as part of V or moved to the specifier position of a PredP (Koster 1993, cf. section IV.2.3).

verb to the left in main clauses (Verb Placement); in that case Dutch has a basic SOV order.

It is obvious that the rule system connected with the basic SOV order is more economical.

Koster then proceeds to demonstrate that the particle in (4a) signals the basic verb position, by showing that the particle in the main clause has exactly the same distributional properties as the finite verb in the embedded clause. In particular, all and only those elements that may appear to the right of the finite verb in embedded clauses may appear to the right of the particle in main clauses (cf. section 1.6). This will go without demonstration here (see Koster 1975:119H).

Koster's conclusion that Dutch is an SOV language has deeply influenced the study of Dutch syntax in the generative framework.

First, the analysis of the main clause word order of Dutch as involving a combination of verb preposing and topicalization has become standard (see among others Den Besten 1977, Thiersch 1978, Koopman 1984, Weerman 1989).

Second, the characterization of Dutch as an SOV language was often considered to imply that the VP in Dutch is head final. Consequently, when the existence of the independent functional head for inflectional features *I(nfl)* was established, it was concluded that its maximal projection *IP* was head final as well.⁹ In connection with this, it was assumed that the finite verb in embedded clauses occupies the *Infl*-position in overt syntax.

These assumptions were based on the idea that the inflectional morphemes are generated in *Infl*, and have to be combined with the verbal stem in overt syntax ('at S-structure'). It was assumed that in English this combination takes place by lowering the inflectional morphemes onto the verbal stem in V, whereas in Dutch, the verbal stem raises to the inflectional morphemes in *Infl*.¹⁰ Since finite verbs are clause final in

⁹ The idea that inflectional elements are generated separately from verbal stems is already present in Chomsky (1957), and is rooted in the post-Bloomfieldian practice of considering inflectional morphemes as separate constituents (Zwart 1993). The idea that *Infl* is the head of the clause appears to be due to Ken Hale, who proposed this in class lectures at MIT in 1977 (see Stowell 1981:99, Safir and Pesetsky 1981:942, Borer 1981:116). This idea appears to have been wide-spread around the year 1980. The idea that *Infl* projects a regular X-bar structure, with a specifier and a complement, was first formulated in Stowell (1981:67), see also Pesetsky (1982:253).

¹⁰ The reordering of inflectional morphemes and lexical stems was introduced as a linear permutation rule in Chomsky 1957:52. This rule, later called *Affix Hopping*, did not yet have the hierarchical dimension associated with the terms *raising* and *lowering*. The *raising/lowering* distinction was introduced in Emonds (1976) to account for differences in verb position between French and English. The lowering rule is adopted as *Rule R* in Chomsky (continued...)

embedded clauses in Dutch, it follows that *Infi* is located to the immediate right of the VP in languages like Dutch and German. The same logic applies to the infinitives with *te*. *Te* was considered as an inflectional element, generated in *Infi*, and the verb stem was analyzed as raising to *te* in overt syntax. These assumptions have yielded a kind of typological truisms, according to which SOV languages have head final functional projections.

A third major consequence of the assumption that Dutch is an SOV language was that a number of rightward movement rules had to be assumed. Thus, the phenomena described in section 1.6 (known as extraposition phenomena) were considered to involve movement to the right across the verb. These rightward movements were also empirically motivated by the existence, in various languages, of constructions where clauses and PPs are separated from the elements they appear to belong to (cf. Ross 1967):

- (5) a. A book on linguistics came out today
 b. A book came out today on linguistics
 (6) a. A book that I wrote years ago came out today
 b. A book came out today that I wrote years ago

A fourth major consequence of the analysis of Dutch as an SOV language has been the introduction of a directionality parameter for grammatical relations. Since Dutch is an SOV language, one could suppose there to be a canonical direction of government in Dutch, according to which heads govern their complements only in a right-to-left fashion. SOV languages, like English and Italian, would have the opposite canonical direction of government.

The idea that the verb governs to the left in Dutch suggests an account for the distribution of noun phrase complements and clausal complements (Reuland 1981). Noun phrases must be formally licensed through Case assignment (Vergnaud 1979, Chomsky 1981), and Case is assigned to a direct object under government by the verb (Chomsky 1981). Clausal complements do not need to be licensed through Case assignment; in fact, they resist Case (Stowell 1981). One could assume that for that reason sentential complements flee from positions in which they would otherwise be assigned Case. Hence, in Dutch they move to the right of the verb,

¹³ (...continued)

1981. Chomsky (1981) proposes a combination of lowering in overt syntax and raising at LF for English (sometimes referred to as *yojo-movement*), but this analysis was rejected in Chomsky (1992), where it is assumed that functional heads host abstract features instead of concrete morphemes. On this assumption, lowering is just the absence of overt verb movement.

where they are not governed by the verb and consequently cannot be assigned Case by the verb.¹¹

2.2 Verb Movement to C

Koster's Verb Placement transformation moves the finite verb to a position to the left of the subject and to the right of the clause initial element COMP (followed by movement of a maximal projection to COMP). Den Besten (1977) modified this analysis slightly, by arguing that all root transformations involve movement to COMP.¹²

Thus, in Den Besten's influential analysis, the target of the verb movement in finite clauses in Dutch is COMP itself. Wh-movement, topicalization, and subject preposing also move constituents into COMP. The verb is adjoined to the right of COMP, and the other proposed constituents are adjoined to the left of COMP.

Den Besten asserts that there are two sets of root transformations, the verb movement transformation making up one set and the other root transformations making up the other. Only one transformation per set may be chosen for each sentence.¹³

Den Besten's principal argument in support of the hypothesis that all root transformations involve COMP is based on the consideration that preposings must involve raising to a higher position, rather than leftward shifting to a sister position.¹⁴ Thus, an element that is preposed out of S has to move to the sister position of S, or higher. Since COMP is the only known sister of S, all preposings must target COMP.

Den Besten in addition presents some empirical evidence in favor of the idea that verb preposing invariably involves movement to COMP (1989:25f). Recall from section 1.5 that Dutch subject clitics have to be adjacent to the complementizer in embedded clauses. As was illustrated there, the subject clitics similarly have to be adjacent to the finite verb in

¹¹ The idea of directionality of government has had numerous other implementations (see a.o. Kayne 1984, Koster 1987, Bayer 1990). Space does not permit a full discussion of the relevant work in this study.

¹² Recall that before Chomsky (1986b) the clause initial element COMP was thought of as containing both fronted maximal projections and the verb complementizer. These two functions of COMP were later distributed among the specifier of CP and C, respectively.

¹³ This distinction between two sets of root transformations to COMP foreshadows the distinction between head movement to C and XP-movement to the specifier of CP (cf. Chomsky 1986b).

¹⁴ For the details of this argument the reader is referred to the original text. Den Besten (1989:40ff).

topicalization constructions. This can be captured in a single statement if the verb occupies the complementizer position in topicalizations.

As Den Besten admits, this evidence is neutral as regards the proper description of subject initial main clauses (1989:25). Den Besten nevertheless concludes that the verb moves to COMP in this case as well, since "the superiority of a grammar of Dutch that accounts for all verb preposings by means of one rule that moves the verb from a VP-final position (...) to one specified position in COMP, is evident" (*loc.cit.*).

In a later modification, Den Besten argues that verb movement in the COMP is not adjunction to the complementizer, but substitution in the position of the complementizer.¹⁵ This explains why the proposed verb and the complementizer are never found in COMP together.¹⁶

In this modified version, Den Besten clearly links verb preposing to tense. The COMP position is considered as a tense position, because the complementizer *dat* specifically requires a finite verb, and the complementizer *om* specifically requires a *te*-infinitive. Verb preposing is then redefined as 'Move Tense'. This movement is blocked when the tense position (COMP) is already lexically filled, but obligatory whenever the complementizer is absent.

There is a very clear complementary distribution of the complementizer and the finite verb in German. In certain embedded clauses in German the complementizer can be left out. In that case, the embedded clause has the main clause word order:¹⁷

- (7) a. Johann küßt Maria
 John kisses Mary
 b. * Johann Maria küßt
 John Mary kisses
- German

¹⁵ This modification was published as Appendix II to Chapter 1 of Den Besten (1989), but dates back from a presentation at CLOW in 1978. The Appendix contains other modifications as well, for instance in arguing for a landing site for Wh-elements outside COMP. This is another step towards the development of a specifier of CP. This latter modification appears to be based on the analysis of topicalization of Koester (1978b).

¹⁶ In the adjunction analysis proposed by Den Besten in his original text, it was assumed that the complementizer is automatically deleted when the verb moves to COMP.

¹⁷ The subjunctive (SUB) verb form shows that the embedded verb second clauses are really subordinated, according to Schwartz and Vikner (1989). Similar constructions are also possible in colloquial Dutch, as illustrated in section 1.2.1. Note, however, that the embedded verb movement in colloquial Dutch is possible with the complementizer present, unlike in German.

- (8) a. Peter behauptet daß Johann Maria küsse
 Pete claims that John Mary kisses-SUBJ
 "Pete claims that John kisses Mary."
 b. * Peter behauptet daß Johann küsse Maria
 Pete claims that John kisses-SUBJ Mary
- (9) a. Peter behauptet, Johann küsse Maria
 Pete claims John kisses-SUBJ Mary
 "Pete claims that John kisses Mary."
 b. * Peter behauptet, Johann Maria küsse
 Pete claims John Mary kisses-SUBJ

A similar complementarity is found in counterfactuals in both German (10) and Dutch:

- (10) a. ...als ob der Himmel die Erde still geküßt hätte
 as if the sky had silently kissed the earth. silently kissed had-SUBJ
 "...as if the sky had silently kissed the earth."
 b. ...als hätte der Himmel die Erde still geküßt
 as had-SUBJ the sky the earth silently kissed
 "...as if the sky had silently kissed the earth."

The complementary distribution of the complementizer and the fronted finite verb is often adduced as an argument for the correctness of the hypothesis that verb fronting involves movement to COMP.¹⁸

Den Besten's analysis has had a considerable impact on the study of Dutch and other Germanic languages.¹⁹

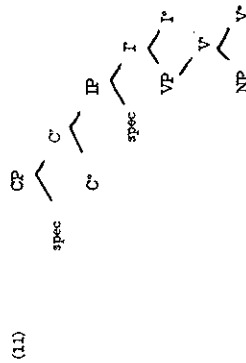
In the next subsection, the standard analysis of the phenomena of Dutch syntax (based on the assumption that Dutch is an SOV language with invariant movement to C in main clauses) will be briefly sketched.

¹⁸ As will become clear in section 3.2, the complementary distribution of complementizer and verb does not prove Den Besten's analysis to be correct (cf. also Travis 1991). I will argue in section III.4.1 that this complementary distribution actually supports the hypothesis that verb movement in subject initial main clauses does not target the complementizer position. ¹⁹ See among many others Kayne (1982), Platzack (1983), Holmberg (1986), Haider and Prinsborn, eds. (1986), Vikner (1991a). The short list of dissidents includes Travis (1984, 1991), Rhenaholtz (1989), Zwart (1991a). For Verb second effects in Romance described in terms of Den Besten's analysis, see Rizzi (1990b), Lema and Rivero (1992). Verb Second effects in non-Indo-European languages are also standardly described in terms of movement to C. See Sproot (1985) and Schäfer (1991) for Celtic, among others, and Bluck (1992) for Shqipëri.

2.3 The Standard Analysis of the Phenomena of Dutch Syntax

The phenomena of Dutch syntax listed in section 2.1 have received the following standard analysis in the *Government and Binding* framework of generative grammar. Most features of this analysis derive from the basic assumptions discussed above: Dutch is an SOV language and the verb moves to C in main clauses.

It follows from the SOV status of Dutch, and from the assumption that SOV languages have a head final IP, that Dutch sentences are structured as in (11):



The inflectional morphemes, including *te*, are generated in *I*. The verbal stem, generated in *V*, raises to *I* in order to combine the verbal stem and the inflectional morphemes. In main clauses, tensed verbs move on to *C*.

The subject occupies the *spec* position of *IP* in embedded clauses. In main clauses, the subject either moves to the *spec* position of *CP* (a subcase of topicalization), or stays in the *spec* position of *IP*. In the latter case, the *spec* position of *CP* is occupied by another *XP*, by way of topicalization or *wh*-movement.

Complementizer agreement, first noted in the generative framework in Den Besten's Appendix II to his 1977 paper (Den Besten 1989:93), has given rise to two types of analysis. First, one could argue that *C* is an inflectional category, hosting abstract agreement features. In Chomsky (1981), these abstract agreement features are generated as a subpart of *I*. It could be the case that in Dutch they are generated as a subpart of *C* (Bayer 1984a:249, Bennis and Haegeman 1984:41, Koopman 1984:214, Haider 1986:69).

According to a second analysis, the agreement morphology originates in *I* but is moved to *C*, where it shows up on the complementizer (Hoekstra and Mátarac 1989).

For *topicalization*, basically two analyses have been proposed. According to one analysis, the topic is moved to the *spec* position of *CP*

(Koster 1975, Baltin 1982). According to the other analysis, topicalization involves base generation of the topic outside *CP* (Chomsky 1977, Koster 1978b). In this analysis, the *spec* position of *CP* is occupied by an empty operator (Chomsky) or a possibly empty- demonstrative pronoun (the *d*-word, Koster), which is moved from within the *VP*. The latter analysis is supported by the existence of constructions like (12), in which the presence of the *d*-word *die* is optional:

- (12)
- | | | | | |
|------|----------------------|------|----|------|
| Jan | (die) | ken | ik | niet |
| John | that one | know | I | not |
| | "John I don't know." | | | |

In both analyses, the placement of the subject in front of the finite verb in main clauses is considered to be a subcase of topicalization. Subjects may be resumed by a *d*-word as well:

- (13)
- | | | | |
|------|----------------------|-------|------|
| Jan | (die) | komt | niet |
| John | that one | comes | not |
| | "John doesn't come." | | |

Wh-movement in both main clauses and embedded clauses targets the *spec* position of *CP* (Chomsky 1986b).

The standard analysis of *scrambling* goes back to Kerstens (1975), Van Riemsdijk (1978) and De Haan (1979). According to this analysis, adverbs have a fixed position. Sentence adverbs, like *gisteren* 'yesterday', are adjoined to *VP*. As a result, scrambling consists in optional movement of a noun phrase to the left.²⁰

It was discovered in the mid 1980s that scrambled objects in Dutch license parasitic gaps (Bennis and Hoekstra 1984, Koster 1984; cf. Felix 1983 for German):

- (14)
- | | | | | | | | | | | |
|------|---|--------|---------|----|-----|----|--------|---|--------|-------|
| -dat | Jan | Maria, | zonder | er | aan | te | kijken | t | gekust | heeft |
| that | John | Mary | without | | on | to | look | | kissed | has |
| | "that John kissed Mary without looking at her." | | | | | | | | | |

In (14), the direct object *Marije* is moved from the position indicated by the trace across the adjunct clause *zonder aan te kijken* 'without looking at' as an instance of scrambling. The adjunct clause contains a gap which is parasitic on the trace of the direct object.

The fact that scrambling licenses parasitic gaps characterizes it as an instance of *A'*-movement (movement to a position that is not a potential

²⁰ The other possibility, according to which noun phrases have a fixed position and adverbs optionally move to the right, was commonly held in the early 1970s (cf. Keyser 1968, Booij 1974).

argument position, Chomsky 1981). This has become a standard aspect of the analysis of scrambling in Dutch.²¹

The *clitic* status of the weak pronouns in Dutch is argued for in Koster (1978a:209f) and Van Riemsdijk (1978:33). Stowell (1981:120f) follows their argumentation and concludes that these clitics must be adjoined to a head position to the left of the VP.²² In general, however, the consensus was that the Germanic clitics differ from the Romance clitics in that the former are adjoined to VP, whereas the latter are adjoined to heads (Everaert 1986). In this view, then, scrambling is an optional leftward shift inside VP, and the Dutch clitics are left-adjoined to VP. This explains why clitics show up further to the left than full NPs.

Elements appearing to the right of the clause final verb position, such as clausal complements and adjuncts, relative clauses, PPs, and adverbials are assumed to have been moved there by rightward *extraposition*, crossing the final verbal position.²³

This concludes the survey of the main aspects of the standard analysis of Dutch syntax within the *Government and Binding* framework. In the next subsection, I will discuss certain aspects of this analysis which are problematic within the set of assumptions which make up the Government and Binding framework.

3 Problems of the Standard Analysis

In this section, I will mention a number of problems connected with the traditional analysis of Dutch syntax as sketched in section 1.2. These are problems from the point of view of the relevant stage of the theoretical framework, i.e. the Government-Binding approach.

Obviously, theoretical developments, such as the emergence of the minimalist approach, necessitate reassessments of traditional analyses.

²¹ Later developments have made it clear that scrambling in Dutch also has many properties of A-movement. See Vanden Wyngaert (1989a), and section IV.2.2.2.

²² Stowell (1981) argues for a double headed VP in Dutch. The head position to the right is the basic position of the verb, the head position to the left is the verb second position. In a footnote (in 25, p.221) Stowell notes that 'it may be that (...) the second position corresponds to the INFL position in S, suggesting that INFL should be included in the discontinuous verb complex'.

²³ The alternative analysis, according to which complement clauses are base-generated to the right of the final verbal position, faces the problem that different basic positions for clausal objects and noun phrase objects must be assumed (cf. Hoekstra 1987).

However, it is important to note that the traditional analysis of the syntax of Dutch already had many problematic aspects, even within the framework of the Government and Binding approach. In fact, the traditional analysis is basically a pre-Government and Binding analysis, which failed to make the transition into the Government and Binding stage (even though its main points were widely accepted within that stage).

It comes as no surprise, therefore, that a further sharpening of the notions that became important in the Government and Binding era (such as economy of derivation and representation, visibility, Full Interpretation, feature checking), which yields the minimalist approach, makes the standard analysis untenable in a very obvious way. The problematic aspects of the standard analysis were already clearly present in the Government and Binding era.

3.1 INFL

In the standard analysis of Dutch syntax inflected verbs occupy the INFL position in overt syntax, in embedded clauses, or the COMP position, in main clauses. The underlying assumption in this analysis is that inflectional morphology is generated in INFL and has to be combined with a verbal stem in overt syntax (cf. Lasnik 1981).

A problem of this aspect of the analysis is that there are two ways to combine the verbal stem and the inflectional morphology. The verb can raise to INFL, but INFL can also lower onto the verb. This latter mechanism is assumed to apply in English (Ermonds 1976, Chomsky 1981).

Assuming that INFL in English is occupied by the auxiliary *do*, by modal verbs like *will*, and by the infinitival marker *to*, constructions like (1) indicate that INFL is located to the left of VP:

- (1) a. John did not kiss Mary
b. John tried to quickly kiss Mary

Quickly is a VP modifying adverb (instead of a sentence modifying adverb like *yesterday*). It is assumed to occupy a VP internal or VP adjoined position. Therefore, (2) shows that finite verbs in English may occupy a VP internal position:

- (2) John quickly kissed Mary

On the assumption that inflectional morphology is generated in INFL, (2) must be derived from (3), and the inflectional morphology must have moved down to the verbal stem to yield (2).

- (3) John -ed quickly kiss- Mary

A similar example of lowering is provided by Swedish. Swedish, unlike English, displays the same asymmetry between main clauses and embedded clauses as Dutch and German (Kosmeijer 1986). Thus, in main clauses the finite verb is in second position, and in embedded clauses it is further to the right. Unlike Dutch and German, however, and like English, embedded clauses in Swedish show an SVO word order. For this reason, the asymmetry between main and embedded clauses can only be demonstrated when the sentence contains an adverbial.

It is assumed that the negative element *inte* 'not' is such an adverbial. Furthermore, it is assumed that *inte* marks the VP boundary. Thus, Swedish has the following paradigm:

- (4) a. Johann köpte into boken Swedish
John bought not book the
"John didn't buy the book."
b. *Johann inte köpte boken
John not bought book the
- (5) a. *...att Johann köpte into boken
that John bought not book the
b. ...att Johann inte köpte boken
that Johann not bought book the
"...that John didn't buy the book."

The word order in (5b) indicates that the finite verb is inside the VP in embedded clauses in Swedish. Thus, whereas the phenomena of Dutch and Swedish are identical, the set of assumptions leading to the analysis of verb raising to INFL in Dutch leads to an analysis of INFL lowering in Swedish.

Therefore, the choice for verb raising in the analysis of Dutch embedded clauses, instead of INFL lowering, is arbitrary.¹

The suggestion that the verb moves to INFL in embedded clauses in Dutch would be stronger if it resulted in perceptible changes in word

¹ It has been argued that Dutch and Swedish differ in one important respect, namely the number of different inflectional forms within a verbal paradigm (Holmberg and Platzack 1989, Vainor 1991b, Roberts 1993). Thus, Dutch has 3 different verb forms within the present indicative paradigm, whereas Swedish has only 1 verb form for all persons and numbers in each paradigm. However, that does not detract from the fact that the Swedish finite verb forms are clearly both marked and perceived as finite, since the forms for present and past are different, and also the infinitival form differs from the finite forms. The finite verb forms are recognized as such from the earliest period of language acquisition (Wexler 1991).

order. However, the verb-to-INFL movement, if it takes place, is always vacuous (Reuland 1990b).

This is not a necessary state of affairs. It could be that there are adverbial elements, or PPs, or clausal complements or adjuncts adjoined to the right of VP and that these elements were crossed by the verb on its way to INFL. But this can never be demonstrated.

In part, this is due to two other assumptions of the standard analysis. First, the extraposition rule always moves clausal complements to the right. Apparently, this means to the right of INFL. Second, it is assumed that all verbs, including the non-finite forms, move to INFL. As a result, nothing is left behind to mark the original position of the verb. This makes the verb raising vacuous by definition.

However, the conclusion that nothing is left behind to mark the original position of the verb cannot be drawn as easily as that. First, while infinitives obligatorily form a cluster, past participles appear to be included in the cluster only optionally. They may show up both to the left and to the right of the cluster:

- (6) a. ...dat Jan Marie gekust zou moeten hebben
that John Marie kissed should must have
"...that John should have kissed Mary."
b. ...dat Jan Marie zou moeten hebben gekust
that John Marie should must have kissed

Other orders are excluded in standard Dutch (but not in West Flemish, for instance, cf. section IV.2.4). The verb clustering mechanism in its simplest form (adjunction to the right) yields (6b), not (6a). It may be the case then, that the past participle is left behind in the verb position in (6a).

If so, it should be possible for adjuncts that are right adjoined to VP to intervene between the past participle and the finite verb if the latter moves to INFL. But this is never the case:

- (7) a. *...dat Jan Marie gekust tijdens de film heeft
that John Marie kissed during the movie has
b. ...dat Jan Marie tijdens de film gekust heeft
that John Marie during the movie kissed has
"...that John kissed Mary during the movie."

So the vacuous movement hypothesis for verb-to-INFL movement requires a verb clustering mechanism that moves past participles out of the VP, but to different positions in (6a) and (6b).

A similar consequence applies to verb particles and resultative predicates. Recall from the discussion of Koster (1975) that particles are assumed to be part of a compound verb, left behind when the verb is preposed. It must now be assumed that the particle does move along with

the verb to INFL, and is stranded there. Otherwise, the participle would mark the original position of the verb, and we would expect certain elements to be able to intervene between the participle and the verb in INFL. But this is never found:

- (9) a. * ..dat Jan Marie op tijdens de film beide
 that John Mary up during the movie called
 b. ..dat Jan Marie tijdens de film op beide
 that John Mary during the movie up called
 "...that John called Mary up during the movie."

Similarly for resultative predicates:

- (9) a. * ..dat Jan de deur rood met één kwast vertéde
 that John the door red with one brush painted
 b. ..dat John met één kwast de deur rood vertéde
 that John with one brush the door red painted
 "...that John painted the door red with a single brush."

These elements must also be assumed to move along to INFL, because nothing may appear between them and the verb. This is not an attractive conclusion, because resultative predicates can be phrasal (i.e. *rood 'red' in (9) can be replaced by the phrase *net zo rood als de kast 'just as red as the closet'*).*

Thus the hypothesis of vacuous verb-to-INFL movement can only be maintained on the auxiliary assumption that all elements that *could* have marked the original position of the verb, whether heads or phrases, are moved along in the vacuous movement to INFL. This makes the hypothesis rather suspect.

In addition, Reuland (1990b) presents an empirical argument against vacuous verb-to-INFL movement in Dutch. This argument is based on the hypothesis that adverbial scope is determined by hierarchical rather than linear relations (cf. Reinhart 1976). Thus, an element higher in the tree has scope over an element lower in the tree, regardless of linear order. In SOV languages like Dutch, VP-internal elements are ordered in such a way that the linear order equals the hierarchical order. Thus, both sentences in (10) have only one reading:

- (10) a. ..dat Jan Marie herhaaldelijk op beide wangen gekust heeft
 that John Mary repeatedly on both cheeks kissed has
 "...that John repeatedly kissed Mary on both cheeks."
 b. ..dat Jan Marie op beide wangen herhaaldelijk gekust heeft
 that John Mary on both cheeks repeatedly kissed has
 "...that John on both cheeks kissed Mary repeatedly."

In (10a), John on several occasions kissed Mary twice, once on each cheek. In (10b), John gave each of Mary's cheeks a streak of kisses.

Since *op beide wangen* 'on both cheeks' is a PP, it can presumably be adjoined to the right of the VP.² This is not visible if all verbal material has moved out of VP to INFL, yet it cannot be excluded. At the same time, *herhaaldelijk* 'repeatedly' must still be assumed to be inside the VP (or adjoined to VP). If so, we may expect the linear order to be different from the hierarchical order: the right adjoined PP may be higher than the adverb. Thus we predict that (10a) also has the reading of (10b), which is not the case.

We see here that the vacuous V-to-INFL movement hypothesis predicts a possibility that does not exist. This makes the V-to-INFL movement suspicious, if not impossible.

I will return to the problems of the vacuous V-to-INFL movement hypothesis below (section III.1). A final remark must be made here on the nature of the lowering process.

Lowering (or rightward movement) of inflectional morphemes to the verbal stem has been an aspect of generative grammar ever since its beginnings.³ It is also very obvious that lowering is a problematic mechanism. Thus, it is countercyclic and it does not leave a c-commanded trace. Chomsky (1991) solves the latter problem by assuming that the verb-INFL combination moves back to the INFL position at LF. This, however, yields other problems, having to do with economy of derivation. All these problems are due to the basic assumption that inflectional morphemes are generated in the INFL position.

There is however a separate tradition within generative grammar according to which inflected elements are generated in fully inflected form (Lieber 1980, Williams 1981, Lapointe 1981, Reuland 1986). In this approach, it can be assumed that functional heads are not occupied by inflectional *morphemes* but by inflectional *features* (Travis 1984:139, Fabb 1984, Zwart 1987, Zwart and Hoekstra 1989). In this assumption, languages like English and Swedish are characterized by the circumstance that inflected verbs procrastinate raising to INFL until LF. If that is the correct approach, it is an open question whether verb raising to INFL in Dutch takes place in overt syntax or at LF. As we have seen in section 1.2, the assumption that functional heads host features rather than morphemes is a crucial part of the Minimalist Program.

In sum, if doubt is cast on the existence of verb movement to an INFL position to the right of the VP in Dutch, this does not automatically lead to the conclusion that Dutch has the suspect INFL-lowering mechanism.

² This argument assumes that PP-over-V phenomena involve movement to the right.

³ See note 10 of section 2.1.

3.2 COMP

Den Besten (1977) argues that the verb invariably moves to *C* in main clauses in Dutch.

As pointed out in section 2.2, Den Besten's empirical arguments in favor of verb movement to *C* in Dutch relate to inversion constructions only. In these constructions, the verb is subject to the same adjacency conditions as the complementizer. Den Besten presents no direct evidence relating to the position of the verb in subject initial main clauses. He notes, however, that a grammar of Dutch containing only one verb movement rule (verb movement to *C*) is superior to a grammar having more than one rule (verb movement to *C* in inversion constructions, and movement to a lower position in subject initial main clauses).

This argumentation is no longer valid in the Government-Binding framework (Chomsky 1981). In this framework, particular movement rules do not exist anymore. Rather, all movements have the same format (*Move* α, "move anything anywhere"). The output of the application of *Move* α is subject to various grammaticality conditions, as specified by the modules of grammar (Case Theory, Theta Theory, Binding Theory, Bounding Theory, etc.; see Chomsky 1981, Koster 1987).

Consequently, rules can no longer be counted, and grammars can no longer be compared by counting the rules they need. In the Government-Binding framework, a movement can be ruled out only if it results in a representation which does not meet all grammaticality requirements.

Does Den Besten's observation that the verb moves to *C* in inversion constructions in Dutch lead to the conclusion that the verb also moves to *C* in subject initial constructions in Dutch?

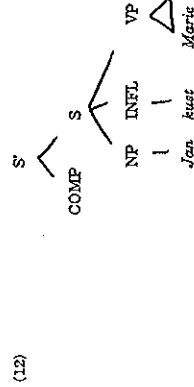
To see this, we have to ask whether an alternative landing site for the verb movement is available. This depends on where INFL is situated in Dutch. If INFL is situated to the right of the VP in Dutch, then verb movement must target *C*. On the other hand, if Dutch is like English, and INFL is located to the left of VP, verb preposing may target INFL in one case (the subject initial main clauses) and *C* in another (inversion constructions). Therefore, this point is dependent on another problematic point, and hence, a problematic point in itself.

Suppose there is an INFL position to the left of the VP in Dutch.⁴ Then we should wonder whether moving the verb to this INFL position in subject initial main clauses would violate any grammaticality requirements. If so, Den Besten's conclusion that all verb preposings target *C* still holds.

⁴ This was argued by Travis (1984).

Consider sentence (11) and its analysis under the relevant assumptions (12):

(11) Jan kust Marie
John kisses Mary



It is not easy to see what would be wrong with the representation in (12) (assuming the VP is adjoined with the required traces). The finite verb *kust* 'kisses' is in INFL, where the tense features are canonically located. The subject is in the 'structural subject position', where it is governed and assigned Nominative Case by INFL, as required by Case Theory (Chomsky 1981). (12) is a perfect structure.⁵

Thus, if there is an additional functional head to the left of VP in Dutch, it must be considered a serious candidate for hosting the verb in subject initial main clauses. Hence, it does not suffice to show that the verb moves to *C* in inversion constructions. It must be demonstrated for subject initial main clauses as well, or the hypothesis that there is V-to-C movement in subject initial main clauses must be rejected.

A different problem, closely related to the one discussed above, is posed by the behavior of subject clitics in subject initial main clauses. Recall that subject clitics have to be right adjacent to both the complementizer and the preposed verb in inversion constructions. If the verb always moves to *C*, one would expect subject clitics to always be right adjacent to the preposed verb. But this is not the case in subject initial main clauses:⁶

⁵ The tree structure in the text follows Chomsky (1981). The conclusions would be the same if the structure of *S* (IP) proposed by Stowell (1981), adopted by Chomsky (1986a), is assumed.

⁶ Den Besten (1989:27) mentions that the 3SG subject clitic *is* may not appear in the first position in subject initial main clauses. All other clitics, however, are fine in the first position. Crucially, *is* likewise may not appear right adjacent to the verb in neutral constructions:

(i) * *Beestje's* *Marie* *gekust*
has.be *Mary* *kissed*

(continued...)

- (13) a. * Heb'k Marie gekust (declarative)
 have I Mary kissed
 I have kissed Mary.⁷
 b. * Heb Marie gekust
 I have Mary kissed
 I have kissed Mary.⁸

So if the position of the subject clitics tells us that the verb is in *C* in inversion constructions, it likewise tells us that the verb is not in *C* in subject initial constructions.

A third problem of the generalized V-to-C hypothesis concerns the grammatical trigger for verb movement to *C*. Den Besten (1989, Appendix II) assumes that *C* is a [+Tense] category, and he describes verb movement to *C* as 'Move Tense'. But the V-to-DNFL hypothesis requires that Tense is located in INFL. If *C* is really a [-Tense] category, one would expect the tense morphology (or the tense features) to be generated in *C*, and this would leave us without a trigger for V-to-INFL movement. If the Tense morphology is located in INFL, then Tense cannot provide the trigger for the movement of the verb to *C*.

For this reason, it has been proposed that Tense is a feature of INFL, but that an independent language particular property requires that Tense be realized on the highest head (i.e. *C*) (cf. Platzack and Holmberg 1989).⁷ While this is a possible instance of parametric variation between languages, an analysis along these lines leaves open the question why languages should differ at this point.

A fourth problem of the generalized V-to-C hypothesis concerns the complementary distribution of the complementizer and the fronted finite verb. This complementary distribution is clearly visible in German, where the complementizer may be absent. In that case, the embedded clause has the main clause word order (see section 2.2).

This complementary distribution is generally taken to provide an empirical argument for the correctness of the generalized V-to-C analysis (see e.g. Vikner 1991a). But Travis (1991) correctly objects that it might be that the complementizer, if present, yields some power over a lower

⁷ (Continued)

⁸ The kissed Mary.⁸

(Neither share nor understand Den Besten's judgment that the 3SG weak (i.e. unstressed) pronoun *hi/j* may not occur to the immediate right of the complementizer or the verb in *C*.)
⁷ The hypothesis that Tense must be realized on the highest head leads to the question whether CP is always present in neutral order main clauses. CP is typically the level for topicalizations and wh-movements. If CP is absent in other constructions, the proposed principle leads to the conclusion that the finite verb is in INFL in neutral order main clauses in Dutch. The hypothesis of I-to-C movement is also adopted in Stowell 1981, Pesetsky 1982, Evers 1982.

functional head (INFL), thereby making movement of the finite verb to INFL either superfluous or unnecessary (see also Zwart 1991a, 1991b).⁸

The problem connected with the complementary distribution of complementizer and finite verb is the following. Suppose verb movement to *C* is triggered by the requirement that Tense be moved to the highest head. Assume that Tense is located in INFL, that INFL is located to the right of the VP, and that the verb moves to INFL in both main clauses and embedded clauses, because the verb has to be united with the tense morphology (or the tense features). Then, in embedded clauses, the presence of the complementizer blocks further verb movement to *C*. As a result, Tense will not be realized on the highest head, and we expect the construction in question to be ungrammatical. But this not the case, and it is unclear why.

3.3 The specifier position of CP

A third class of problems connected with the traditional analysis of verb movement in Dutch concerns the obligatory presence of a constituent preceding the fronted verb.

It is certainly observationally correct to characterize Dutch as a 'verb second' language. Neutral order main clauses, topicalizations, wh- constructions all have the finite verb in second position. Imperatives (14) and yes/no questions (15) have the finite verb in first position, but the particular character of these constructions makes it likely that the first position is actually occupied by an empty operator (cf. Katz and Postal 1964). The same is probably true of counterfactuals like (16):

- (14) Kus Marie!
 kiss Mary
 (15) Kust Jan Marie?
 kisses John Mary
 'Does John kiss Mary?'

⁸ Travis (1984, 1991) argues that verb movement is necessary to fill up empty, ungoverned heads, as a consequence of the Empty Category Principle (ECP). In embedded clauses in Dutch, INFL is governed by the complementizer, so no verb movement is necessary. In main clauses, the complementizer is absent and verb movement is needed to fill up the empty INFL position. Similarly in the complementizerless embedded clauses in German. Schwartz and Vikner (1989) argue against the ECP as a factor determining verb movement in Germanic. If they are correct, which I believe they are, that still does not disqualify the possibility that the complementarity of the complementizer and the fronted verb in Dutch and German involves two positions (INFL and COMP) rather than one (COMP alone).

- (16) a. Had Jan Marie maar gekust
 had John Mary but kissed
 "If only John had kissed Mary."
 b. Had Jan Marie gekust, dan...
 had John Mary kissed, then
 "If John had kissed Mary, then..."

The obligatory verb second character of Dutch, then, appears to be the major explanandum of the grammar of this language. However, the traditional analysis offers no explanation for the fact that some constituent always has to precede the finite verb in Dutch. This is a serious inadequacy of the traditional analysis on any count.

It is clear from inversion constructions and embedded clauses that the subject in Dutch can be licensed in the specifier position of IP (the 'structural subject position'). If that is the case, it is not clear why movement of the verb to C triggers an additional movement of the subject to the specifier of CP. Assuming that a trigger for verb movement to C exists, even when the specifier position of CP is not occupied by a wh-element or a topic, this does not necessarily also force the subject to leave its licensing position and move on to the specifier position of CP. The crucial question in this respect is why Dutch neutral order main clauses are not VSO.⁹

It is important to note that invoking a 'verb second constraint' to account for the position of the finite verb in main clauses in Dutch is merely a way of concealing the problem. A 'verb second constraint' naturally matches the observations, but does nothing to explain them.

One might suppose that a 'verb second constraint' forces the specifier of CP to be filled whenever C is filled. But this is an inadequate formulation, because nothing fills the specifier of CP when C is filled by a complementizer:

- (17) Piet zegt (*gisteren) dat Jan Marie gekust heeft
 Pete says yesterday that John Mary kissed has
 "Pete says that John yesterday kissed Mary."

Moreover, it is clear from long distance movement constructions that the specifier position of CP must remain empty in embedded clauses in order to provide an intermediate chain position:

⁹ Notice that the characterization of movement as 'move anything anywhere' does not make it unnecessary to formulate a trigger for obligatory movements. In other words, it must be made precise what grammaticality conditions are violated when the verb moves to C and the subject stays behind in the specifier position of IP if and only if no other constituent occupies the specifier position of CP.

- (18) Wie zei Piet *t* dat Jan *t* gekust had?
 who said Pete that John kissed had
 "Who did Pete say John had kissed?"

Therefore, the requirement that the specifier of CP be filled must make specific reference to the proposed finite verb, which makes it *ad hoc*.

Finally, even if we allow the verb second constraint to be formulated in this way, it is still unclear why languages should differ in this respect. Again, one wonders why Dutch is not a VSO language like the Celtic languages or Arabic.

The problems connected with the specifier position of CP that the traditional analysis of Dutch syntax faces are in fact more complicated. The traditional analysis of Dutch contends that the finite verb always moves to C in main clauses. As a result, the placement of the subject to the left of the finite verb is regarded as a subcase of topicalization. However, there are clear differences between subjects and topics. These will be discussed in section III.5.1.

Here, it suffices to note that object clitics may not appear in preverbal position in tensed main clauses, while subject clitics may (see section 1.5, and references cited there). An easy explanation for this would be to prohibit topicalization of weak elements, such as clitics, in general. But then the placement of the subject cannot be a subcase of topicalization, because this would exclude subject clitics in the first position of a finite clause. Travis (1984) solves this problem by assuming that INFL is located to the left of the VP in Dutch and German, and that the finite verb moves to INFL in main clauses, and to C in topicalizations and wh-constructions.

This latter point has received some attention in the recent literature and certain interesting proposals have been made to derive the asymmetry between subject clitics and object clitics in a way that leaves the generalized verb-to-C analysis unaffected (Holmberg 1986, Rizzi 1991a). We will return to these proposals in section III.4.4.2.

3.4 Scrambling and Clitics

As we have seen, in the analysis of Dutch syntax within the Government and Binding framework, clitics, scrambled NPs, and sentence adverbials are all considered to be adjoined to VP. The order of elements is as in (19):

- (19) Clitics - Scrambled NP - Sentence Adverb - Non-Scrambled NP
 [1] [2] [3] [4]

There are several unsatisfactory aspects of this analysis.

First, it is unclear why the Germanic clitics should be different from the Romance clitics. The latter are considered to be heads (Kayne 1975). For that reason, they have to adjoin to heads, not to phrasal categories (Baltin 1982). As several authors have shown, the Dutch clitics have the same head-like properties as their Romance counterparts (Koster 1978a, Everaert 1986, Zwart 1992b). It therefore seems appropriate to analyze the Dutch clitics as heads as well.

In subject initial main clauses in Dutch, nothing may intervene between the finite verb and the object clitic. Cf. (20), repeated from section 1.5:

- (20) Jan heeft ('gisteren) 'r gekust
 her has yesterday her kissed
 "John kissed her (yesterday)."

In these constructions, then, the object clitics appear to be adjoined to a head. A problem arises in inversion constructions, however. In Romance, the object clitic is pied piped with the verb, but in Germanic the clitic is stranded in a position to the right of the subject.

- (21) a. L'a-t-il embrassé?
 her has T be kissed
 "Did he kiss her?"
 b. * A-t-elle l'embrassé?
 has T she her kissed
- (22) a. * 'r heeft Jan gekust?
 her has John kissed
 b. * Heeft'r Jan gekust?
 has her John kissed
 c. Heeft Jan 'r gekust?
 has John her kissed
 "Did John kiss her?"

This is presumably one of the reasons why the Dutch clitics have not generally been considered heads.¹⁹

However, we have to note that this issue is intimately connected with the generalized V-to-C analysis. Assuming that the fronted verb is always in C, (22) tells us that the clitic cannot be adjoined to the verb in (20) either. This leaves the adjacency of the clitic and the verb in (20) a mystery, however. Similarly, it is unclear why the clitics have to be the leftmost VP-adjuvants, no matter how much scrambling goes on in the rest of the VP.

¹⁹ A notable exception is Stowell (1981:221).

A second problem connected with the analysis of clitics and scrambling is the assumption that the sentence adverbs have a fixed position, namely adjoined to VP. It is clear from examples like (23) that adverbs can move further to the left:

- (23) a. -dat gisteren Jan Marie gekust heeft
 that yesterday John Mary kissed has
 "...that John yesterday kissed Mary."
 b. -dat Jan gisteren Marie waarschijnlijk gekust heeft
 that John yesterday Mary probably kissed has
 "...that John yesterday probably kissed Mary."

In (23a), *gisteren* 'yesterday' has moved to the left, crossing the subject *Jan* 'John'. In (23b), two sentence adverbials are present. The object, *Marie* 'Mary', appears to the left of one of the adverbs, *waarschijnlijk* 'probably'. Referring to the positions indicated in (19), it must have moved from position [4] to position [2]. Still to the left of the object is the other sentence adverb, *gisteren* 'yesterday'. This means that [3] in (14) cannot be the sole position of the sentence adverbials.

This implies that scrambling can actually take place to a position to the right of a sentence adverb. As a result, we do not have a single clue as to where the object noun phrase really is in a standard scrambling paradigm like (24):

- (24) a. -dat Jan gisteren Marie gekust heeft
 that John yesterday Mary kissed has
 b. -dat Jan Marie gisteren gekust heeft
 that John Mary yesterday kissed has
 "...that John kissed Mary yesterday."

A third problem, related to scrambling, is the question how the scrambled object is assigned Case. In the Government and Binding framework, objects are assigned Case under government by the verb (or by the trace of the verb). 'Government' is defined as a relation between a head and an element it c-commands (provided no other governors of the same element intervene). 'C-command' is a relation between elements in a tree structure such that the first branching node dominating the c-commander dominates the c-commandees.

If an object is scrambled away from the verb (or its trace), it is no longer c-commanded by the verb, hence it is no longer governed by the verb. Therefore, a scrambled object can only be assigned Case via the trace left behind in the scrambling process. This means that scrambled objects are formally comparable to topics and wh-elements, which likewise can only be assigned Case via the trace they leave behind as part of the movement operation. In other words, scrambling must be A'-movement.

We noted in section 2.3 that scrambling in Dutch has one property of A'-movement, namely that it creates a configuration in which parasitic gaps are licensed. However, we will see below that scrambling in all other respects resembles A-movement, like Passive and Raising (Vanden Wyngaerd 1989a). For example, as already noted in Huybregts and Van Riemsdijk (1985), scrambling, unlike wh-movement and topicalization, does not yield weak crossover effects:

- (25) a. *Jan heeft Marie op haar voorhoofd gekust*
 John has Mary on her forehead kissed
 "John kissed Mary on her forehead."
 b. ? *Wie hebben zijn ouders ontferd?*
 who have his parents disturbed
 "Who did his parents disturb?"

The absence of weak crossover effects, as in (25a), in contrast to (25b), is considered to be a test for A-movement.

In A-movement, the trace is not assigned Case, but the movement targets a position in which the noun phrase in question can be assigned Case. If this is correct, our conception of scrambling in Dutch must change radically, because a position adjoined to VP is not the type of position in which Case is assigned, under standard assumptions of the Government and Binding framework.

3.5 Extrapolation

A final problem of the standard conception of Dutch syntactic structure touches on the status of Dutch as an SOV language.

Elements appearing to the right of the final verb position in Dutch are supposed to have moved there by a rightward movement called extrapolation. It has been known since Ross (1967) that such rightward movements create *islands*, i.e. constituents out of which no extraction is possible.

However, Dutch sentential complements, though appearing to the right of the final verb position, are not islands:

- (26) *Wie heeft Piet betrouwd dat Jan t gekust heeft?*
 who has Pete regretted that John kissed has
 "Who did Pete regret that John kissed?"

In this respect, there is a clear contrast with non-complement clauses (T. Hoekstra 1983, Bennis 1986):

- (21) * *Wie heeft Piet het betrouwd dat Jan t gekust heeft?*
 who did Pete it regret that John kissed has
 "Who did Pete regret it that John kissed?"

In (21), *het* 'it' is the direct object of the verb, and *dat Jan t gekust heeft* 'that John kissed' is construed as an adjunct to the direct object. In this case, the embedded clause is a clear island.

The fact that the embedded clause in (20) is not an island suggests quite strongly that it is in its basic position, and that no extrapolation has taken place (thus T. Hoekstra 1987). This has led several authors to suggest that Dutch has two different complement positions for NP-arguments and sentential arguments, the former preceding the verb and the latter following it.¹¹

This, however, is incompatible with the important idea that the categorial status of arguments is irrelevant for the encoding of thematic relations into syntactic structure (see Pesetsky 1982, Chomsky 1986a, Baker 1988). In this respect, then, the standard analysis is problematic, and, in fact, casts doubt on the basic assumption that Dutch is an SOV language.¹²

3.6 Conclusion

The crucial features of the standard analysis of verb movement are all problematic. Verb movement to INFL in embedded clauses is always vacuous. The hypothesis that this movement takes place is based on the assumption that inflected verbs must occupy the INFL position in overt syntax. However, this is not necessarily the case, given the possibility of lowering INFL to the verb (or procrustinating verb movement until LF). Verb movement to C can only be demonstrated in inversion constructions. The conclusion that this verb movement takes place in subject initial main clauses as well is based on the idea that a grammar containing fewer rules is more attractive. However, this evaluation metric is no longer valid in the Government and Binding approach, where all movement rules are reduced to one, *Move α*. Verb movement to C in subject initial main clauses therefore needs independent evidence, but the evidence that is available suggests that the verb in these constructions is not in C but in

¹¹ See Koster 1976a, 1989; De Haan 1979; T. Hoekstra 1984, 1987; Bennis 1986.

¹² As Marcel den Dikken notes (p.c.), an additional argument against extrapolation of sentential complements out of VP is the fact that the VP shows no 'freezing' effect. Thus, in *Wie heb je overleid dat je zou komen* [whom have you told that you would come] the VP out of which *dat je zou komen* 'that you would come' is supposedly extraposed is still transparent, witness the extractability of the indirect object *wie* 'who'.

a lower functional head to the left of the VP. Finally, the transparency of clausal complements suggests that the position to the right of the verb in embedded clauses is their basic position. This in turn casts doubt on the assumption that Dutch is an SOV language.

4 A Minimalist Approach to Dutch Syntax

In this section, I will reexamine the phenomena of Dutch syntax from a minimalist perspective. First I will discuss the two basic assumptions underlying the standard analysis of these phenomena: the hypothesis that Dutch is an SOV language and the hypothesis that the verb moves to C in all main clauses. Next I will review the problems of the traditional analysis discussed in section 1.3. It will turn out that these problems become even more serious if the minimalist approach is taken. Finally, I will sketch the outlines of an analysis of Dutch syntax which seems to be forced upon us by the assumptions of the Minimalist Program. This will serve as the starting point for the more detailed analysis of the syntax of Dutch in chapters III and IV.

4.1 Basic Assumptions

Recall that the two basic assumptions underlying the standard analysis of Dutch syntax are the following:

1. Dutch is an SOV Language
2. In Dutch tensed main clauses the verb invariably moves to C

The Minimalist Program does not immediately affect the first of these assumptions. It is imaginable that when the verb and its object are first combined in a binary operation, the direct object ends up to the left of the verb.

However, as pointed out in section 1.3.3, the minimalist approach in its most restrictive implementation leaves no room for a parameter determining the position of the object with respect to the verb at this initial stage in the derivation. Moreover, such a parameter would be superfluous given the fact that word order variation can be derived from interactions of overt and covert movement.

In view of this, the question arises whether it is *necessary* to make a typological distinction between languages on the basis of their order of

words in the initial stage of the derivation. We will return to this issue in chapters III and IV of this book, and I will argue there that, at least in Dutch, both the functional heads and the lexical heads take their complements on the right hand side.

The second assumption underlying the standard analysis, according to which the finite verb invariably moves to C in main clauses in Dutch, appears to be incompatible with the minimalist approach.

First, according to Figure 1 in section 1.2, the functional domain contains at least three head positions other than C. Therefore, Den Besten's (1977) conclusion that C is the only host available for the proposed verb is no longer valid.¹

Second, verb movement to C, if it takes place, must be triggered by the need to eliminate a strong inflectional feature represented in C. However, inflectional features have designated positions in the Minimalist Program: the tense features are located in T, the subject agreement (Nominative Case) features are located in AgrS. Even if these features are strong in Dutch, they cannot trigger verb movement to C.²

Third, even if the verb moves to C in subject initial main clauses, there has to be a trigger for movement of the subject to the specifier position of CP in these constructions. Again, the relevant trigger must be a strong N-feature that has to be eliminated. However, the N-features for licensing the subject are not represented in C but in AgrS. Hence, unless the subject shows additional features which would warrant a further movement, it has to move to the specifier position of AgrSP, not CP. Movement of the subject to AgrSP, of course, is well attested in inversion constructions and embedded clauses. The default hypothesis appears to be that the subject ends up in AgrS in subject initial main clauses as well. If so, we must conclude that verb movement to C does not take place in subject initial main clauses in Dutch.³

¹ One could argue that in Dutch, the heads of the AgrPs and TP are situated to the right of the VP. This would make C the only available host for the proposed verb again. However, the exact location of the functional heads in Dutch is an empirical issue. We will return to this issue in chapter III, where I will argue that all functional projections in Dutch are head initial.

² A way out would be to assume that tense has to end up on the highest functional head. This could trigger verb movement to C. However, this presupposes that all clauses are CPs, which is not *a priori* clear. In particular, neutral main clauses may be complete as AgrSPs. If so, the requirement that tense end up on the highest functional head would trigger verb movement to AgrS.

³ This does not exclude the possibility, however, that subjects sometimes carry a topic feature, triggering additional movement to the specifier position of CP (Zwart 1991c).

The minimalist approach, then, suggests that a distinction be made in Dutch syntax between subject initial main clauses on the one hand, and topicalizations and wh-constructions on the other hand.

4.2 Problems of the Standard Analysis 2

In section 3.3, it became clear that certain aspects of the traditional analysis of Dutch are problematic, even from the point of view of the theoretical framework underlying it (the Government and Binding framework). In this section, I will show that these aspects make the traditional analysis downright untenable from the point of view of the minimalist approach.

4.2.1 INFL

In the traditional analysis, it was assumed that the functional heads host inflectional *morphemes* rather than *features*. As a result, in embedded clauses in Dutch the verb must have moved to INFL (assuming that lowering is not an option, but see section 2.3.1). Consequently, INFL had to be located to the right of the VP in Dutch.

In the minimalist approach, the functional heads host inflectional *features* rather than *morphemes*. As a result, verbs are inserted in a structure (by means of Generalized Transformations) in fully inflected form. At some point in the derivation, the verb will have to move to the functional heads in order to check the features associated with its inflectional morphology. But this movement may take place before or after Spell Out. Movement after Spell Out is even preferred, by the economy related principle of Procrastination.

Consequently, it is not surprising that the inflected verb should remain in a final position in embedded clauses in Dutch. We may assume that the verb is still in its base position, procrastinating movement into the functional domain. As a result, the position of the verb in embedded clauses in Dutch does not provide a single argument for the location of the functional heads in Dutch.

Recall from section 3.3 that the assumption that the finite verb moves to an inflectional head to the right of VP in embedded clauses is problematic anyhow. The movement is always vacuous, and predicts non-existing scope phenomena (Reuland 1990b). These problems disappear under the minimalist assumption that the verb does not move in overt syntax in embedded clauses in Dutch.

4.2.2 COMP

We have seen in section 4.1 that the assumption that the finite verb invariably moves to C in main clauses in Dutch is untenable in the minimalist approach. It comes as no surprise, therefore, that maintaining this assumption would yield the very problems noted in section 3.3.

In particular, Den Besten's (1977) argument in favor of the generalized verb-to-C analysis based on rule counting is not valid in the minimalist framework, any more than it was in the Government and Binding framework. The minimalist approach is unrestrictive in that it has no rules. On the other hand, it is very restrictive in that every movement must be motivated by a morphological licensing requirement.

Economy, in other words, is not an evaluation metric for rule systems, as it was in the Extended Standard Theory, but a principle requiring that every single movement be motivated independently of the total of movements in a particular grammar. For this reason, we cannot conclude from the fact that *some* movements in Dutch target C, that *all* movements in Dutch target C. Every single movement to C must be motivated independently in terms of elimination of inflectional features.

Tense and agreement appear to be the features triggering verb movement and noun phrase movement in subject initial main clauses. These features are represented in T and AgrS. For all we know, then, the relevant movements target the checking domain of these functional heads, not the checking domain of C. The adjacency of the subject and the finite verb indicates that the subject and the verb are in the specifier-head configuration of a single functional category, presumably AgrS.

In contrast, other features like [+topic] and [+wh] appear to be relevant in topicalizations and wh-questions. These features are conventionally represented in C (as in Den Besten 1977). For all we know, then, these movements target the domain of C.

Therefore, from a minimalist point of view, the simplest analysis appears to involve two different movements, or, rather, two different targets for movement.

As we have seen, this analysis raises the question why verb movement is restricted to main clauses. The answer to this question mentioned in section 3.2 implies that the complementizer in C yields some power over the lower functional head so that this head need not be filled when the complementizer is present (cf. Travis 1984, 1991).

This answer is problematic, because it is not clear what kind of influence could prevent the lower functional head to be filled. It remains to be seen to what extent this part of the answer is compatible with the minimalist approach. However, the second part of the answer is very much in line with economy of derivation. If movement to the lower functional head is unnecessary because of the presence of the

complementizer, this movement is automatically blocked by economy of derivation (Zwart 1991a).

We will return to this problem extensively in chapter III. In the mean time, we may conclude that, as before, the complementary distribution of the complementizer and the fronted verb does not provide an argument for the generalized verb-to-C movement.

4.2.3 *The Specifier Position of CP*

In the standard analysis, the specifier position of CP must always be filled. This is unexplained, even if the observation takes the form of a language particular and construction particular 'verb second constraint' (Vikner 1991a).

A verb second constraint may match the observations, but should be derived in terms of movement of heads and phrases to the functional domain. Each of these movements must be explained independently in terms of eliminating strong inflectional features. These explanations, then, provide the real challenge for the analysis of Dutch syntax.

These explanations should take into account the differences existing between subjects and topics in Dutch that were briefly mentioned in section 3.3. These differences suggest that different features are involved in topicalizations and subject initial main clauses. If so, movement must target different positions in each case.

4.2.4 *Scrambling and Clitics*

In the standard analysis, scrambling is optional movement of a noun phrase across a sentence adverb. The scrambled category adjoins to the VP, but to the left of the clitics (which are adjoined to the VP as well). A basic assumption of this analysis is that sentence adverbs have a fixed position.

In a minimalist approach, this analysis cannot be maintained.

First, optional movements are not allowed in the Minimalist Program. Every movement is triggered by the need to eliminate a strong feature. If there is a strong feature that must be eliminated, movement cannot be optional, since the derivation will only converge when it takes place. The fact that the direct object and the verb (in embedded clauses) are not necessarily adjacent in Dutch indicates that at least sometimes the direct object moves away from the verb. Consequently, we must assume that direct objects in Dutch *always* move to a particular position. In other words, scrambling may seem to be optional, but in fact it is not.

Second, if direct objects in Dutch always move to a particular position, sentence adverbs cannot have a fixed position. This was already concluded in section 3.4. In particular, in a typical scrambling paradigm like (1), the direct object must be in a single position throughout, but the adverb must be further to the left in (1a) than it is in (1b). Consequently, it can no longer be maintained that sentence adverbs are always adjoined to VP.

- (1) a. -dat Jan gisteren Marie gekust heeft
 that John yesterday Mary kissed has
 b. -dat Jan Marie gisteren gekust heeft
 that John Mary yesterday kissed has
 "that John kissed Mary yesterday."

Third, movement of the direct object cannot target VP, because the position adjoined to VP is not known as a position for licensing inflected elements. In the minimalist approach, it is more likely that the noun phrase movement targets the specifier position of AgrOP (Vanden Wyngaerd 1989a). This is the designated position for checking the Case features of the direct object. Assuming that the N-feature of AgrO is strong in Dutch, the need to eliminate these features yields a trigger for the noun phrase movement.

We have seen in section 3.4 that scrambling in Dutch has one property of A'-movement: it creates the configuration needed for parasitic gap licensing. If we now assume that scrambling is movement to a position where Case is checked, we expect scrambling to look more like A-movement. Much recent research suggests that this is in fact the case, as already pointed out in section 3.4. I will return to this issue in section IV.2.2.

Finally, if neither scrambled noun phrases nor sentence adverbs are adjoined to VP, object clitics (which appear to the left of both scrambled noun phrases and sentence adverbs) cannot be adjoined to VP either. This accords well with the generally held idea that clitics must adjoin to a functional head (Baltin 1982, Kayne 1991, Sportiche 1992).

4.2.5 *Extraposition*

In the standard analysis, it is assumed that elements appearing to the right of the verb in embedded clauses have undergone movement to the right (extraposition). This was shown to be problematic because 'extraposed' clausal complements are not islands.

In the minimalist analysis, extraposition is an impossible movement. All movements must be triggered by the need to eliminate inflectional features, and for this reason they must target designated positions. There

is no known position to the right of the final verbal position designated for checking inflectional features. Similarly, there is no inflectional feature all extraposed elements have in common.

Extraposition, then, should not be part of a minimalist analysis of Dutch (see also Kaaen 1992, Kayne 1993).

It will turn out that this conclusion has serious consequences for the assumption that Dutch is an SOV language. This issue will be addressed in chapter IV.

4.2.6 Conclusion

The problems the standard analysis of Dutch syntax faced in the Government and Binding framework still exist in the minimalist framework. If the minimalist approach is adopted, many additional problems for the traditional analysis arise, and certain key aspects of the analysis turn out to be untenable.

This is particularly true of the two basic assumptions underlying the traditional analysis. The assumption that Dutch is a basic SOV language is questionable from the point of view of possible parametric variation. The assumption that the finite verb invariably moves to C in main clauses would be a far from straightforward implementation of the Minimalist Program.

4.3 Dutch Syntax: A Minimalist Approach

Let us now return to the phenomena of Dutch syntax described in section 1., and see how these phenomena might be analyzed from a minimalist point of view.

Consider first the difference between tensed main clauses and untensed main clauses (section 1.2):

- (1) a. Jan kust Marie
John kisses Mary
"John kisses Mary"
b. * Jan Marie kust
John Mary kisses
- (2) a. * Jan kussen Marie
John kiss Mary
b. Jan Marie kussen
John Mary kiss
"John kiss Mary."

Finite verbs move up front, infinitives do not. This is also clear from constructions containing more than one verb:

- (3) a. Jan heeft Marie gekust
John has Mary kissed
"John (has) kissed Mary."
b. * Jan heeft gekust Marie
John has kissed Mary
c. * Jan Marie heeft gekust
John Mary has kissed
d. * Jan Marie gekust heeft
John Mary kissed has

Only the finite verb moves to the left, the non-finite verb stays behind.

Finite verbs in Dutch express both tense and subject agreement. Non-finite verbs express neither tense nor agreement. Apparently, verb movement is a function of tense and/or agreement.

In the minimalist approach, the features for tense and subject agreement are represented in the functional heads T and AgrS. We may now hypothesize that T and/or AgrS have a strong V-feature. This feature must be eliminated before Spell Out, therefore the verb carrying the corresponding features (the finite verb) moves to T and/or AgrS in violation of Procrastination. Assuming, as we have done, that AgrS is higher than T, it must be the case that the finite verb moves to AgrS, via T.

However, this hypothesis yields a problem, since finite verbs do not move to the left in embedded clauses:

- (4) a. * .dat Jan kust Marie
that John kisses Mary
b. .dat Jan Marie kust
that John Mary kisses
* .that John kisses Mary."

In (4a), it is unclear why the finite verb *kust* 'kisses' does not have to move to the position it apparently moves to in (1a).⁴ Therefore we must reject the hypothesis that a strong V-feature of T and/or AgrS triggers the verb movement in (1) and (3).

We could try to avoid this problem by assuming that in (4) the complementizer occupies the AgrS position, so that the movement of the verb to AgrS is blocked. But this does not solve anything, because if the

⁴ Recall that in the minimalist approach, 'not having to' amounts to 'not being allowed to'.

movement is blocked, the strong V-feature triggering the movement would not be eliminated, and the derivation would crash at PF.⁵

Therefore, something else must be going on. Recall that functional heads carry both V-features (triggering head movement) and N-features (triggering XP-movement). Assuming that the verb in (1) and (3) is in a derived position, there must be an N-feature triggering movement of the subject to a position in the functional domain in at least (1) and (3).

In subject initial main clauses, the subject is adjacent to the finite verb:

- (5) * Jan altijd kust Marie
John always kisses Mary

This suggests that the subject is in a local licensing relation with the head hosting the finite verb. If the finite verb moves to AgrS, the subject must be in the spec position of AgrS.

In this position, the N-features of AgrS are checked off against the inflectional features of the subject (person, number, and Case). These N-features, therefore, must be strong. If so, it is expected that the subject occupies the spec position of AgrS in embedded clauses as well. (4) suggests that this is indeed the case.

The hypothesis that the N-features of AgrS are strong appears to account for the distribution of the subject. But how does this explain the distribution of the finite and non-finite verb? Apparently, this verb movement must be a *subsidiary* movement, required only as a last resort. This is only possible if the V-features of AgrS (or T) are not themselves strong.

How exactly this works out will be the main problem to be studied in chapter III. The phenomena of complementizer agreement will be crucial to the analysis presented there. It will turn out that the functional head AgrS moves to C if and only if C is present, and that this AgrS-to-C movement obviates V-to-AgrS movement. I will argue that AgrS-to-C movement has a morphological reflex in the phenomenon of complementizer agreement in various dialects of Dutch.

Let us next consider the distribution of elements in topicalizations and wh-constructions. These constructions show subject-verb inversion:

⁵ For the same reason, assuming that the verb moves to C in (1) and (3) does not solve the problem: why verb movement is restricted to main clauses.

⁶ The picture is slightly more complicated if the N-feature for Case is represented in T.

- (6) a. * Weer Jan kust Marie
again John kisses Mary
b. Weer kust Jan Marie
again kisses John Mary
*Again John kisses Mary?

- (7) a. * Waarom Jan kust Marie?
why John kisses Marie
b. Waarom kust Jan Marie?
why kisses John Mary
*Why does John kiss Mary?

Topics and wh-elements typically move to a position in the left periphery of the clause. In the minimalist approach, these movements must be triggered by the need to eliminate a morphological feature. Chomsky (1992) proposes to include features like [+topic], [+wh] in the set of morphological features. Assuming (with Koster 1975, Den Besten 1977, Chomsky 1977) that topicalization and wh-movement involve movement to the CP-domain, these features must be characterized as N-features of the head of CP, C.

The sentences in (6)-(7) suggest that the features [+topic] and [+wh] are strong in Dutch.⁷ This would explain the preposing of the non-subjects.

But again, this does not suffice to explain the distribution of the verb in these constructions.

Now we may assume that C also has a strong V-feature associated with topicalization and wh-movement, such that verb movement to C is required whenever the [+topic] feature or the [+wh] feature are present in C (i.e. in topicalizations and wh-constructions). The fact that English topicalizations do not, or not always, require verb movement, could then be explained as an instance of parametric variation of the strength of the relevant features in C. Compare (6) with (8):

- (8) a. Again John kisses Mary
b. * Again kisses John Mary

For the moment this will suffice as an hypothesis, but we will see in section III.5.3 that this analysis must ultimately be rejected for an analysis linking the verb preposing in topicalizations and wh-constructions to AgrS-to-C movement.

Let us next consider scrambling and clitic placement.

⁷ Watamabe (1992) suggests that the wh-feature is universally strong. He argues that in so-called wh-in-situ languages like Japanese the wh-feature is eliminated by movement of an empty operator to the spec position of CP.

Clitic placement is not addressed in Chomsky (1992). Sportiche (1992) proposes that clitics are generated as functional heads in the clause structure. However, also in this analysis, clitics must be allowed to undergo head movement. It is not clear whether this clitic movement can be accounted for in terms of feature checking requirements, as is desirable in a minimalist approach. Kayne (1993) argues that clitics are subject to what we have called the Extended LCA (section I.3.3). It follows that if clitics undergo head movement, they can only adjoin to the left. In section III.2, I will adopt Sportiche's assumption that clitics are generated as functional heads. On the other hand, the prohibition of right adjunction of clitics of Kayne (1993) will turn out to be problematic for the analysis of cliticization in Germanic.

In contrast, the Minimalist Program appears to fit scrambling like a glove. Consider the standard scrambling paradigm in (9):

- (9) a. .dat Jan gisteren Marie gekust heeft
 that John yesterday Mary kissed has
 b. .dat Jan Marie gisteren gekust heeft
 that John Mary yesterday kissed has
 " .that John kissed Mary yesterday."

Recall that the minimalist approach does not allow optional movement. Consequently, the movement of the object which is clearly visible in (9b) must also be present in (9a). The obvious hypothesis, therefore, is that the N-feature of AgrO is strong in Dutch, triggering movement of the object to the specifier position of AgrOP.

If this is correct, the N-features of both AgrS and AgrO are strong. Chomsky (1992:11) argues that there should be a symmetry between the inflectional systems associated with the subject and the object. In other words, the feature specifications of both Agr heads should be identical, in the ideal case. This appears to be the case in Dutch.

Consider the consequences for adverbs. It must be possible to generate these in various positions in the course of the derivation of a sentence. But this is an attractive consequence. If adverbs are not freely generated, they too must undergo movement. This movement should be triggered by the need to license inflectional features. But at present it is unclear what features are associated with adverbs, and where in the functional domain these features would be represented. Therefore, the assumption that adverbs are freely generated is not unattractive.

Many other problems are associated with scrambling in Dutch. Some of these will be discussed in section IV.2.2.

Turning to extraposition finally, this type of movement is not possible in the minimalist approach, as we have seen. There is no known specifier to the right of the VP in which the features of extraposed elements could

be checked. Also, this type of movement is excluded by the ELCA (section I.3.3). What, then, explains the relevant word order patterns?

Recall that there are two sets of extraposition facts. Clausal complements *must* appear to the right of the final verbal position:

- (10) a. .dat Piet zei dat Jan Marie kuste
 that Pete said that John Mary kissed
 " .that Pete said that John kissed Mary."
 b. " .dat Piet dat Jan Marie kuste zei
 that Pete that John Mary kissed said

All other extraposed material may also appear to the left of the final verbal position (illustrated here for adjunct clauses):

- (11) a. .dat Jan Marie kuste toen de film begon
 that John Mary kissed when the movie started
 " .that John kissed Mary when the movie started."
 b. .dat Jan Marie toen de film begon kuste
 that John Mary when the movie started kissed
 " .that John kissed Mary when the movie started."
 c. .dat Jan toen de film begon Marie kuste
 that John when the movie started Mary kissed
 " .that John kissed Mary when the movie started."
 d. .dat toen de film begon Jan Marie kuste
 that when the movie started John Mary kissed
 " .that when the movie started John kissed Mary."

We may set the latter category apart, and consider them to be freely generated in the course of a derivation. We must make the same assumption to account for the fact that adverbs occupy various positions in the scrambling paradigm.⁸

Clausal complements, on the other hand, appear to be internal arguments of a verb. An implicit assumption in the minimalist approach is that Generalized Transformations first join a head and its internal argument. If no movements take place, then, the verb and the complement clause are both in their initial positions in (10a).

Do complement clauses undergo movement? To answer this question, we should look for inflectional features associated with the complement clause, and for functional projections in which these features should be licensed. In the absence of established knowledge in this respect, we should conclude that complement clauses, at least those of the Dutch type,

⁸ See Kaan (1992) for an analysis of 'extraposition' of these elements.

do not undergo movement.⁹ This is corroborated by the fact that these clauses are not islands, as we have seen.

The observation that clausal complements in Dutch are not islands must be accounted for in terms of bounding theory. I will assume, following Chomsky and Lasnik (1991), that the notion of *L-marking* (Chomsky 1986b) is crucial in this respect. I will make the following assumptions. A maximal projection is transparent only if it is L-marked.¹⁰ A projection is L-marked only if its sister is an L-related head. A head is L-related only if it is a lexical head or a functional head hosting features associated with a lexical head. Hence, clausal complements are L-marked by the lexical head V if they are in their basic position.

If this is correct, it may very well be the case that Dutch has a basic SVO structure.

In the next two chapters, this minimalist analysis of the syntax of Dutch will be developed in more detail.

⁹ It is conceptually attractive to assume that clausal complements have a licensing position in the functional domain just like noun phrase complements do. If so, the facts from Dutch indicate that the licensing position for clausal complements is not the same as the licensing position for noun phrase complements.

¹⁰ Following what was said in section 1.3.1, 'transparency' relates to chain formation rather than to movement. Thus, an empty category (trace) in a transparent phrase can be interpreted as a trace of the moved category, because the empty category and its antecedent are in the same local domain, or because nothing prevents generation of an intermediate empty element in a peripheral position of the phrase containing the trace, which can serve as a link between the trace and its antecedent in case they are not in the same local domain. In opaque phrases, generation of such an intermediate empty category linking the trace and its antecedent must be impossible.

III

VERB MOVEMENT IN DUTCH: THE POSITION OF THE FUNCTIONAL HEADS

I have argued in section 1.3.3 that the most straightforward implementation of the Minimalist Program does not involve a directionality parameter. This is also expressed in the extended version of the Linear Correspondence Axiom of Kayne (1993) (the *ELCA*).

The more detailed discussion of the phenomena of Dutch syntax in this chapter and in chapter IV will start from that angle. Many aspects of the standard analysis are built on the assumption that Dutch is an SOV language. In connection with this, it is also generally assumed that the functional heads in Dutch, with the exception of C, are generated to the right of the lexical projections. I will take issue with these two basic assumptions.

In this chapter, I will present several arguments in support of the idea that the functional projections in Dutch are head initial. These arguments include an analysis of the preposition/infinitival marker *te* (section 1), position of the verb in subject initial main clauses (section 4) and in inversion constructions (section 5). In the course of this chapter, an analysis of verb movement in Dutch will be developed, in which the verb moves to AgrS in subject initial main clauses, and to C in inversion constructions (cf. section II.4.3).

The position of the lexical heads will be discussed in chapter IV.

1 The Syntax of *te*

The Dutch morpheme *te*, a cognate of English *to* and German *zu*, is generally considered to be an infinitival marker. On the assumptions underlying the standard analysis of Dutch syntax, *te* must be generated in INFL. Since *te* invariably appears to the immediate left of the infinitival verb, the standard analysis of infinitival constructions involves raising of the infinitival verb to INFL, with right-adjunction of the verb to *te*.

As noted by Giusti (1991), this analysis, though generally adopted, has never received any empirical justification. Giusti attempts to fill that gap by proposing an analysis of infinitival preposing in German which crucially relies on the assumption that infinitival verbs adjoin to *zu* in INFL.

In this section, I intend to argue for two points. First, *te* is not an infinitival marker and is not generated in INFL. Consequently, the adjacency of *te* and the infinitival verb does not support rightward movement of the infinitival verb and adjunction to *te* in INFL. Second, the infinitival preposing facts studied by Giusti have no bearing on the issue of the position of either *te* or INFL.

1.1 The Status of *te*

1.1.1 Origin and Distribution of *te*

There is little doubt that the Dutch morpheme *te*, commonly characterized as an infinitival marker, originated as a preposition. This preposition, taking dative complements, is morphologically related to English *to*, German *zu*, and Gothic *du*. Its meaning would be roughly equivalent to *towards*, *onto*, *at*, and *for*.¹ *Te* as a preposition is no longer in productive use in Dutch, except in combination with place names (*te Groningen* 'in Groningen').²

¹ Other infinitival markers like Scandinavian *att*/*at*/*ad*, French *à*, Flemish *van*, and the morphemes *om* (Dutch), *um* and *om* (German, cf. Bhatt and Schmitt 1993), and *for* (English) derive from prepositions of the same semantic field.

² *Te* does figure in idiomatic expressions like *thuis < te huis* '(at) home'.

As a preposition, *te* could take a deverbal noun as its complement.³ In Old English, Old High German, and Middle Dutch, and to the present day in certain dialects of Dutch, the prepositional status of *te* in this combination is apparent from the dative Case morphology on the infinitival, yielding forms like *te lezende*.⁴

These aspects of the history of *te* do not necessarily affect the analysis of present day *te* as an infinitival marker, generated in INFL. However, infinitival verbs do not strictly speaking require the presence of *te*. *Te* is excluded in a number of contexts, listed below. The invariant morphological element in infinitival verbs in Dutch is not *te*, but the suffix *-(e)n*. If inflectional morphemes were generated in INFL, *-(e)n*, not *te*, should be generated there.

Te is excluded in the following contexts:

- infinitival main verbs

(1) Jan Marie (**te*) kusste? Dat nooit!
John Mary to kiss that never
'John kiss Mary? Never!'

- infinitival imperatives

(2) (**Te*) stoppen!
te stop
'Stop!'

- infinitivals used as subjects or objects⁵

(3) a. (**Te*) kussen is leuk
to kiss is fun
'Kissing is fun.'
b. Dat Jan Marie (**te*) kusste leerde
that John Mary to kiss taught
'...that John taught Mary 'kissing.''

³ Historically, the Indo-European infinitive is considered to be a verbal noun in the accusative Case, ending in *-orom*, where *-m* is the accusative Case suffix, *-to-* a nominalizing affix, and *-o-* a binding vowel (Krahe-Meid 1969:116). In Germanic, the *-om* part of the ending was lost in North Germanic; the *-e-* of the nominalizing affix was lost as well. In West Germanic, the infinitive appears to have been aligned with other nouns, acquiring a full set of Case endings.

⁴ Vanacker (1963:142), Landheer (1951:78), Bayer (1983), and references cited there.

⁵ In the b-sentence, the infinitive occurs to the left of the matrix verb, like object NPs. Whose infinitive appears to the right of the matrix verb, we are no longer dealing with an object infinitival, and *te* is possible: *dat Jan Marie leerde (te) kussen* 'that John taught Mary to kiss'.

- nominal infinitives

(4) Dat alsmaar meisjes ^(te)kussen wordt verwelend
 that all the time girls to kiss becomes boring
 "This kissing girls all the time gets boring."

- complements of auxiliary verbs

(5) a. Jan wil Marie ^(te)kussen
 John wants Mary to kiss
 "John wants to kiss Mary."
 b. Jan komt Marie ^(te)kussen
 John comes Mary to kiss
 "John comes and kisses Mary."

- complements of perception verbs and causative verbs⁵

(6) a. Piet ziet Jan Marie ^(te)kussen
 Pete sees John Mary to kiss
 "Pete sees John kiss Mary."
 b. Piet laat Jan Marie ^(te)kussen
 Pete lets John Mary to kiss
 "Pete lets John kiss Mary."

Te is required in the following contexts:

- complements of prepositions and nouns

(7) a. _door Marie ^(te)kussen
 by Mary to kiss
 "...by kissing Mary."
 b. Jan houdt er van Marie ^(te)kussen
 John holds there of Mary to kiss
 "John loves it to kiss Mary."
 c. de mogelijkheid Marie ^(te)kussen
 the possibility Mary to kiss
 "the possibility of kissing Mary"

⁵ In Middle Dutch, *te* was not excluded in the complement of causative *doen* 'do': *doen te weten* 'let know' (Stoett 1977:203).

- in *tough*-constructions⁷

(8) a. Marie is moeilijk ^(te)kussen
 Mary is hard to kiss
 b. Een vasa om de as in ^(te)ontvangen
 A vase OM the ashes in to receive
 "A vase to receive the ashes in."

- in gerundives

(9) a. Marie is ^(te)vertrouwen
 Mary is to trust
 "Mary can be trusted."
 b. En dan ^(te)bedenken dat...
 and then to think that
 "To think that..."

- in the complement of control verbs⁸

(10) a. Jan probeert Marie ^(te)kussen
 John tries Mary to kiss
 "John tries to kiss Mary."
 b. Jan meent intelligent ^(te)zijn
 John believes intelligent to be
 "John, thinks he, is intelligent."

- in the complement of certain raising verbs

(11) Jan schijnt Marie gekust ^(te)hebben
 John seems Mary kissed to have
 "John seems to have kissed Mary."

⁷ In Middle Dutch, and still in certain dialects (West Flemish, Groningen) *te* does not appear in combination with *om* in adjunct clauses: *mooi om zien* 'beautiful to see' (Stoett 1977:204). Alternatively, *om* can be left out in Middle Dutch adjunct clauses: *verz die zachten in zongene* 'turns the ashes in to receive'.

⁸ In Flemish dialects, *te* appears to be absent in certain control complements (cf. De Rooij 1969).

• in durative constructions⁹

- (12) Jan staat Marie *(te) kussen
 John stands Mary to kiss
 "John stands and kisses Mary", "John kisses Mary (for some time)."

• in infinitival questions

- (13) a. Jan wist niet wat *(te) doen
 John know not what to do
 "John didn't know what to do."
 b. Wat *(te) doen?
 what to do
 "What should we do?"

In all of the examples (1)-(13), the non-finite tense on the verb is expressed by the morpheme *-en*. This, then, appears to be the infinitival morpheme. Like all tense markers in Dutch, *-en* is a bound morpheme appearing as a suffix to the verb.

Te, on the other hand, may be present or absent, depending on the configuration in which the infinitival verb appears. *Te*, then, appears to be involved in expressing a syntactic relation rather than tense. In this respect, *te* looks like a complementizer or a preposition, more than like an inflectional element.

This does not exclude the possibility that *te* in Modern Dutch functions as a tense marker rather than as a preposition. However, this would be strange given the fact that there is a clear infinitival marker *-en* on Dutch infinitives, and given the fact that *te* is excluded in a number of contexts where infinitivals appear. What we can say is that *te* signals the presence of an infinitive, but not that the tense features of the infinitive are represented in *te*. Also, the intimate connection between *te* and the infinitival may be due to the circumstance that *te* is no longer productively used as a preposition, rather than to the presence of infinitival features in *te*.

In the next subsection, I will investigate the properties of *te* in a little more detail.

⁹ If the durative verb is an infinitival, *te* is optional: *Jan heeft Marie staan (te) kussen* (lit. John has Mary stand (to) kiss', 'John kissed Mary (for a while)'. This also happens whenever the durative verb is in the complement of the auxiliary *hebben* 'have'. In that case the durative verbs always take the form of an infinitival instead of a past participle (the *Infinitivus Pro Participio* or *IPP* effect).

1.1.2 Further Properties of *te*

It is tempting to consider Dutch *te* as a prefix attached to an infinitive. However, there are at least four reasons not to describe *te* as a prefix.

First, as shown by the distribution of *te* in 1.1.1, *te* appears to have the syntactic function of a complementizer/preposition. Such elements are not generally described as prefixes, but as (functional) heads.

Second, *te* and the infinitive can be separated in certain dialects of Dutch, especially Gronings (Schuurman 1987).

- (14) a. Zai begon te toavel schoon moaken
 she started to table clean make
 "She started to clean the table."
 b. Hai zat te krnaanten lezen
 he sat to newspapers read
 "He was reading newspapers."

Schuurman (1987) observes that this construction does not have most of the expected properties of incorporation constructions. For instance, as is clear from (14b), the noun phrase intervening between *te* and the infinitive can be marked for number. Also, the intervening constituent can be a complete Small Clause:

- (15) Hest volk genog te heu in schuur bringen?
 have-2SG people enough to buy in barn bring
 "Do you have enough people to bring the hay into the barn?"

These and other phenomena studied in Schuurman (1987) make it unlikely that the Groningen construction is an instance of incorporation. Consequently, *te* cannot be a prefix attached to the infinitive here.

Third, *te* can in some dialects appear on the 'wrong' infinitive (Vanacker 1969):

- (16) a. ...voor komen te werken dialect of Geel
 for come to work
 "...to come and work."
 b. ...om te komen werken Standard Dutch
 for to come work
 "...to come and work."

The complementizers *om* (Standard Dutch) and *voor* (Southern dialects) introduce adjunct clauses or control complements. *Te* is required on the infinitive heading the complement of these complementizers. In the sentences in (16), this infinitive is an auxiliary verb *komen* 'come'. This verb does not require *te* on the head of its complement (cf. (5b)). The construction in (16a), therefore, is as expected. In (16a), *te* appears to have

shifted to the complement of the auxiliary. Let us refer to this phenomenon as *te*-shift.¹⁰

Te-shift is an unexpected phenomenon if *te* should be analyzed as a prefix of the infinitival verb.¹¹

Fourth, one *te* suffices for two coordinated bare infinitives.¹²

- (17) -om in L.A. te leven en (te) sterven
 for in L.A. to live and to die
 "...to live and die in L.A."

This is impossible with prefixes like perfective *ge*-:

- (18) -om in L.A. geboren en "(ge)storven to zijn
 for in L.A. born and died to be
 "...to be born and have died in L.A."

The properties of the coordination of *te*-infinitivals are peculiar and merit further exposition.

Te must be present on both infinitives if one of them has an object:

- (19) a. -om in L.A. te wonen en kinderen "(te) krijgen
 for in L.A. to live and children to get
 "...to live and get children in L.A."
 b. -om in L.A. kinderen te krijgen en "(te) sterven
 for in L.A. children to get and to die
 "...to get children and die in L.A."

¹⁰ *Te*-shift appears in parts of East Flanders, Antwerp, and in Belgian and Dutch Brabant. It is apparently unrelated to Verb Projection Raising, which is predominant in the West of Belgium (Vanacker 1970). Geel is in the Belgian province of Antwerp, just south of the Dutch part of Brabant.

¹¹ A possible explanation for the phenomenon of *te*-shift is that the relevant construction is derived from a construction in which both infinitives have *te*. According to my observations of Brabantish, *te*-shift is most frequent with auxiliary verbs like *staan* 'stand', *liggen* 'lie', *zitten* 'sit', etc. These are aspectual verbs, expressing duration. When tensed, these verbs take an infinitival complement with *te*. When nontensed, these verbs take a *te*-less infinitival complement in Standard Dutch, but *te* is retained in several dialects (Shepherd 1946:60 on Manuscripts). If this is also the case in *te*-shift dialects, the relevant constructions could be derived from a *te*-V order by deletion of the first *te*. Weijnen (1982:51) reports that Bredero (1588-1618) allows deletion of either *te* in such constructions. I leave this for further study.

¹² Examples with more than two verbs are also possible, as in L.A. is *een mooie stads om in te wonen, werken, en sterven*. L.A. is a great city to live, work, and die in. It should be noted that not all Dutch speakers accept coordination of bare infinitives in the complement of *te*. For me and several other native speakers from various regions of the country, the judgments are perfectly clear. For others, at least the relative judgments reported in the text are correct.

On the other hand, one *te* suffices when the two infinitives share the same object:

- (20) -om boeken te kopen en (te) lezen
 for books to buy and to read
 "...to buy and read books."

When one of the infinitives is a particle verb and the other is not, *te* cannot be left out when the two infinitives are coordinated:

- (21) a. -om kinderen op te voeden en "(te) verwanen
 for children up to feed and to spoil
 "...to raise and spoil children."
 b. -om kinderen te krijgen en op "(te) voeden
 for children to get and up to feed
 "...to get and spoil children."

But when the two verbs are construed with the same particle, *te* can be left out again:

- (22) -om dat bericht door te faxen of ((door) te) bellen
 for that message on to fax or on to call
 "...to forward that message by fax or phone."

Apparently, a complete parallelism between the two infinitives is required for leaving out the second *te*. This suggests that leaving out *te* is an instance of gapping. If so, *te* cannot be a bound morpheme.

This suffices as an argument against analyzing *te* as an infinitival marker. A more positive approach to the phenomena at hand will not be attempted here. An interesting suggestion might be that *te* started out as a preposition/complementizer, on a par with *at* in Scandinavian and *to* in English.¹³ The combination of *te* with the infinitival complementizer *om* is considered to be pleonastic in Middle Dutch (Stoet 1977:204). In present day Standard Dutch, however, *te* is regularly combined with *om* in infinitival clauses (with the exception of raising complements and control verbs selecting states like *menen* 'think'). Apparently, the syntactic function of *te* has changed. One possibility could be that *te* has been reduced to a clitic. This may be supported by the observation that *te*, unlike English *to*, cannot be stressed. I will leave this as a subject for further study.¹⁴

¹³ See Lencho (1992) for arguments that *to* is a complementizer.

¹⁴ Possibly the reduction of *te* to clitic status has not been completed in the Groningen dialect. This makes it unnecessary to analyze the Groningen phenomena studied in Schuurman (1987) as incorporation phenomena.

1.2 Preposing of Infinitivals

In this subsection, I will discuss an argument advanced in Giusti (1991) in support of the idea that INFL is generated to the right of the VP in German. The argument assumes that German *zu* (Dutch *te*) is an infinitival marker generated in INFL. I will assume that too, for the sake of the argument. Giusti contends that certain phenomena of infinitival preposing can only be accounted for on the assumption that the infinitival verb raises to INFL and adjoins to *zu*. The argument is based on German facts, but the facts in Dutch are similar, and both the argument and my refutation of it are applicable to both languages.

1.2.1 Giusti (1991)

In Dutch and German, past participles and infinitives can be preposed. The phenomenon is illustrated in (23) with examples from Dutch:

- (23) a. Gekust heeft Jan Marie niet
kissed has John Marie not
 *John did not KISS Mary.¹⁴
 b. Kussen wil Jan Marie niet
 kiss wants John Marie not
 *John does not want to KISS Mary.¹⁵

The preposed element in (23) may include complements of the verb, as well as VP-adverbs:

- (24) a. Snel Marie gekust heeft Jan niet
 quickly Marie kissed has John not
 *Kiss Mary quickly is not what John did.¹⁶
 b. Snel Marie kussen wil Jan niet
 quickly Marie kiss wants John not
 *Kiss Mary quickly is not what John wants.¹⁷

It is generally assumed that the sentences in (24) are derived from the representations in (25) by moving the complement of *heeft* 'has' and *wil* 'wants', respectively, to the specifier position of the matrix CP.¹⁸

¹⁴ I will leave the status of the complement of auxiliary verbs open.

- (25) a. Jan niet [VP snel Marie gekust] heeft
 John not quickly Mary kissed has
 b. Jan niet [VP snel Marie kussen] wil
 John not quickly Mary kiss wants

(23) appears to be different from (24). In (24), the preposed element is a phrase, whereas in (23), the preposed element appears to be a head. If the preposed element in (23) really is a mere head, (23) must be analyzed in a different way than (24), because heads cannot move to a specifier position. In view of the obvious parallels between (23) and (24), this would be an undesirable consequence.

For this reason, Den Besten and Webelhuth (1987) argue that in (23) the preposed element is a phrase, just like in (24). It only looks like a head, because all the other elements have been moved out of the phrase through scrambling, prior to the preposing operation. What is preposed, then, is the remnant of a phrase, but it is still a phrase. Therefore, the movement to spec of CP is allowed and (23) and (24) can be described in the same terms. Den Besten and Webelhuth call the preposing in (23) *remnant topicalization*.

Giusti (1991) now mentions the following facts of preposing of *zu*-infinitivals in German:

- (26) a. * Zu schreiben hat er mich den Bericht ermuntert
 to write has he me the report encouraged
 *He encouraged me TO WRITE the report.¹⁹
 b. Zu schreiben hat er den Bericht versucht
 to write has he the report tried
 *He tried TO WRITE the letter.²⁰

(26b) appears to be a simple case of remnant topicalization: *den Bericht* 'the report' is first scrambled out of the most deeply embedded VP *den Bericht zu schreiben* 'to write the report', after which the remnant of the VP is preposed to the specifier of CP.

However, (26a) can be derived by the same mechanism. This would leave unexplained why (26a) is ungrammatical and (26b) not. Therefore, an additional step in the analysis is required.

Giusti notes that the complement of *versuchen* 'try' is more transparent than the complement of *ermuntern* 'encourage', a phenomenon already noticed in Evers (1975). Consequently, she hypothesizes that in (26b), *den Bericht* 'the report' is scrambled into the matrix clause, and that *zu schreiben* 'to write' is not the remnant of a VP, but the remnant of a clausal category (IP or CP).²¹ In (26a), *den Bericht* 'the report' cannot be

¹⁹ Giusti in particular argues that the preposed constituent is a CP, but that does not affect the argument here.

scrambled into the matrix clause, because of the opacity of the complement of verbs like *ermunteren* 'encourage'. As a result, preposing of a clausal category like in (26b) will result in (27), not in (26a):

- (27) *Den Bericht zu schreiben* hat er mich ermuntert
the report to write has he me encouraged

To make this solution work, another problem must be solved. Suppose we choose to prepose a VP instead of a clausal category in (26a). Then, assuming again that *den Bericht* can be scrambled out of the VP, (26a) would still be expected to be a grammatical instance of remnant topicalization.

This problem is solved if we assume that *zu*-infinitivals are always in INFL. In that case, the VP in (26) is completely empty. The preposed category has to be at least an IP, and inevitably contains the scrambled object as well. Hence, (27) is the only grammatical outcome.

The upshot of this discussion in Giusti (1991) is that it provides evidence for the following two assumptions:

1. The verb moves to INFL in embedded clauses in German
2. IP is head final in German

The first assumption is directly supported by the analysis of remnant topicalization of *zu*-infinitivals. The second assumption is not directly supported by this analysis, unless it is assumed that scrambling is adjunction to VP. In that case, *zu schreiben* in (27) would precede *den Bericht* if IP were head initial, contrary to fact.

In the next section, I will address this argument in support of a head final IP in German. It will turn out that if topicalization is studied from a minimalist point of view, the argument vanishes.

1.2.2 A Minimalist Analysis

Giusti's (1991) analysis of infinitival preposing obscures two points that I think are essential to an understanding of the phenomenon.

First, it is a remarkable fact that only non-finite verbs can be preposed. See (28), from Dutch:

- (28) a. *Schrijven denk ik niet* dat hij dat boek wil
write think I not that he that book wants
"I don't think he wants to WRITE that book."
b. * *Schrijft denk ik niet* dat hij dat boek
writes think I not that he that book

Second, it is not clear that the initial element in the remnant topicalization cases is really preposed to the specifier of CP instead of generated in a sentence initial position to the left of the specifier of CP (cf. II.2.3). Notice that, at least in Dutch, the so-called *d-word* optionally appears between the preposed verb projection (or clause) and the verb in C:

- (29) a. *Gekust* (dat) heeft Jan Marie niet
kissed that has John Mary not
"John did not KISS Mary."
b. *Kussen* (dat) wil Jan Marie niet
kiss that wants John Mary not
"John does not want to KISS Mary."

Following the analysis of topicalization in Koster (1978b), we may assume that in (29) the *d-word dat* has been preposed, leaving a trace, and that the preposed VPs are generated in a left adjoined position.¹⁷

The *d-word* analysis is independently needed for examples of VP-preposing where reconstruction of the preposed VP does not give a grammatical result. An example is given in (30):

- (30) a. *Meisjes kussen* (dat) doet Jan niet
Girls kiss that does John not
"Kissing girls is not something John does."
b. * *Jan doet niet meisjes kussen*
John does not girls kiss
"John does not kiss girls."
c. *Dat doet Jan niet*
that does John not
"That is not something John does."

As can be seen, reconstruction of the *d-word* does lead to a grammatical result.

Surprisingly, the pattern of (30) is repeated when the object of the preposed verb is not part of the preposed constituent:

¹⁷ See section 5.3 for a more detailed analysis of topicalization.

- (31) a. Kussen (dat) doet Jan Marie niet
kiss that does John Mary not
"John does not KISS Mary."
b. * Jan doet Marie niet kussen
John does Mary not kiss
"John does not kiss Mary."
c. Dat doet Jan Marie niet
that does John Mary not
"John does not X Mary."

(31c) is only grammatical when a certain verb is present in the context or the discourse so that its lexical content can be substituted for X in the translation. A similar phenomenon is found in (32):

- (32) a. Kussen? Dat doet Jan Marie niet
kiss that does John Mary not
"Kiss? That is not something John does Mary."
b. # Het is mooi weer. Dat doet Jan Marie niet
It is nice weather. that does John Mary not

Remarkably, constructions with *dat* as a placeholder for a verb or verb projection are only grammatical when there is at least one verb left:

- (33) Kussen? Dat denk ik niet dat Jan Marie *(doet)
kiss that think I not that John Mary does
"Kiss? I don't think John does that Mary."

This is reminiscent of the impossibility to prepose finite verbs (cf. (28)).

Let us now consider these phenomena from a minimalist point of view. Two questions should be answered. First, how is it that finite verbs cannot be preposed? Second, why is it that there always has to be one verb left in the non-preposed part of the construction?

The first question is easy to answer. A finite verb carries a feature associated with the finite inflection. This feature must be checked off against the corresponding features in the functional domain. If these features are not checked off against each other, the V-features of the relevant functional head will not be eliminated at the interface levels and the derivation will crash. Notice that this answer is only valid if the d-word is unable to check off the relevant features. So let us assume that. The second question can be answered along the same lines. Consider a standard case of remnant topicalization:

- (34) Gekust (dat) heeft Jan Marie niet
kissed that has John Mary not
"John has not KISSED Mary."

Under the d-word analysis, (34) is derived from (35):

- (35) [Jan heeft Marie dat niet]
John has Mary that not

In (35), the d-word *dat* is reconstructed in the final verbal position.

However, as we have assumed, *dat* is not equipped with the features needed to match the V-features of the functional heads in (35). For instance, *Marze*, the object of the understood verb, checks its Case features in the spec position of an AgrO somewhere in (35). This AgrO also has V-features, and these must be checked as well. *Dat* cannot do that.

Fortunately, there is another verb left in (35), the auxiliary verb *heeft* 'has'. This verb can check off all the V-features present in the functional heads needed in the derivation of (34). In fact, the minimalist approach predicts that in remnant topicalization constructions there always has to be at least one verb left in the non-preposed part of the construction. Without this verb, certain V-features (associated with AgrS, AgrO) would remain unchecked, and the derivation would not converge.

This analysis presupposes a particular organization of the functional domain with respect to the lexical domain. More exactly, it must be assumed that the functional projections associated with elements of an embedded clause may be part of the functional domain of the matrix clause. Thus, the AgrO associated with *Marze* in (35) must not be generated in the embedded clause but in the matrix clause. Only then will the matrix verb be able to move through AgrO and check the relevant V-features.

We will see in section 2 that this assumption is independently needed to account for the position of the embedded subject and object in Exceptional Case Marking constructions (see also Kaan 1992, Haegeman 1992a). For now, let us assume that this is at least a possibility.

We are now in a position to address Giusti's (1991) argument. Consider again the contrast in (26), now exemplified in Dutch:

- (36) a. * To kussen heeft Piet Jan Marie gestimuleerd
to kiss has Pete John Mary stimulated
"Pete stimulated John to KISS Mary."
b. To kussen heeft Jan Marie niet geprobeerd
to kiss has John Mary not tried
"John didn't try to KISS Mary."

As noted by Giusti, the complements of the verbs that allow the construction in (36b) (like *proberen* 'try', German *versuchen*) show transparency effects. Giusti mentions clitic placement and scrambling from the embedded clause into the matrix clause as examples. See (37) for an example of scrambling into the matrix clause in Dutch:

- (37) a. *-dat Jan Marie geprobeerd heeft te kussen*
 that John Mary tried has to kiss
 b. *-dat Jan geprobeerd heeft Marie te kussen*
 that John tried has Mary to kiss
 "...that John tried to kiss Mary."

Since scrambling in the minimalist approach is analyzed as movement to the specifier position of AgrOP (cf. section II.4.3), this confirms the assumption made above: apparently the AgrOP needed to check off the features of the embedded object may be part of the functional domain of the matrix clause.

In contrast, verbs like *stimuleren* 'stimulate' (and German *ermuntern* 'encourage') do not show these transparency effects. Crucially, no scrambling into the matrix clause is allowed:

- (38) a. * *-dat Piet Jan Marie gestimuleerd heeft te kussen*
 that Pete John Mary stimulated has to kiss
 "...that Pete stimulated John to kiss Mary."
 b. *-dat Piet Jan gestimuleerd heeft Marie te kussen*
 that Pete John stimulated has Mary to kiss
 "...that Pete stimulated John to kiss Mary."

This implies that in these constructions the functional projections associated with elements in the embedded clause cannot be part of the functional domain of the matrix clause.

This has a major consequence for remnant topicalization in these constructions. Consider (36a):

- (36) a. * *Te kussen heeft Piet Jan Marie gestimuleerd*
 to kiss has Pete John Mary stimulated
 "Pete stimulated John to KISS Mary."

In the d-word analysis, (36a) looks like (39a), derived from (39b):

- (39) a. * *Te kussen dat heeft Piet Jan Marie gestimuleerd*
 to kiss that has Pete John Mary stimulated
 b. { *Piet heeft Jan [Marie dat] gestimuleerd* }
 Pete has John Marie that stimulated

In (39b), as in (35), *dat* stands for a verb the lexical content of which is present in the context or the discourse. *Marie* is a direct object of this verb, and has features to be checked in the specifier of an AgrOP. Since *stimuleren* 'stimulate' takes an opaque complement, *Marie* must check its features in an AgrOP *inside* the complement clause. Consequently, the V-features of the head of this AgrOP must be checked by a verb in the embedded clause. But there is no such verb in the embedded clause, just

the d-word *dat*. As a result, the V-features of the AgrO in the embedded clause will remain unchecked, and the derivation will crash.

In this analysis, the contrast in (26) and (36) is explained in general terms, in accordance with the minimalist approach. The analysis provides an explanation for the contrast noted by Giusti (1991), but in addition explains why preposing of finite verbs is impossible, and why there always has to be at least one verb that is not preposed.

A minor result of this analysis is that Giusti's conclusions as to the position of INFL and the occurrence of verb movement to INFL in infinitivals in German (and Dutch) are not valid. The impossibility of preposing *zu schreiben* and stranding *den Bericht* in (26a) has nothing to do with the position of *zu schreiben*. (26a) is ungrammatical because preposing *zu schreiben* robs the embedded clause of its only verb. This makes it impossible to check the V-features of the functional heads of the embedded clause. In (26b), preposing of *zu schreiben* and stranding of *den Bericht* is grammatical, because the functional projections associated with the embedded clause are part of the functional domain of the matrix clause. This assumption is independently needed to account for scrambling of *den Bericht* into the matrix clause. As a result, the V-features of the functional heads of the embedded clause can be checked by the matrix verb.

In fact, the paradigm in (26) is spurious, because (26a) is ungrammatical for independent reasons: *den Bericht* has been scrambled out of an opaque domain. The correct paradigm is (26)' below:

- (26)' a. * *Zu schreiben hat er mich ermuntert den Bericht*
 to write has he me encouraged the Report
 "He encouraged me to write the report."
 b. *Zu schreiben hat er den Bericht versucht*
 to write has he the report tried
 "He tried to write the report."

It is clear that (26'a) is wrong for the same reason that (28b) is wrong. There is no verb left to remove the V-features of the functional heads of the embedded clause.

This analysis predicts that (28b) becomes grammatical again when the embedded clause contains a second verb selecting a transparent complement. This is correct.

- (40) ? *Te kussen heeft Piet Jan gestimuleerd Marie te proberen*
 to kiss has Pete John stimulated Mary to try
 "Pete stimulated John to try to KISS Mary."

Compare also the following (Dutch) contrast:

- (41) a. * *Gekust te hebben* heeft Piet Jan wijsgeernaakt Marie
 kissed to have has Pete John wise-made Mary
 "Pete made John believe to have kissed Mary."
 b. *Gekust heeft Piet Jan wijsgeernaakt Marie te hebben*
 kissed has Pete John wise-made Mary to have
 "Pete made John believe to have kissed Mary."

Like *stimuleren* 'stimulate', *wijsmaken* 'make believe' takes an opaque complement.

- (42) a. * *...dat Piet Jan Marie wijsgeernaakt heeft gekust te hebben*
 that Pete John Mary wise-made has kissed to have
 b. *...dat Piet Jan wijsgeernaakt heeft Marie gekust te hebben*
 that Pete John wise-made has Mary kissed to have
 "...that Pete made John believe to have kissed Mary."

Marie in (42) cannot be scrambled into the matrix clause. Therefore, in (41a) *Marie* is stranded in the embedded clause, without a verb left to check the V-features of *Agro*. In (41b), the auxiliary is left behind in the embedded clause, and the construction is grammatical again.

In short, (28'a) and (41b) are ungrammatical for the same reason that (28b) is ungrammatical. Hence, this paradigm does not allow us to draw conclusions as to the position of INFL in Dutch or to the occurrence of verb movement to INFL in infinitival constructions.

1.3 Conclusion

There does not appear to be a compelling reason for analyzing *te* as an infinitival marker, generated in INFL. Consequently, the fact that *te* invariably appears to the immediate left of the infinitive does not prove or suggest that INFL is generated to the right hand side of the VP, or that the infinitive raises to INFL in embedded clauses.

However, even if we assume that *te* is an infinitival marker, generated in INFL, the hypothesis that INFL is located to the right of the VP is not supported by any empirical considerations. The argument advanced in Giusti (1991) disappears once the phenomena are considered from a minimalist perspective.

This ties in with the observations made earlier in section II.3.1 concerning the hypothesis that IP in Dutch is head final. This hypothesis, I concluded there, is not supported by empirical argumentation, considering the fact that the proposed movement of the verb to INFL in embedded clauses is always vacuous.

In the remaining sections of this chapter I will consider some empirical argumentation in support of the hypothesis that the functional projections in Dutch are all head initial.

2 Clitics in Dutch

In this section, and in the following sections, I will provide positive evidence in support of the hypothesis that the functional projections in Dutch are head initial. The first piece of argumentation comes from an analysis of clitic phenomena in Dutch.

The argument has three steps. First I will discuss the nature of the weak pronouns in Dutch and conclude that they are syntactic clitics (section 2.1). Second, I will discuss the categorial status of clitics, and adopt the hypothesis that clitics are generated as heads of functional projections (section 2.2). It then follows from the distribution of the clitics in Dutch that there are functional heads to the left of the VP in Dutch. In section 2.3, an attempt at a minimalist analysis of clitic placement will be made.

The argumentation goes back to Zwart (1990b), and has been developed in subsequent work (Zwart 1991a, 1992b).¹

2.1 The Status of the Weak Pronouns in Dutch

2.1.1 Types of Clitics

In Zwicky's 1977 discussion of clitics from the point of view of generative syntax, three classes of clitics are distinguished: *simple clitics*, *special clitics*, and *bound words*.

Bound words are unaccented bound morphemes that can be associated with a variety of hosts, like Latin *-que* 'and'. *Simple clitics* are phonologically reduced free morphemes that show no special syntax, like English *'m* in (1):

- (1) I can't stand'im (stamm)

Special clitics are unaccented bound forms that act as variants of stressed free forms, and show special syntax, like French *le* in (2):

¹ Jaspers (1989) was the first to conclude from the distribution of clitics in Dutch that there must be functional heads to the left of VP in Dutch. However, his conclusion is not generalized over all functional heads in Dutch. Hoegeman (1991) applies the analysis of clitics in Dutch of Zwart (1991a) to West Flemish and reaches identical conclusions as to the position of the functional heads. See also Cardinaletti and Roberts (1991) and Cardinaletti (1992a) for further discussion of clitics in Germanic.

- (2) *J'e* *le vois*
 I him see

Simple clitics and special clitics are sometimes difficult to tell apart.

Simple clitics are obviously the result of phonological reduction, as in casual speech. Accordingly, in (1) the clitic can be replaced by an unreduced variant:

- (3) I can't stand him [stand him]

But special clitics are often morphologically related to unreduced variants as well, as in French *le* and *lui*. In that case, they may be analyzed as simple clitics that have achieved a special syntactic status in some way (Zwicky 1977:6).

Accordingly, the clitic in (2) cannot be replaced by its full variant:

- (4) * *J'e* *lui* *vois*
 I him see

Thus, the behavior of simple clitics is to be described in phonological terms, whereas the behavior of special clitics is to be described in terms of syntax.²

The weak pronouns in Dutch, repeated here from section II.1.5, are obviously morphologically related to the corresponding strong variants:

- (5) *Strong subject pronouns*
 1SG ik 1PL wij
 2SG jij 2SG jullie
 3SG hij/zij 3SG zij

² From the facts presented here, it cannot be concluded that clitics in French are not simple clitics. It may be that the natural pattern of French sentence intonation blocks full variants in certain positions. However, it can be shown that the general pattern of intonation does not restrict the occurrence of French clitics. In affirmative imperatives, the pattern of intonation requires stress on the ultimate, but this does not restrict clitics from that position, as in *Lez-le* 'kill him'.

- (6) *Weak subject pronouns*

1SG ik 1PL we
 2SG je 2PL -
 3SG ie/ze 3PL ze

- (7) *Strong object pronouns*

1SG mij
 2SG jou
 3SG hem/haar 3PL hen, hun

- (8) *Weak object pronouns*³

1SG me 1PL -
 2SG je 2PL -
 3SG 'm/'t 3PL ze

The question arises whether these weak pronouns show special syntax compared to the strong variants. In other words, should they be regarded as simple clitics or as special clitics in Zwicky's terminology?

2.1.2 Phonological Reduction

Berendsen (1986) argues that the weak pronouns in Dutch are not derived from the strong pronouns through phonological reduction. His argument is based on the observation that the weak pronouns may have a specialized meaning which the strong pronouns lack. This indicates that they are stored in the lexicon as weak pronouns, and that their weakness is not a result of phonological rules.

For example, the weak forms of the 2SG and 3PL pronouns may have a generic interpretation ('people'), but the corresponding strong forms may not:

- (9) a. *Ze* *zeggen* *zoveel*
 they say so much
 'They/people say a lot.'
 b. *Zij* *zeggen* *zoveel*
 they say so much
 'They"/people say a lot.'

³ In addition to the object clitics listed here, some dialects of Dutch have a prative object clitic *'s* 'some'.

- (10) a. *Je leeft maar één keer*
you live but one time
"You(addressed)/you(people) only live once."
b. *Jij leeft maar één keer*
you live but one time
"You(addressed)/you(people) only live once."

Similarly, the weak 3PL pronouns (both subject and object) can be used to refer to both persons and things, whereas the strong 3PL pronouns can only be used to refer to persons (cf. Kayne 1975, 86):⁴

- (11) a. *Ze/zij zijn uit voorraad*
they are out stock
"They are out of stock."
b. *Ik heb ze/ze hen gerepareerd*
I have them repaired
"I repaired them."

This semantic specialization is unexpected if the weak pronouns are derived from the strong pronouns by phonological rules. Hence, it must be the case that the weak pronouns and the strong pronouns, though morphologically related, are stored in the lexicon separately.

Berendsen also shows that in ISG and 2SG only weak pronouns are used as SE-anaphora (in the terminology of Reinhart and Reuland 1991).⁵ Thus:

- (12) a. *Ik schaam me/mij*
I shame me
"I'm ashamed."
b. *Jij schaamt je/jou*
you shame you
"You're ashamed."

Again, if the weak pronouns are phonologically reduced forms of strong pronouns, this syntactic specialization of the weak pronouns is unexpected.

In addition, Berendsen argues that separate storage of weak pronouns in the lexicon is needed to account for the fact that certain idiomatic expressions involving pronouns allow only the weak form. The examples Berendsen gives are of the following type:

⁴ It is assumed that people cannot be repaired.

⁵ In 2SG and 3PL, a special pronoun *zich* is used as a SE-anaphor.

- (13) a. *Daar gaat ie/hij*
there goes he
"Here goes."
b. *Daar kun je/hij donder op zeggen*
there can you thunder on say
"You can bet your bottom dollar."

These examples can easily be multiplied. For example, numerous stock phrases containing a pronoun require the weak variant. The stock phrases in (14) are not of a productive type, and the weak pronouns are obligatory. When made productive, as in (15), the phrases allow both weak and strong pronouns.

- (14) a. *Dank je/jou*
thank you
b. *Ben je/hij!*
are you
c. *"Are you crazy?"*
Denk je/hij?
think you
d. *"Do you think so?"*
Zie je/hij
see you
"You see."

- (15) a. *Ik dank je/jou*
I thank you
b. *Ben je/hij nu helemaal gek geworden?*
are you now totally crazy become
"Are you completely out of your mind?"
c. *Denk je/hij nog wel eens aan vroeger?*
think you still sometimes on earlier
"Do you still think of the old days sometimes?"
d. *Zie je/hij wat ik bedoel?*
see you what I mean
"Do you see what I mean?"

Berendsen argues as follows. Assuming that idiomatic expressions are stored in the lexicon, then under a phonological reduction analysis the pronouns in the idiomatic expressions should be associated with a feature [obligatory reduction]. In a lexical storage analysis the weak pronouns are available from the outset and no feature specification is needed. Since the feature [obligatory reduction] is ad hoc, the lexical storage analysis must be preferred.

This argument is not entirely satisfactory, because idioms may be stored in the lexicon as phrases (DiSciullo and Williams 1987). If idiomatic expressions for some reason are learned with the pronouns in reduced

form, then the fact that they are always *used* with the pronouns in reduced form does not imply that weak pronouns are stored in the lexicon. It is a common property of idiomatic expressions to require phonologically reduced forms. An example not including pronouns is given in (16). Again, this does not show that phonologically reduced forms are lexically stored.

- (16) Hij knijpt 'm als een oude dief
 he pinches him like an old thief
 "He is very much afraid that he will be caught."

Berendsen's argument implies that *ouwe* 'old' is also lexically stored separately from *oude* 'old'. In that case, we seem to be missing a generalization, considering the existence of pairs like *gouden-gouwe* 'golden', *koude-kouwe* 'cold'.

Nevertheless, Berendsen's observations do warrant the conclusion that the status of the weak pronouns in Dutch is not due to a phonological reduction operation taking place *during sentence production*. This forms the first piece of evidence that these weak pronouns are 'special clitics' rather than 'simple clitics', in Zwicky's terminology.

2.1.3 Heads or Phrases

Baltin (1982), building on earlier work by a.o. Kayne (1975:31ff), argues that clitics are heads ('lexical nodes' in his terminology, Baltin 1982:4).

According to standard argumentation, this is demonstrated by the fact that clitics cannot be modified, conjoined, or used in isolation. We can use these tests to determine the status of the weak pronouns in Dutch. However, it appears that these tests are not sufficient, since they generalize over 'special clitics' and 'simple clitics'.

Consider the following examples from French (Kayne 1975):

- (17) a. Ne tue qu'eux deux
 NEG kill than THEY two
 "Kill only the two of them."
 b. Tue-les ("deux)
 Kill them two
 "Kill them."
 (18) a. Tue Jean et Marie
 kill John and Mary
 b. Tue-le ("et la)
 kill him and her

- (19) Q Qui as-tu vu?
 A Lui/*Le
 "Who did you see?" - "Him."

In Dutch, the weak pronouns cannot be modified, conjoined, and used in isolation, whereas the strong pronouns can (Koster 1978a, Everaert 1986):

- (20) a. Dood hen tweeën
 kill them two
 b. Dood ze ("tweeën)
 kill them two
 (21) a. Dood hem en haar
 kill him and her
 b. Dood 'm ("en 'r)
 kill him and her
 (22) Q Wie heb je gezien?
 A Hem/*'m
 "Who did you see?" - "Him."

Kayne (1975:82) in addition shows that French weak pronouns cannot be contrastively stressed:⁶

- (23) Jo lar*LA préfère
 I her prefer
 "I prefer her."

This is true for the weak pronouns in Dutch also:

- (24) Ik wil je/*JE/JOU
 I want you

However, reduced pronouns in English ('simple clitics' in Zwicky's terminology) cannot bear contrastive stress either:

⁶ There are curious exceptions to this rule. See note 2 of this section, and the following piece of dialogue I caught in the film "Nuit d'été en ville" (Michel Deville, director, 1991):

- (i) She: Tu ne me connais pas
 you NEG me know NEG
 "You don't know me."
 He: Tu ne TE connais pas
 you NEG YOU know NEG
 "You don't know yourself."

- (25) I want
- you*
- YAYOU

In other words, this test does not distinguish special clitics from simple clitics.

Similarly, the tests involving modification, conjunction, and use in isolation do not allow us to draw the line between simple clitics and special clitics. Compare the following examples involving reduced pronouns in English:

- (26) a. Kill him over there [e:that man over there]
-
- b. Kill'm (*over there)

- (27) a. Kill him and her
-
- b. Kill'm (*and 'r)

- (28) Q Who did you see?
-
- A Him/'m

Thus, the tests for clitic status involving stress, modification, coordination, and use in isolation generalize over simple clitics (phonologically reduced pronouns) and special clitics (weak pronouns with special syntax). Consequently, we cannot use them to argue that Dutch weak pronouns are special clitics.

This is also true of another test for clitic status mentioned in Everaert (1986) in connection with Dutch weak (object) pronouns. According to this test, clitics cannot be topicalized (Koster 1978a, Travis 1984):

- (29) Hem/'m zie ik
-
- him see I
-
- "Him, I see."

Again this does not obviously identify weak pronouns as clitics, since reduced pronouns in English cannot be topicalized either:

- (30) Him/'m I like

To conclude, the tests discussed in this section do not allow us to draw a line between simple clitics and special clitics. Therefore they do not serve to determine the exact status of the weak pronouns in Dutch.

The tests mentioned here are also generally taken to suggest that weak pronouns are heads, rather than phrases. This distinction is of great significance for the nature of the position these pronouns are generated in or moved to. However, the fact that weak pronouns cannot be stressed, modified, conjoined, used in isolation, or topicalized appears to be related

to their status as 'weak' elements in general, since the English reduced pronouns perform exactly like unsuspected clitics in these tests.

Nevertheless, it may very well turn out to be the case that the weak pronouns in French and Dutch are heads rather than phrases (and possibly this would yield the conclusion that the weak pronouns in English are heads as well). However, this should be decided on the basis of word order phenomena. The crucial test must demonstrate that the weak pronouns occupy positions that cannot be occupied by noun phrases.

2.1.4 Word Order 1

In French, the weak object pronouns occupy positions that noun phrases cannot occupy:

- (31) a. Je le/Pierre vois
-
- I him/Pete see
-
- "I see him."
-
- b. Je vois Pierre/'le
-
- I see Pierre/him
-
- "I see Pete."

- (32) a. L/'Pierre as-tu vu ?
-
- him/Pete have you seen
-
- "Have you seen him?"
-
- b. As-tu vu Pierre/'le ?
-
- have you seen Pete/him
-
- "Have you seen Pete?"

- (33) a. Le/'Pierre voir serait dangereux
-
- him/Pete see would be dangerous
-
- "To see him would be dangerous."
-
- b. Voir Pierre/'le serait dangereux
-
- see Pete/him would be dangerous
-
- "To see Pete would be dangerous."

Kayne (1975) argues that the weak pronouns differ from full noun phrases in that they are adjoined to V. On the assumption that only heads can adjoin to heads (Balin 1982, Chomsky 1986b), this would effectively identify the French weak pronouns as heads. As heads, these weak pronouns would have a special syntactic status, and therefore fall in the category of special clitics in the terminology of Zwicky (1977).

The English reduced pronouns do not obviously occupy positions that cannot be occupied by phrasal noun phrases:

- (34) I've seen him/John

(35) Have you seen im/John ?

(36) To see im/John would be dangerous

This confirms their status as simple rather than special clitics.⁷

As shown in section II.1.5, the weak pronouns in Dutch in certain constructions occupy positions that cannot be occupied by noun phrases (see also Jaspers 1989, Zwart 1991a, Haegeman 1991, 1992a).

This is most clearly the case in Exceptional Case Marking constructions:

- (37) a. *..dat Piet 'r Jan heeft zien kussen*
 that Pete her John has see kiss
 "...that Pete saw John kiss her."
 b. *..dat Piet Jan 'r heeft zien kussen*
 that Pete John her has see kiss
 "...that Pete saw John kiss her."

- (38) a. * *..dat Piet Marie/haar Jan heeft zien kussen*
 that Pete Mary/her John has see kiss
 "...that Pete saw John kiss Mary/her."
 b. *..dat Piet Jan Marie/haar heeft zien kussen*
 that Pete John Mary/her has see kiss
 "...that Pete saw John kiss Mary/her."

In (37)-(38) *Jan* is the subject of the embedded clause. The object of the embedded clause, *Marie/her/'r* can precede the subject of the embedded clause only if the object is a weak pronoun.

In the minimalist approach, the paradigm in (37)-(38) must be analyzed as follows. Assume that the functional domain in Dutch has a syntactic structure as in Figure 1 of section I.2.2. Recall that we have assumed that in Dutch, direct objects always move to the specifier of AgrOP (see section II.4.3). This assumption is necessary if we choose not to accept optional movement. Therefore the object of the embedded clause in (38) must be the specifier of an AgrO head. The subject of the matrix clause in both (37) and (38) is assumed to be in the specifier position of AgrSP (section II.4.3). It goes without illustration here that the object of the embedded clause cannot precede the subject of the matrix clause. Therefore, the structure of (37) must have the following rough frame:

⁷ However, the distribution of noun phrases and pronouns differs in double object constructions and particle verb constructions (cf. Johnson 1991): *they looked up the information* vs. **they looked up it*. This suggests that English weak pronouns are special clitics as well. I will leave this for further research.

(39) C spec-AgrS AgrS spec-AgrO AgrO VP

dat Piet Marie/haar heeft zien kussen

The next question is, where to fit in the subject of the embedded clause. This subject is formally an object of the matrix verb *zien* 'see'. This can be concluded from the objective case of the embedded subject when it is a pronoun:

- (40) *..dat Piet hem/'hij Marie heeft zien kussen*
 that Pete him/he Mary has see kiss
 "...that Pete saw him kiss Mary."

Hence, the embedded subject must be the specifier of an AgrO as well (Vanden Wyngaerd 1989b, Haegeman 1992a). Apparently, this AgrO is located between the AgrS and the embedded AgrO designated for licensing the embedded object:

(41) C spec-AgrS AgrS spec-AgrO AgrO spec-AgrO AgrO VP

dat Piet Jan/hem Marie/haar heeft...

The three noun phrases in (41) are moved from positions inside the VP in such a way that their paths cross:⁸

(42) SUBJ-1 SUBJ-2 OBJ-2 [_S-1 V-1 [_S-2 V-2 o-2]]

Piet Jan Marie zien kussen

As (38) shows, a derivation in which the paths of the embedded subject and the embedded object do *not* cross crashes. This is surprising, given the observation that dependencies are generally nesting rather than crossing (Pesetsky 1982).⁹

⁸ The auxiliary *heeft* 'has' is left out in (42) for expository reasons. The lower case *s* and *o* indicate the traces of the subject and object, respectively. The numbers indicate the hierarchy of the verbs and the affiliation of the arguments with these verbs at the initial stage of the derivation. It is assumed that the subject is first generated inside VP (Kitagawa 1986, Sportiche 1988, many others).

⁹ Pesetsky (1982) formulates a Path Containment Condition prohibiting crossing paths. However, this condition was devised for dependencies involving A'-positions. If the specifier position of an AgrP is an A-position, we do not automatically expect the Path Containment Condition to be applicable. It appears to be the case that movement to an agreement projection is generally crossing rather than nesting (cf. Chomsky 1992/26; Chomsky derives the crossing character of movement to AgrP from the shortest steps requirement of economy of derivation, an option which is not available to us if we abandon the shortest steps requirement, as proposed in section I.3.1).

One way to ensure that the paths of the embedded subject and the embedded object cross is to assume that the AgrO designated for licensing the embedded object is generated in the complement of the matrix verb. However, it can be shown that this would not be correct.

Recall from section 1.2.2 that in constructions involving preposing of *te*-infinitivals one verb always has to remain behind. I argued that this is explained on the minimalist assumption that the V-features associated with the object of the embedded clause have to be eliminated by this verb. As Günti (1991) demonstrates, matrix verbs selecting a transparent complement clause allow preposing of the *te*-infinitival of the embedded clause with stranding of the object of the embedded clause. Following our reasoning, this should only be allowed if the matrix verb is capable of eliminating the V-features associated with the AgrO designated for licensing the embedded object. This is only possible if the AgrOP in which the embedded object is to be licensed is part of the functional domain of the matrix verb.

Liliane Haegeman (1992a) also presents an argument in support of the hypothesis that the 'embedded AgrOP' should be in the functional domain of the matrix clause. This argument is based on the assumption that the negative element *niet* 'not' in West Flemish (Dutch *niet*) is in the spec of NegP (Haegeman 1992b). If *niet* expresses sentential negation, this NegP must be in the functional domain of the matrix clause. Crucially, the embedded object in an Exceptional Case Marking construction in West Flemish has to appear to the left of *niet*:

- (43) a. *-dan'k eur da werk nie en-oen zien doen*
 that I her that work not NEG have see do
 "...but I haven't seen her do that job."
 b. * *-dan'k eur nie da werk en-oen zien doen*
 that I her not that work NEG have see do

If *niet* is in the specifier position in the functional domain of the matrix clause, the AgrO associated with the embedded object must be in the functional domain of the matrix clause as well.

Therefore, the crossing paths in (42) cannot be explained by assuming that the two AgrOPs involved belong to different functional domains. The strict ordering of the two AgrOPs therefore has to be explained in another way, which does not directly concern us here.¹⁰

What concerns us here is the fact that the embedded object *does* appear to the left of the embedded subject when the embedded object is a weak pronoun (37a). This indicates that there are different forces at work here. The full noun phrase object is forced to move to the spec of AgrO to

¹⁰ See note 9.

get its Case features checked. After that, no further movement is allowed, by economy. The weak pronoun moves further to the left. We don't know where it moves and what triggers the movement, but we do know that weak pronoun movement targets a different syntactic position than noun phrase movement.

Here we have the kind of evidence that allows us to conclude that the weak pronouns in Dutch are 'special clitics' in the sense of Zwicky (1977). Like the clitics in French, and unlike the weak pronouns in English, the weak pronouns in Dutch move to a position that cannot be occupied by a full pronoun or a full noun phrase. Consequently, if Kayne (1975, 1991) is correct in identifying the clitic position as a head position, we must assume that the weak pronouns in Dutch occupy head positions. If so, there is at least one functional head to the left of the VP and to the right of C in Dutch.

2.1.5 Word Order 2

Several other word order phenomena of Dutch support the hypothesis that the weak pronouns in Dutch are (special) clitics.

a. Scrambling

Recall from section II.1.5 that clitics cannot appear to the right of sentence adverbials (Koster 1978a):

- (44) a. *-dat Jan gisteren Marie gekust heeft*
 that John yesterday Mary kissed has
 "...that John kissed Mary yesterday."
 b. *-dat Jan (*gisteren) 'r gekust heeft*
 that John yesterday her kissed has

This fact again shows that clitics and full noun phrases move to different positions.

In section II.4.3 I argued that the direct object *Marie* in (44a) moves to the specifier position of AgrOP. The sentence adverb *gisteren* 'yesterday' may be adjoined in various positions, both to the right and to the left of the position of the direct object (cf. section I.3.3).

(44b) now shows that the clitic moves to a position where it cannot be separated from the subject by adjunction of an adverb. This gives an indication as to the nature of the position occupied by the clitic.

We know from subject initial main clauses that the spec of AgrS (occupied by the subject) and AgrS (occupied by the finite verb) cannot be separated:

- (45) Jan ('gisteren) heeft Marie gekust
John yesterday has Mary kissed

The strict adjacency of the subject and the object clitic in (44b) now follows if we assume that the clitic adjoins to AgrS.¹¹

This approach makes the prediction that the object clitic can appear to the right of the sentence adverb if the sentence adverb appears to the left of the subject. This prediction is borne out:

- (46) a. -dat gisteren Jan 'r gekust heeft
that yesterday John her kissed has
"...that John kissed her yesterday."
b. Gisteren heeft Jan 'r gekust
yesterday has John her kissed
"Yesterday John kissed her."

Notice that movement of the object clitic cannot be forced, in view of the grammaticality of (37b), repeated here:

- (37b) -dat Piet Jan 'r heeft zien kussen
that Pete John her has see kiss
"...that Pete saw John kiss her."

Since the embedded subject *Jan* is in a specifier position of AgrOP, and sentence adverbs may appear to the left of AgrO, we predict that the presence of a sentence adverb between *Piet* and *Jan* in (37b) will not interfere with the possibility of having a clitic to the right of *Piet*. This prediction is also borne out:

- (47) -dat Piet gisteren Jan 'r heeft zien kussen
that Pete yesterday John her has see kiss
"...that Pete saw John kiss her yesterday."

I agree with Haegeman (1992a) that the following is ungrammatical:

- (48) * -dat Piet Jan gisteren 'r heeft zien kussen
that Pete John yesterday her has see kiss

This sentence is grammatical when the embedded object is a full noun phrase:

- (49) -dat Piet Jan gisteren Marie heeft zien kussen
that Pete John yesterday Mary has see kiss
"...that Pete saw John kiss Mary yesterday."

Again, the object clitic and the full noun phrase appear to occur in different positions. The ungrammaticality of (48) suggests that in (37b), (47) the object clitic is adjoined to the AgrO associated with the embedded subject, *Jan*.

Consider finally a peculiar fact concerning weak pronouns and scrambling, not present in all dialects of Dutch.¹² In section IV.2.2.3, I will argue that indefinite objects in Dutch move to specifier position of AgrOP just like definite objects do. This is at variance with the standard analysis of scrambling, according to which scrambling is an optional movement of definite noun phrases only. The optimal minimalist assumption appears to be that scrambling is an obligatory movement of all noun phrases carrying the relevant Case feature.

In fact, scrambling of indefinite noun phrases is very well possible, but as soon as an indefinite noun phrase appears to the left of a sentence adverbial, it acquires a specific reading (see De Hoop 1992 for a recent discussion). Consider the paradigm in (50):

- (50) a. -dat Jan vaak meisjes kust
that John often girls kisses
"...that John often kisses girls."
b. -dat Jan meisjes vaak kust
that John girls often kisses
"...that John kisses girls often."

In (50a), there is only one kissing event per girl, whereas in (50b) *meisjes* has scope over *often*, which results in a reading involving multiple kissing events per girl.¹³

¹² The paradigm is present in southern dialects. My intuitions relate to the Brabantish dialect spoken in the Middle South of the Netherlands and the Northern Central part of Dutch speaking Belgium. Haegeman (1991) demonstrates the existence of a similar paradigm in West Flemish.

¹³ If the verb in (50) is contrastively stressed, the adverb appears to be able to take wide scope again. The judgments in the text are about neutral stress patterns. In addition to the readings discussed in the text, (50a) lacks, but (50b) has, a generic reading of the indefinite noun phrase.

¹¹ See section 2.3 on the issue of the direction of clitic adjunction.

Now in the relevant dialects indefinite plural noun phrases can be replaced by a partitive weak pronoun *'r*.¹⁴ This pronoun has to precede the sentence adverbial:

- (51) a. * .dat Jan vaak *'r* kust
 that John often there kisses
 b. .dat Jan *'r* vaak kust
 that John there often kisses
 "...that John often kisses some."

In this respect, *'r* behaves exactly like the weak object pronouns of Standard Dutch discussed above.

But, crucially, (51b) has both the reading of (50a) and the reading of (50b), with a clear preference for the reading of (50a).¹⁵ Thus, scopal relations appear to be determined on the basis of linear order where phrasal noun phrases are concerned, but not where weak pronouns are concerned. This is unexpected if weak pronouns do not have a special syntactic status.

b. Double Object Constructions

The neutral order of constituents in double object constructions in Dutch is Indirect Object-Direct Object:

- (52) a. .dat Jan Marie het boek gegeeven heeft
 that John Mary the book given has
 "...that John gave Mary the book."
 b. ? ? .dat Jan het boek Marie gegeeven heeft
 that John the book Mary given has

¹⁴ The partitive weak pronoun *'r* should not be confused with the 3SG feminine weak pronoun *'r* in Standard Dutch. The *'r* in (51) appears to be morphologically related to the quantitative *er* 'there' in Standard Dutch (Bech 1982). In Brabantia, the 3SG feminine weak object pronoun is *ze* rather than *'r* (Hannaëke Ramselaar, p.c.).

¹⁵ The wide scope reading for *'r* is triggered in sentences like (i).

(i) Soms kus ik *'r* vaak en dan weer kus ik *'r* maar één keer.
 "Sometimes I kiss *'r* often and then again I kiss *'r* but once."

In embedded clauses, *soms* 'sometimes' obligatorily follows the weak pronoun, which shows (just like (51b) does) that scope is not determined by linear order where clitics are involved.

(ii) .dat ik (*soms) *'r* (soms) vaak kus
 "...that I sometimes kiss *'r* often."

In addition, (51b) lacks the generic reading mentioned in note 13.

However, when one of the objects is a weak pronoun, the weak pronoun always has to precede the full NP:

- (53) a. .dat Jan *'t* Marie gegeeven heeft
 that John *it* Mary given has
 "...that John gave *it* Mary."
 b. ? ? .dat Jan Marie *'t* gegeeven heeft
 that John Mary *it* given has

- (54) a. .dat Jan *'r* het boek gegeeven heeft
 that John *her* the book given has
 "...that John gave *her* the book."
 b. * .dat Jan het boek *'r* gegeeven heeft
 that John the book *her* given has

When both objects are weak pronouns, the order is free, with a slight preference for the order Direct Object-Indirect Object:¹⁶

- (55) a. .dat Jan *'r* gegeeven heeft
 that John *it* her given has
 "...that John gave *it* her."
 b. ? ? .dat Jan *'r* gegeeven heeft
 that John *her* *it* given has
 "...that John gave *her* *it*."

These facts lend *prima facie* support for the hypothesis that the weak pronouns in Dutch are (special) clitics, and move to positions unavailable to strong pronouns and phrasal noun phrases.

Full noun phrases have to move to a position in which they can be licensed: the specifier of a functional head. Apparently, it is required that the functional projection designated for licensing the Indirect Object is ranked in between the AgrSP and the AgrOP.¹⁷ But none of these considerations are relevant for the position of the double object clitics.

¹⁶ Unlike in West Flemish, the double object clitics in Dutch cannot be split. Neither can they adjoin to the complementizer, as is also a possibility in West Flemish, as well as in several dialects spoken in the South of the Netherlands. Cf. Haegemans (1992a).

¹⁷ I assume here that Indirect Objects are noun phrases and that they are licensed in the specifier position of an AgrOP. As Den Dikken and Mulder (1991) show, the Indirect Object behaves just like the Direct Object in licensing parasitic gaps. The assumption that both objects move to their licensing position in overt syntax in Dutch also accounts for a problem discussed in Den Dikken and Mulder (1991). This is the fact that the order of the two objects is invariant, no matter where the sentence adverb appears (the adverb may appear before and after each of the three argument noun phrases). This is explained under our assumption that scrambling paradigms do not involve additional movements of the objects, but adjunction of the adverb in different positions. In other words, the relative position of the two objects is fixed because their absolute position is.

This once again shows that the weak pronouns are syntactically different from the full noun phrases.

According to many speakers, including me, (52b) is grammatical when the double object verb contains a participle:

- (56) a. .dat Jan Marie het boek terug gegeven heeft
 that John Mary the book back given has
 "...that John gave Mary the book back."
 b. .dat Jan het boek Marie terug gegeven heeft
 that John the book Mary back given has
 "...that John gave the book Mary back."

Furthermore, sentence adverbs can appear on either side of each of the two objects in both sentences in (56). Therefore, it cannot be the case that in (56) *Marie* is not in a position in the functional domain.

Also, a marked stress pattern enhances the acceptability of (52b):

- (57) ? .dat Jan het boek MARIE gegeven heeft
 that John the book MARY given has
 "...that John gave MARY the book."

These observations, however, do not detract from the conclusion that in double object constructions, weak pronouns and full noun phrases display different syntactic behavior. None of these manipulations are needed to make the Direct Object-Indirect Object order acceptable when the two objects are clitics.

2.1.6 Conclusion

It is clear from the word order phenomena in Exceptional Case Marking constructions, scrambling constructions, and double object constructions that weak pronouns and full noun phrases do not occupy the same positions in Dutch. This is explained if the weak pronouns are clitics, on the standard assumption that clitics adjoin to functional heads, whereas full noun phrases move to the specifier position of an Agreement Phrase.

It follows that there are a number of functional head positions to the left of the VP in Dutch. The exact distribution of these functional heads will be investigated in the next section.

2.2 Clitics as Functional Heads

2.2.1 Base Generation versus Movement

There is a general consensus in the generative literature as to the status of clitics: they are heads. Our conclusion that object clitics in Dutch are heads ties in with that generalization.

More controversy surrounds the question of whether clitics are generated in head positions or in argument positions.¹ The analyses taking the former option are generally referred to as 'base generation analyses' (Strozer 1976, Jaeggli 1980, Borer 1984). The analyses taking the other option are generally referred to as 'movement analyses', since in this type of analysis the clitic has to move from the argument position to the head position (Kayne 1975, 1991). The distinction in terms of movement vs. base generation is only partly felicitous, since nothing in principle excludes head movement of a 'base generated' clitic (cf. Sportiche 1992). Nevertheless, I will use the terms 'movement' and 'base generation' to refer to the two types of analysis, as is usual.

As Sportiche (1992) argues, there are sound arguments for both the movement analysis and the base generation analysis of clitics. I will mention just a few for each type of analysis.

First, the movement type of analysis is supported by the fact that clitics induce past participle agreement in French (Kayne 1987):

¹ Many issues are concealed by putting the controversy in these terms. Thus, if one assumes that clitics are generated as heads, it could be that they are generated as affixes to the verb, or as determiner elements inside a DP, or as functional heads of some sort. Similarly, if clitics are generated as phrasal arguments, it could be that they are adjoined to the verb, or that they move to the specifier position of a functional head and adjoin to a functional head afterwards, or that they move and adjoin to a functional head directly. Not all of these analyses have been explored in the literature, to my knowledge. See Haegeman (1992a) and Haverkort (1992) for discussion of some of these options. I assume, following Balcin (1992) and Kayne (1991), that clitics are always associated with a functional head. This leaves us with basically two options: either clitics are generated as (affixes to) functional heads, or they are generated as phrasal arguments and adjoin to functional heads in the course of a derivation. The latter option goes back to Kayne (1975), the former to Strozer (1976).

- (1) a. Jean a repeint('es) les chaises
John has repainted(AGR) the chairs
"John repainted the chairs."
b. Jean les a repeint(es)
John them has repainted(AGR)
"John repainted them."
c. les chaises que Jean a repeint(es)
the chairs that John has repainted(AGR)
"the chairs John repainted"

In (1b,c), but not in (1a), the past participle *repeint* 'repainted' may agree with its object. What differentiates (1b,c) and (1a) is that in the former, but not in the latter, overt movement of the object takes place. In Kayne's analysis, past participle agreement is a morphological reflex of movement of the object through the checking domain of an agreement head. Hence, the fact that clitics induce past participle agreement indicates that something, presumably the clitic itself, must have moved through the specifier of the agreement phrase identified by Kayne.²

A second observation supporting the movement type of analysis is that clitics have to be in one local domain with the verb of which it expresses one of the arguments, unless this local domain is transparent for noun phrase movement. Thus, in (2), from Dutch, neither the clitic nor the full noun phrase may be non-locally construed with the embedded verb, whereas in (3) both the clitic and the full noun phrase may appear in the matrix clause.

- (2) a. .dat Piet ziet dat Jan 't/Marie kust
that Pete sees that John her/Mary kisses
"...that Pete sees that John kisses her/Mary"
b. .dat Piet 't/Marie ziet dat Jan kust
that Pete her/Mary sees that John kisses
"...that Pete sees that John kisses her/Mary"

² Chomsky (1991) takes the past participle agreement phrase identified in Kayne (1987) to be AgrOP. However, this is not very likely, since in that case the full noun phrase object would have to move to this specifier position at LF, and we would not expect past participle agreement to be impossible in that case. Therefore, the past participle agreement phrase must be different. I will not discuss this issue here. (Originally, agreeing past participles were predicates of a resultative Small Clause (cf. Vendryes 1937). In Old French, the order Auxiliary-Object-Participle was still possible, and the participle agreed with the object in this construction, in contrast to the order Auxiliary-Participle-Object, which was also possible but showed no agreement (Bourciez 1946:380, Szeifiders-De Vogel 1919:204, Foulet 1963:104). The resultative construction has disappeared in Modern French.)

- (3) .-dat Piet Jan 't/Marie ziet kussen
that Pete John her/Mary sees kiss
"...that Pete sees John kiss her/Mary"

This suggests that both the clitic and the full noun phrase are generated in close connection with the verb (say, as a sister of the verb), and that they both move up when such is required or allowed.

The latter argument is most familiar from Romance, but Haegeman (1992a) shows that it applies equally well to Germanic. Haegeman discovered that clitic placement in Germanic is always contingent on scrambling (taken to be movement to spec of AgrO), in the sense that clitic placement is impossible wherever scrambling is impossible.³ This appears to be a strong argument in favor of the movement analysis of clitics.⁴

The base generation type of analysis is supported by the phenomenon of clitic doubling, where the position of the argument associated with the clitic is taken by a full noun phrase:

- (4) a. Lo vimos a Juan River Plate Spanish
him we-saw John
"We saw John."
b. Mario e parla Florentino
Mario he speaks
"Mario is speaking."
c. Ze komt zie West Flemish
she comes she
"She's coming."

In this type of construction, a certain argument of the verb is expressed twice, once as a clitic, and once as a full noun phrase or pronoun. This seems to argue against generating the clitic in an argument position.

Thus, both the movement analysis and the base generation analysis of cliticization phenomena are supported by *prima facie* evidence. For this reason, Sportiche (1992) concludes that both analyses are basically right, and I will follow him in this respect.⁵

³ However, there is not a biconditional relation between clitic placement and scrambling, as shown in section 2.1.4. In Exceptional Case Marking constructions in Dutch, the clitic moves to a position unavailable to the full noun phrase.

⁴ It is shown in Zwart (1992b) that the contingency of clitic placement on scrambling explains the limited character of clitic placement in mainland Scandinavian languages (which lack scrambling).

⁵ Haverkort (1992) argues that "[t]he recent elaboration of phrase structure, whereby the verb picks up its inflectional endings in syntax, provides a strong argument in favor of a movement analysis and against base-generation" (15). The argument runs as follows: if the clitic is base-generated on V or as an Agr head, it would have to appear in between the

In particular, Sportiche argues that clitics are base generated as heads of independent projections, Clitic Phrases, and that at some point in the derivation the specifier position of the Clitic Phrase has to be filled by an empty noun phrase. This noun phrase is generated as an argument of the verb, associated with the clitic. It is lexicalized in clitic doubling constructions, but empty in all other clitic constructions. The agreement phenomena and the locality effects associated with clitic placement are caused by the movement of the (empty) noun phrase from the argument position to the specifier position of the Clitic Phrase.

Sportiche argues for the existence of a number of Clitic Phrases on top of AgrSP and dominated by CP. I will not follow his proposal in this respect. Instead, I will argue that the Clitic Phrases are equal to the familiar agreement phrases AgrSP and AgrOP, and that the clitics are generated as heads of these Agreement Phrases.⁶

My main argument for assuming that Sportiche's Clitic Phrases are really Agreement Phrases is based on an analysis of the intricate facts of object cliticization in West Flemish (cf. Haegeman 1991, 1992a; Zwart 1992c). To the extent that the assumption that clitics are generated as heads of agreement phrases yields a rather straightforward analysis of West Flemish object cliticization, we may conclude that the introduction of Clitic Phrases, which would essentially double the work done by the Agreement Phrases, is unmotivated.

2.2.2 Object Clitics in West Flemish

In Standard Dutch, object clitics form a cluster (cf. II.1.5):

⁶ (...continued)

verbal stem and the subject agreement morphology, which is hardly ever the case. The argument presupposes that inflectional morphology is picked up in the process of syntactic verb movement. It is faulty, however, when it is assumed that verbs are generated in fully inflected form, as in Strong Lexicalist approaches to morphology, as well as in Chomsky (1992), and in this book.

⁷ For a similar proposal, see Brandi and Cordin (1989), who generate subject clitics as the AGR slot in DNL (in terms of the Government and Binding framework). The abstract for Sportiche (1992), published in *GLOW Newsletter* 23, 46-47, suggests that Clitic Phrases are Case phrases, as proposed in the text, but this was not the intention of the paper (Sportiche, p.c.).

- (5) a. *..dat Jan 't'r gisteren gegeven heeft*
 that John it her yesterday given has
 "...that John gave it her yesterday."
 b. * *..dat Jan 't gisteren 'r gegeven heeft*
 that John it yesterday her given has
 c. * *..dat 't Jan 'r gisteren gegeven heeft*
 that it John her yesterday given has

We have assumed in section 2.1.5.a, that the object clitics in Standard Dutch adjoin to AgrS. If this is correct, (5b) indicates that *all* object clitics in Dutch must be adjoined to AgrS, and (5c) indicates that the object clitics in Dutch may not move on to adjoin to C.

Recall from sections II.4.3 and 2.1.5 that I have argued that direct objects and indirect objects in Dutch have to move to the specifier position of an AgrOP in overt syntax. If object clitics always adjoin to AgrS in Dutch, we predict that they cannot appear to the right of phrasal objects. This is correct, as the following examples from section 2.1.5 show:

- (6) a. ? *..dat Jan Marie 't gegeven heeft*
 that John Marie it given has
 "...that John gave it Mary."
 b. * *..dat Jan het boek 'r gegeven heeft*
 that John the book her given has
 "...that John gave her the book."

In West Flemish (WF), a Dutch dialect spoken in the West of Belgium, the situation is more complicated (Haegeman 1991). First, object clitics may move to C.

- (7) a. *..da Jan 't ze gisteren gegeven eet*
 that John it(ACC) her(IO-CL) yesterday given has
 "...that John gave it her yesterday."
 b. *..dat 'ze Jan gisteren gegeven eet*
 that it her John yesterday given has
 "...that John gave it her yesterday."
 c. *..dat Jan 'ze gisteren gegeven eet*
 that it John her yesterday given has
 "...that John gave it her yesterday."

As can be seen in (7b-c), the object clitics in West Flemish may move to C as a cluster, or one of the clitics may move to C leaving the other one behind. As in Standard Dutch, adverbs may not separate the subject and the object clitic(s):

- (8) a. * *..da Jan gisteren 't ze gegeven eet*
 that John yesterday it her given has
 b. * *..da't Jan gisteren ze gegeven eet*
 that it John yesterday her given has

As for Standard Dutch before, we may conclude that the object clitics in West Flemish are in AgrS when immediately following the subject. The facts in (7) therefore show that there are two object clitic positions in West Flemish: C and AgrS.

Another difference between Standard Dutch and West Flemish is that in West Flemish the direct object clitic may appear to the right of a phrasal indirect object (cf. Dutch (6a)):

- (9) a. *..da Jan 't Marie gegeven eet*
 that John it Mary given has
 " ..that John gave it to Mary."
 b. *..da Jan Marie 't gegeven eet*
 that John Mary it given has
 " ..that John gave it to Mary."

However, as in Standard Dutch (cf. (6b)), the indirect object clitic may not appear to the right of the phrasal direct object in West Flemish:

- (10) a. *..da Jan ze dienen boek gegeven eet*
 that John her that book given has
 " ..that John gave her that book."
 b. * *..da Jan dienen boek ze gegeven eet*
 that John that book her given has

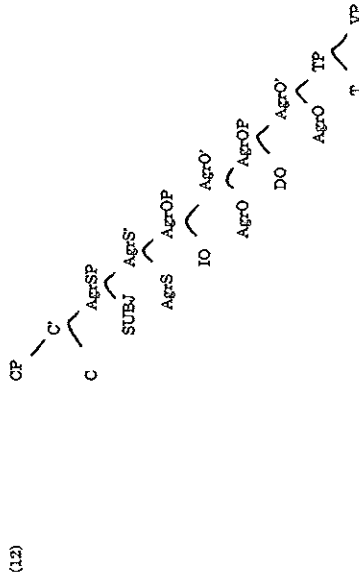
Also as in Standard Dutch, the object clitic may never appear to the immediate right of an adverbial:

- (11) a. *..da Jan Marie 't gisteren gegeven eet*
 that John Mary it yesterday given has
 " ..that John yesterday gave it to Mary."
 b. * *..da Jan Marie gisteren 't gegeven eet*
 that John Mary yesterday it given has

The paradigm in (9) shows that there is a clitic position to the right of AgrS in West Flemish. In (9b), the direct object clitic 't 'it' cannot be adjoined to AgrS, because the indirect object *Marie* intervenes between the

direct object clitic and the subject *Jan*.⁷ Therefore, the object clitic must be in a position lower than AgrS in (9b).

Thus, the facts from West Flemish show that there must be at least three clitic positions: C, AgrS, and a head position to the right of AgrS. Haegeman (1991) argues that this third clitic position is the head of an Agr projection designated for the licensing of the indirect object. Haegeman assumes the following structure for the functional domain in West Flemish:



Haegeman assumes for West Flemish what we have assumed for Standard Dutch, namely that both direct objects and indirect objects move to the specifier position of an Agreement Phrase in overt syntax, and that the Agreement Phrase designated for licensing indirect objects is higher than the Agreement Phrase designated for direct objects (see section 2.1.5.b).

Haegeman also assumes the movement analysis of cliticization: the clitics are generated as arguments of the verb and moved to a head position at some point in the derivation. Haegeman argues that the clitics first move to the specifier position of the relevant Agreement Phrase, and from that position adjoin to the first head up. After that, subsequent head movement is possible to all the heads higher in the tree.

⁷ Recall from section 1.3.2 that XPs may not intervene between a head and its specifier. In other words, whenever a phrase α and a head β are separated from each other by another phrase, α and β are not in a specifier-head configuration.

It follows from these assumptions that the higher Agr-O head is the lowest clitic position. Consider cliticization of the direct object. The direct object first moves to the spec of the lower Agr-OP. From there the direct object cliticizes to the head of the higher Agr-OP. Subsequently, the direct object clitic may move to the head of Agr-SP and to C. It follows that there are three clitic positions in West Flemish.

It also follows that the indirect object may precede the direct object clitic, as in (9b). The indirect object moves to the spec of the higher Agr-OP in overt syntax. If the direct object clitic, after adjoining to the head of this Agr-OP, does not move on, it will appear to the right of the indirect object. It also follows that the direct object may not precede the indirect object clitic, as in (10b). The direct object moves to the spec of the lower Agr-OP in overt syntax. The indirect object clitic, after moving to the spec of the higher Agr-OP, can only adjoin to Agr-S and move on to C. Thus, the indirect object clitic will always appear to the left of the direct object.

These results of Haegeman's analysis are maintained in a base generation analysis of cliticization.⁸ Under such an analysis, the clitics would not first move to the spec of an Agreement Phrase and subsequently adjoin to a higher head. Rather, the clitics would be base generated as functional heads themselves.

Consider again direct object cliticization. We now assume that the direct object clitic is base generated in the lower Agr-O head. The indirect object moves to the spec of the higher Agr-OP in overt syntax. Thus, the indirect object may precede the direct object clitic, as in (9b). The direct object clitic may also move on, to the head of the higher Agr-OP, and to Agr-S and to C. This yields the orders in (9b), (9a), and (7c), respectively.

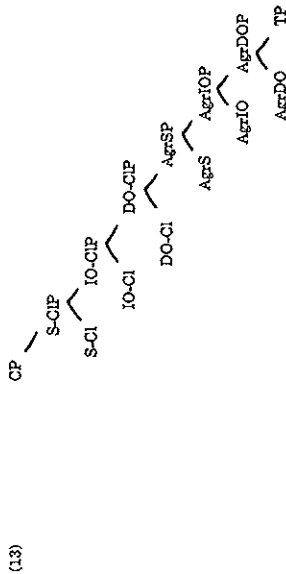
On the other hand, the indirect object clitic is generated in, or adjoined to, the head of the higher Agr-OP. The direct object moves to the spec of the lower Agr-OP in overt syntax. It follows that the direct object may not precede the indirect object clitic, as in (10b).

Haegeman's analysis, and its reformulation in terms of a 'base generation' analysis, allows us to draw an important conclusion: there is a relation between the position of the functional projections designated for the licensing of phrasal arguments and the possible position of argument clitics corresponding to these phrasal arguments. For example, the explanation for the ungrammaticality of (10b) is based on the assumption that indirect object clitics cannot appear in a position lower than the Agr-P designated for the licensing of indirect object phrases.

⁸ Recall that at this point, the choice between 'movement' and 'base generation' is not the issue. Since we have adopted Sportiche's (1992) idea that clitics are base generated as functional heads, we need to determine the nature of these heads: are they heads of separate Clitic Phrases, or the heads of the familiar Agreement Phrases?

This conclusion supports Sportiche's (1992) proposal to analyze clitic placement as a combination of a) base generation of clitics in head positions and b) movement of corresponding, possibly empty, phrases to the spec positions of these heads. However, it does *not* support Sportiche's proposal to identify the heads the clitics are generated in as heads of *separate clitic phrases*.

Suppose clitics are generated as heads of separate clitic phrases. These clitic phrases are all stacked between C and AgrS, as illustrated in (13) (the specs and intermediate projections have been left out):



(10b) can now be excluded in the following way. The direct object clitic is generated in DO-CI (the head of the direct object Clitic Phrase). There is no indirect object clitic. Nevertheless, we must assume that the indirect object Clitic Phrase is present, and that the indirect object moves to the spec of the indirect object Clitic Phrase in overt syntax. This yields the order indirect object - direct object clitic in (10b). Similarly, the subject has to move to the spec of the subject Clitic Phrase (S-CIP). In other words, regardless of the presence of clitics, we have to assume that all Clitic Phrases are always there, and that overt noun phrase movement does not target Agreement Phrases but Clitic Phrases. This amounts to saying that Sportiche's Clitic Phrases are in fact the familiar Agreement Phrases.

This argument can be repeated in a variety of ways. For instance, verb movement can be seen to target the same positions in constructions with clitic arguments as in constructions with phrasal arguments. Consider Dutch. In subject initial main clauses, the finite verb immediately follows the subject:

(14)	a.	Ik	(*vandaag)	weet't	niet	Dutch
		I	today	know it	not	
			'I don't know (today).'			
	b.	'k	(*vandaag)	weet't	niet	
		I-SCL	today	know it	not	
			'I don't know (today).'			

We have argued in section II.4.3 that in subject initial main clauses, the finite verb is in AgrS and the subject in spec of AgrS. In (14a), the subject is a full pronoun. However, the word order facts are exactly the same when the subject is a clitic, as in (14b).⁹ In the latter case, the subject clitic must be generated as the head of the subject Clitic Phrase, and we must conclude that the verb is adjoined to the head of the subject clitic phrase. This makes sense, since there is an object clitic in (14b) as well, which indicates that the verb must be at least as high as the head of the object Clitic Phrase. But, returning to (14a), in (14a) there is an object clitic as well, which indicates that the verb must be as high as the head of the object Clitic Phrase in (14a) as well. Consequently, we must have been wrong in assuming that the verb is in AgrS in (14a), rather, it must have been in the head position of the subject Clitic Phrase (considering the adjacency effect), even though there is no subject clitic around. Again, there turns out to be no empirical distinction between AgrSP and the subject Clitic Phrase. As a result, there is no empirical evidence for the existence of separate Clitic Phrases, in addition to Agreement Phrases.

I will therefore continue to assume that Clitic Phrases do not exist. I adopt Sportache's (1992) proposal, but assume that argument clitics are base generated as heads of agreement phrases. Associated with the clitics are full noun phrases, which may be overt or empty, and which move to the spec positions of the agreement phrases at some point in the derivation. In addition to being generated as heads of agreement phrases, the clitics may undergo head movement. This will be the subject of section 2.3. First, I will make some minor adjustments to the analysis of cliticization in West Flemish presented above.

2.2.3 Clitic Doubling in West Flemish

The structure of the functional domain of West Flemish according to Haegeman (1991), illustrated in (12) in the previous section, differs

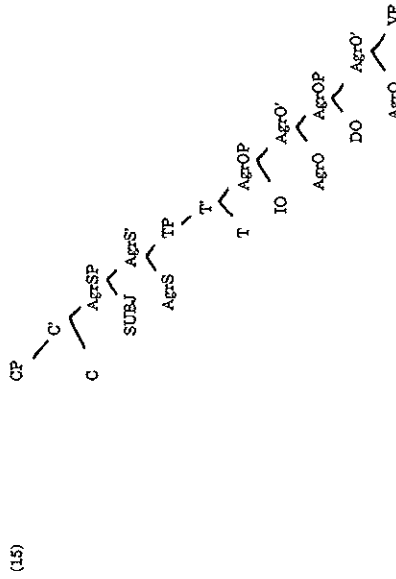
⁹ There is one difference between subject initial clauses introduced by a full pronoun and subject initial clauses introduced by a clitic. In the former, the subject and the finite verb can be separated by modal particles like *schier* 'but', *nu* '(non-temporal) now'. This is impossible when the subject is a clitic.

slightly from the structure of the functional domain adopted in the Minimalist Program (cf. section I.2.2, Figure 1). In particular, TP (the projection of the tense features) is the lowest functional projection in Haegeman's structure, whereas in the structure I have adopted, TP is situated in between AgrSP and the AgrOPs.

In Chomsky (1992), TP is considered to be closely associated with AgrSP, a reflection of the traditional close association of tense and agreement (cf. Chomsky 1981).

Far from being able to decide where TP should be located, I would like to consider here the question whether Haegeman's results will be lost when her structure is rejected in favor of the structure adopted in section I.2.2. It will turn out to be the case that Haegeman's analysis of clitic placement in West Flemish can be maintained under the assumptions of the Minimalist Program.

The structure of the functional domain adopted in the Minimalist Program, and in this book, is illustrated in (15) (cf. (12)).



Recall that the following word order pattern has to be explained: in a double object construction in West Flemish, the direct object clitic may precede or follow the phrasal indirect object, but the indirect object clitic must precede the phrasal direct object. The relevant facts are repeated here for convenience:

- (9) a. *-da Jan 't Marie gegeven eet* West Flemish
 that John 't Marie given has
 "...that John gave it to Mary."
 b. *-da Jan Marie 't gegeven eet*
 that John Marie 't given has
 "...that John gave it to Mary."
- (10) a. *-da Jan ze dienen boek gegeven eet*
 that John ber that book given has
 "...that John gave her that book."
 b. * *-da Jan dienen boek ze gegeven eet*
 that John that book her given has

It is easy to see that the position of TP does not affect the explanation of this word order pattern presented in section 2.2.2, based on Haegeman (1991). The direct object clitic is generated in the lower AgrO, and may stay there or move on to the higher AgrO, T, AgrS, or C. The indirect object moves to the spec of the higher AgrO in overt syntax. Hence, the direct object clitic may precede or follow the phrasal indirect object. The indirect object clitic is generated in the higher AgrO. The phrasal direct object moves to the spec of the lower AgrO in overt syntax. Hence, the indirect object clitic may only appear to the left of the phrasal direct object. In sum, Haegeman's analysis of the word order pattern in (9)-(10) stays in force when the minimalist structure of the functional domain in (15) is adopted.

However, the adoption of the minimalist structure has one non-trivial consequence. Because TP now dominates both object agreement phrases, an additional head is available for the object clitics to move to: T. In other words, (15) predicts that there are two clitic positions between the position of the subject (spec-AgrS) and the position of the indirect object (the spec of the higher AgrO), namely T and AgrS, whereas (12) predicts that there is only one such position, namely AgrS.

At this point, the West Flemish subject clitic doubling phenomenon becomes relevant (Bennis and Haegeman 1984; Haegeman 1990, 1991; De Geest 1990; Zwart 1992c). This phenomenon demonstrates that there is a landing site for clitics between AgrS and the higher AgrO, and hence, that there must be a TP between AgrSP and the higher AgrOP.

In West Flemish, subject clitics may be doubled by a pronoun. The pronoun obligatorily follows the subject clitic, but may be separated from it by the finite verb and by object clitics. The phenomenon is illustrated in (16)-(19).¹⁰

¹⁰ In the examples, *ze* and *'t* are always clitics, and *zie* is always a full pronoun. The initial consonant of *ze* devices when *ze* adjoins to C or to a verb in C.

- (16) a. *-dase zie komt*
 dat she-CL she comes
 "...that she comes."
 b. * *-dase Marie komt*
 that she-CL Mary comes
- (17) a. *Ze komt zie*
 she-CL comes she
 "She's coming."
 b. * *Zie ze komt*
 she she-CL comes
 c. * *Zie komt ze*
 she comes she-CL
- (18) a. *-dase zie 't gekocht eet*
 that she-CL she 't bought has
 "...that she bought it."
 b. *-dase't zie gekocht eet*
 that she-CL it she bought has
 "...that she bought it."
- (19) a. *Gisteren eese zie 't gekocht*
 yesterday has she-CL she 't bought
 "Yesterday she bought it."
 b. *Gisteren eeset't zie gekocht*
 yesterday has she-CL it she bought
 "Yesterday she bought it."

(16) shows that the feminine 3SG clitic *ze* can be doubled by the full pronoun *zie* 'she', but not by a full noun phrase with the same features. (17) shows that the clitic has to precede the doubling pronoun. (17a), (18b), and (19b) show that the clitic and the doubling pronoun can be separated by the finite verb and by object clitics, respectively. (18) and (19) demonstrate the distribution of object clitics in clitic doubling constructions. These sentences also show that embedded clauses and topicalization constructions are identical in relevant respects, assuming the verb is in C in the latter (Den Besten 1977).

If we compare (17) and (19), we notice that the order of subject clitic and finite verb changes from Clitic-Verb in (17) to Verb-Clitic in (19). This suggests that the finite verb moves to different positions in the two types of construction.

I have assumed (in section II.4.3), that in subject initial main clauses in Dutch, the verb moves to AgrS, whereas in topicalizations, the verb moves to C (Den Besten 1977). Apart from the clitic doubling phenomenon, which is absent in Standard Dutch, subject clitics in Standard Dutch and in West Flemish display the same behavior. Standard Dutch has inversion of the subject clitic and the finite verb in topicalizations, like West Flemish:

2.2.4 Conclusion

In this section, I have argued, following Sportiche (1992), that the clitics in Dutch are generated in functional head positions. I have also argued, contra Sportiche (1992), that the functional heads the clitics are generated in are the heads of the well-known agreement phrases for licensing subjects, objects and indirect objects. Again following Sportiche, I have assumed that clitics may undergo additional head movement. The properties of the relevant movement phenomena will be discussed in section 2.3.

If clitics are generated in functional head positions, the word order phenomena of Dutch again lead to the conclusion that there are functional heads to the left of the VP in Dutch. On this assumption, the intricate word order facts of clitic constructions in West Flemish can be accounted for if the structure of the functional domain proposed in Chomsky (1992) is adopted.

2.3 Clitic Movement and Verb Movement

In the previous sections, I have argued that the Dutch clitics are heads, and I have adopted Sportiche's (1992) proposal, according to which clitics are base-generated as heads of functional projections. In this section, I will discuss one further aspect of the syntax of clitics, namely the fact that clitics may undergo head movement. This clitic movement interacts in an interesting way with verb movement, as is also clear from illuminating work by Kayne (1991), Ouhalla (1989), and Haverkort (1992).

As has become clear in this work, the interaction of verb movement and clitic placement cannot be described in an attractive way if a strict version of the Head Movement Constraint (p. 19) is maintained. In order to achieve a maximally elegant analysis, the verb must sometimes be allowed to skip the functional head hosting the clitic.

This aspect of the analysis of clitic placement is not problematic from the minimalist point of view, if the minimalist extension is adopted according to which economy of derivation does not involve a shortest steps requirement (section 1.3.1). I will therefore assume that it is in principle possible for the verb to skip heads.

A second important aspect of clitic placement is the directionality of clitic adjunction. Kayne (1991, 1993) assumes that clitics invariably adjoin to the left. This follows from the ELCA (section 1.3.3). However, we will see in this section that there is reason to suppose that clitics in Germanic invariably adjoin to the right. This puzzling aspect of the analysis can only be maintained if clitics are somehow exempt from the ELCA.

From a minimalist point of view, clitic placement is problematic in several respects. In the Minimalist Program, optional movements are not allowed. However, we have seen that in West Flemish, object clitics may appear in at least four well discernable positions: C, AgrS, T, and AgrO. These four possibilities are illustrated in (1).

- (1)
- | | | | | | | |
|----|----------------------------------|--------------------------|--------|-----------|-----------|--------------|
| a. | Gisteren | ee't | Valère | Marie | gegeven | West Flemish |
| | yesterday | has it | Valéry | Mary | given | |
| | "Yesterday | Valéry gave it to Mary." | | | | |
| b. | Zee't | zie | Marie | gisteren | gegeven | |
| | she-CL has it | she | Mary | yesterday | given | |
| | "She gave it to Mary yesterday." | | | | | |
| c. | Zee | ze | 't | Marie | gisteren | gegeven |
| | she-CL has | she | it | Mary | yesterday | given |
| | "She gave it to Mary yesterday." | | | | | |
| d. | Zee | ze | Marie | 't | gisteren | gegeven |
| | she-CL has | she | Mary | it | yesterday | given |
| | "She gave it to Mary yesterday." | | | | | |

As Haegeman (1991) shows, the pattern in (1) can be derived by assuming that clitics may optionally move from head to head. Optional movement, however, is not a part of the minimalist approach.¹

Similarly, in the Minimalist Program all movements must be triggered by 'morphological' requirements. Thus, movement is excluded unless the movement contributes to eliminating (abstract) inflectional features. It is not at all clear that clitic movement is related to any kind of feature checking.

A third problem is that it is unclear how differences in cliticization between languages should be parametrized in minimalist terms. In the Minimalist Program, parametric differences are expressed in terms of the strength of the inflectional features represented in the functional heads (section 1.2.4). Differences in strength yield different amounts of overt movement. However, if we consider the differences in cliticization between, say, Standard Dutch and West Flemish, a parametrization in terms of strength of inflectional features does not immediately suggest

¹ Optional clitic movement is also attested in clitic climbing constructions (see Rizzi 1982:11).

² (...continued)
Verb inversion in topicalization constructions in Dutch and West Flemish unexplained. See Zwart (1992c) for extensive discussion.

itself.² Recall that in Dutch, object clitics always form a cluster, whereas in West Flemish, the object clitics can be scattered:

- (2) a. *..dat Jan 't'r gegeven heeft* Dutch
 that John it her given has
 "...that John gave it her."
 b. * *..dat't Jan 'r gegeven heeft*
 that it Jan her given has
- (3) a. *..da Valère 't ze gegeven eet* West Flemish
 that Valéry it her given has
 "...that Valéry gave it her."
 b. *..dat Valère ze gegeven eet*
 that it Valéry her given has
 "...that Valéry gave it her."

Thus, it is not clear what a minimalist approach to cliticization should look like. On the other hand, it is clear that some 'minimalist' approach to the phenomena of cliticization is called for. For example, clitic movement does not appear to be lowering. Haegeman's (1991) analysis of object clitics in West Flemish, discussed extensively in the previous section, is built on the crucial assumption that indirect object clitics cannot lower to a position to the right of phrasal direct objects. Similarly, clitic movement is bounded, as many analyses of clitic climbing have brought to light (cf. Rizzi 1982, Kayne 1989, Ouhalla 1989, Haverkort 1992). These are all familiar properties of movement, and consequently, a restrictive theory is as desirable for cliticization as it is for other movement processes.

Devising such a theory lies outside the scope of this book. Still, I wish to explore one aspect of clitic movement in some detail, because the phenomena of Dutch cliticization give rise to it. This aspect concerns the direction of clitic adjunction.

Kayne (1991, 1993) argues that clitics invariably adjoin to the left. Thus, when clitics move and adjoin to a functional head, a structure as in (4) results.

² Haverkort (1992) argues that differences in the syntax of clitics can be parametrized in terms of opacity of the functional heads T and Agr. As in Pellock (1989), only verb movement to a transparent functional head is grammatical. This verb movement removes barriers (as in Chomsky 1986b, 1991), which makes clitic movement possible. This is a promising approach, which seems feasible in a minimalist framework. However, it is unclear to me how the subtle differences between Standard Dutch and West Flemish may fall out from this type of parametrization.

- (4)
$$\begin{array}{c} X^{\alpha} \\ \wedge \\ Cl_i - X^{\alpha} \end{array} \quad \downarrow$$

However, there are several languages in which cliticization can be argued to involve adjunction to the right. For example, when object clitics in West Flemish move to C, they always appear to adjoin to the right (cf. (3b)). This has also been argued for subject clitic movement in embedded clauses and topicalization constructions in Dutch (Den Besten 1977, Zwart 1991a). Adjunction to the right would yield a structure as in (5):

- (5)
$$\begin{array}{c} X^{\alpha} \\ \wedge \\ X^{\alpha} - Cl_i \end{array} \quad \downarrow$$

I agree with Kayne (1991:648) that the correct analysis of cliticization should involve a uniform direction of adjunction. It is true that languages, and even constructions within a language, differ as to the relative order of clitic and verb. But Kayne (1991) demonstrates that the mechanism of verb movement is powerful enough to derive these differences. In view of this, we seem to be missing certain (potential) generalizations by parametrizing the direction of adjunction.

If clitic placement in Germanic must be analyzed as right-adjunction, it must be the case that clitics universally adjoin to the right. Recall that I have assumed that clitics are generated as heads of agreement projections, basically following Sportiche (1992). I also followed Sportiche in assuming that clitics may undergo additional head movement. I will now propose the following:

- (6) 1. When a clitic α moves to a functional head β , α adjoins to the right of β ,
 2. When a verb α moves to a clitic β , α adjoins to the right of β .

Still assuming Kayne's (1993) hypothesis that syntactic adjunction invariably takes place to the left, these generalizations suggest that clitic placement is not a syntactic adjunction operation.

Let us consider the consequences of the proposed clitic adjunction generalizations for Dutch and French.

The distribution of object clitics and verbs in Dutch can be summarized in the following way. In embedded clauses, the object clitics are right adjacent to the subject, and the verb is inside the VP. The object clitics may not adjoin to C. In subject initial main clauses, the finite verb is right adjacent to the subject, and the object clitics are right adjacent to the finite verb. In topicalizations and *wh*-constructions, the verb is in C, and the object clitics are right adjacent to the subject. In infinitival clauses,

the verb follows the object clitics, but the object clitics are not adjacent to the verb. In imperative constructions, the verb is in the first position and the object clitics are right adjacent to the verb. These observations are illustrated in (7).

- (7) a. *-dat Jan 'tr gisteren gegeven heeft*
 that John it her yesterday given has
 "...that John gave it her yesterday."
 b. * *-dat'tr Jan gisteren gegeven heeft*
 that it her John yesterday given has
 c. *Jan heeft'tr gisteren gegeven*
 John has it her yesterday given
 "...John gave it her yesterday."
 d. *Daarom/waarom heeft Jan 'tr gisteren gegeven*
 there for/where for has John it her yesterday given
 "That's why John gave it her yesterday."
 e. *"Why did John give it her yesterday?"*
Jan 'tr morgen geven? Dat nooit
 John it her tomorrow give that never
 "John give it her tomorrow? Never!"
 f. *Geef'tr morgen!*
 Give it her tomorrow

I have assumed that object clitics are generated as heads of agreement phrases. I have also argued that the subject moves to the spec of AgrSP in overt syntax in Dutch, and that in subject initial main clauses in Dutch the finite verb is in AgrS. Therefore, the adjacency of the object clitics and the subject in (7a,d,e) and of the object clitics and the verb in (7c) suggest that after being generated in the AgrOPs, the object clitics move on to AgrS by head movement.

We have also assumed that when a verb moves to a head containing a clitic, or when a clitic moves to a head containing a verb, the adjunction always takes place on the right hand side. This leads to the following conclusions for head movement in Dutch. a) In subject initial main clauses, the verb skips the AgrO heads where the clitics are generated, and moves across these heads to AgrS (possibly landing in T first). b) In topicalizations and wh-constructions, the verb in addition skips AgrS and moves to C in one swoop.³

These conclusions are forced upon us, because if the verb were to land in any head occupied by a clitic, a Clitic-Verb order would result. Therefore the verb has to skip the AgrO heads, and the clitics have to adjoin to the verb, instead of the other way around. Similarly, the verb and the clitic cannot merge in AgrS before the verb moves on to C.

³ This analysis of verb movement to C will be motivated more extensively in section 3.3.2.

Otherwise, we would expect the object clitic to appear right adjacent to the verb in C in topicalization constructions, contrary to fact.

- (8) * *Daarom/Waarom heeft'tr Jan gegeven*
 there for/where for has it her John given

Turning to subject clitics in Dutch now, the following generalization can be made: Subject clitics in Dutch are proclitic in subject initial main clauses, and enclitic in embedded clauses, topicalizations, and wh-constructions. This is illustrated in (9)-(11) (cf. Den Besten 1977):⁴

- (9) a. *'k (*echter) heb 'tr gisteren gegeven*
 I-Cl however have it her yesterday given
 "I (however) gave it her yesterday."
 b. *Ik (echter) heb 'tr gisteren gegeven*
 I however have it her yesterday given
 "I (however) gave it her yesterday."
 (10) a. *-dat (*gisteren) 'k 'tr gegeven heb*
 that yesterday I-Cl it her given have
 "...that I gave it her (yesterday)."
 b. *-dat (gisteren) ik 'tr gegeven heb*
 that yesterday I it her given have
 "...that I gave it her (yesterday)."
 (11) a. *Daarom heb (*gisteren) 'k 'tr gegeven*
 there for have yesterday I-Cl it her given
 "That's why I gave it her yesterday."
 b. *Daarom heb (gisteren) ik 'tr gegeven*
 there for have yesterday I it her given
 "That's why I gave it her yesterday."

Assuming that subject clitics are generated in the head position of AgrSP, the Clitic-Verb order in (9a) is as expected under our analysis. The finite verb moves to AgrS, and adjoins to the right of the subject clitic. The object clitics subsequently adjoin to the right of the Clitic-Verb complex.

⁴ The properties of topicalizations and wh-constructions are illustrated with examples of topicalization only. The adjacency of the subject clitic and the finite verb in subject initial main clauses cannot be demonstrated by inserting an ordinary adverbial like *gisteren* 'yesterday', since full NP subjects and finite verbs are also necessarily adjacent in subject initial clauses in Dutch. The element *echter* 'however', which is part of a group of modal particles expressing intersentential connection (much like the Ancient Greek particles *nu* 'now', *gar* 'for', *de* 'then', etc. studied by Wackernagel 1922), does bring out the difference. The particles of this group, which also includes *nu* 'now', *immers* 'for', *dan* 'then', as well as certain others, may separate the first constituent and the finite verb in Dutch, and may even be seen to split the first constituent, in constructions like *Het eerste hoop/dank echter van Barriers is briljant* 'the first chapter however of Barriers is brilliant'.

In (10)-(11), the subject clitic apparently moves to C. Again, as expected, the clitic adjoins to the right of whatever element is in C.

This analysis, like the analysis of object cliticization above, leads to the conclusion that verb movement to C in Dutch skips AgrS. Otherwise, the finite verb and the subject clitic would merge in AgrS, and the order Clitic-Verb would be expected in topicalizations and wh-constructions, contrary to fact:

- (12) * Daarom ik heb 't'r gegeven
there for I-Cl have it her given
"That's why I gave it her."

The ungrammaticality of (12) also shows that subject clitics in Dutch do not adjoin to the left of the verb in C. Likewise, the subject clitics do not adjoin to the left of the complementizer in embedded clauses:

- (13) * ik dat heb 't'r gegeven
I-Cl that have it her given
"...that I gave it her."

Accepting Kayne's (1991) point that the direction of adjunction in cliticization should be universal, (12) and (13) indicate that this direction is to the right rather than to the left.

A comparison of Dutch and French further strengthens this point. In constructions involving both object clitics and subject clitics, French and Dutch display completely opposite patterns:

- (14) a. tu l'as vu
you it have seen
"You saw it." French
b. je heb'tt gezien
you have it seen
"You saw it." Dutch
- (15) a. l'as-tu vu?
it have you seen
"Did you see it?" French
b. heb je't gezien?
have you it seen
"Did you see it?" Dutch

(14) illustrates the pattern in neutral order main clauses in French and Dutch, (15) the pattern in inversion constructions in French and Dutch. These patterns are SOV, SVO, OVS, and VSO, respectively.

On the assumption that cliticization invariably involves right adjunction, these patterns can be derived fairly easily, as demonstrated above. The derivations are summarized in (16)-(19) below:

- (16) (=14a) AgrS T AgrO V
I SCL OCL
II SCL OCL+V
III SCL+OCL+V
- (17) (=14b) AgrS T AgrO V
I SCL OCL
II SCL+V OCL
III SCL+V+OCL
- (18) (=15a) X AgrS T AgrO V
I SCL OCL
II SCL OCL+V
III V+OCL
IV V+OCL+SCL
- (19) (=15b) X AgrS T AgrO V
I SCL OCL
II V SCL
III V+SCL+OCL

In (16), the finite verb adjoins to the right of the clitic in AgrO. In (17), the finite verb skips AgrO and adjoins to the right of the subject clitic in AgrS; after that, the object clitic adjoins to the right of the clitic-verb complex in AgrS. In (18), the finite verb adjoins to the right of the clitic in AgrO, and moves on to whatever functional head is targeted in inversion constructions. In so doing, the Clitic-Verb complex skips AgrS, and the subject clitic subsequently right adjoins to the Clitic-Verb complex in X. In (19), the object clitic right adjoins to the subject clitic in AgrS, while the finite verb moves to X (=C) in one swoop. The clitics subsequently adjoin to the right of the verb in C.

Under the assumption that clitics invariably adjoin to the left, a similar result cannot be as easily obtained. Consider the following derivations of the sentences in (14) and (15):

- (20) (=14a) AgrS T AgrO V
I SCL OCL
II SCL V OCL
III SCL OCL+V

2.4 Conclusion

In this section I have argued for the following points:

1. Dutch weak pronouns are special clitics in the sense of Zwicky (1977).
2. Dutch clitics are generated in the head of agreement phrases.
3. Clitics may undergo additional head movement, involving adjunction to a functional head.
4. Clitic placement in Dutch involves either right-adjunction of the clitic to a functional head, or right adjunction of a verb to a clitic.

It follows from the first two of these points that the agreement phrases in Dutch are head initial. One of the consequences of the third point is that clitics may adjoin to T. I argued that this takes place in West Flemish. It follows that TP in Dutch is head initial as well. The fourth point is more contentious. However, this point does not affect the general conclusion to be drawn from this section, which is that the functional projections in Dutch are head initial.

3 Complementizer Agreement

In this section, the phenomenon of complementizer agreement (cf. section II.1.2) will be presented and discussed. The analysis of this phenomenon provides a second piece of evidence in support of the hypothesis that the functional projections in Dutch are head initial. This argument is based on the observation that certain Dutch dialects have one type of agreement for the complementizer and the verb in C, and another type of agreement for the verb that is not in C (I will refer to these dialects as *double agreement dialects*). In these dialects, the verb in subject initial main clauses has the second type of agreement. This leads to the conclusion that in the relevant dialects AgrS is situated to the left of the VP.

This section is organized in the following way. After a presentation of the relevant facts in section 3.1, previous analyses of complementizer agreement will be discussed in section 3.2. I will demonstrate, contra Hoekstra and Marácz (1989), that complementizer agreement is a reflex of *abstract Agr-to-C movement*, rather than movement of an overt agreement morpheme from Agr to C. Finally, in section 3.3 the phenomenon will be analyzed in minimalist terms.

3.1 Complementizer Agreement Phenomena in Germanic Dialects

Numerous dialects of Dutch, German, and Frisian display a phenomenon of complementizer agreement, where the complementizer is inflected for person and/or number and agrees with the subject.¹ At the same time, the finite verb is also inflected. The inflectional morphemes used are generally identical, but not always (cf. Van Haeringen 1958 and below).

The paradigms are mostly defective. For instance, East Netherlandic has an agreeing complementizer only in the first person plural (1PL), South Hollandic only in 1PL and 3PL, Frisian only in 2SG, Munich

¹ The complementizer agreement phenomenon is well documented. The following is a list of references. For Dutch dialects: Van Haeringen (1939; 1958), Van Ginneken (1939), Weijnen (1939), De Vries (1940), Vannacker (1949), De Visser (1979), Coeman (1980), Ecanis and Haegeman (1984), Stroop (1987), De Geest (1990), Haegeman (1990, 1991), Hoekstra (1993); for Frisian dialects: Hoekema (1985), De Egan and Weerman (1986), Visser (1988), Van der Meer (1991), De Egan (1992); for German dialects: Weise (1907), Fraiz (1918), Van Ginneken (1938), Kufner (1961), Bruch (1973), Altman (1984), Bayer (1984a,b), Köpcke (1984), Werner (1988), Harlisch (1989). In addition to the works mentioned, the phenomenon is discussed in Hoekema (1986), Hoekstra and Marácz (1989), Zwart (1991b, 1993a), Law (1991), Platzack (1992), Shlonsky (1992), among others.

Bavarian only in 2SG and 2PL. West Flemish has a complete paradigm (Goeman 1980, Haegeman 1990).

In large areas of the Netherlands (West Friesland, North Holland, South Holland, also in the Center and East of the country (Van Haeringen 1939, 1958), the agreement morpheme for PL is *a* (*schuw*). In German dialects and in Dutch dialects spoken in the Northeast and the Southeast, as well as in Frisian, there is an agreement morpheme for 2SG (and sometimes 2PL) *-s(t)*.² Luxembourgish combines the two types of agreement (Bruch 1973). The Brabantish dialect of Dutch has a morpheme *-de* for 2SG/PL (Stroop 1987). The Flemish dialects of Dutch have a full paradigm, with a morpheme *-n* for 1SG, 1PL, and 3PL, presumably a zero morpheme (Ø) for 2SG, and a *-t* morpheme for 3SG/2PL (cf. Goeman 1980, Haegeman 1990).

The following are examples from the Dutch dialects South Hollandic (Van Haeringen 1939), West Flemish (Haegeman 1990), and Groningen (Van Ginneken 1939), from Frisian (Hoekstra and Marázcz 1989), and from the German dialects Munich Bavarian (Kutner 1961) and Luxembourgish (Bruch 1973).

- | | | | | | |
|--------|---------------|--------|----------|---------|-----------------|
| (1) a. | -dat | ik | kom | | South Hollandic |
| | that | I | come | | |
| b. | -datte | we | komme | | |
| | that-PL | we | come-PL | | |
| (2) a. | -da-e-k | ik | komen | | West Flemish |
| | that 1SG I | I | come-1SG | | |
| b. | -da-Ø-j | g'e | komt | | |
| | that 2SG you | you | come-2SG | | |
| c. | -da-e-j | ij | komt | | |
| | that 3SG he | he | come-3SG | | |
| d. | -da-Ø-we | zij | komt | [Ø < t] | |
| | that 3SG she | she | come-3SG | | |
| e. | -da-Ø-me | wunder | komen | [Ø < n] | |
| | that 1PL we | we | come-1PL | | |
| f. | -da-Ø-j | gunder | komt | [Ø < t] | |
| | that 2PL you | you | come-2PL | | |
| g. | -da-nze | zunder | komen | | |
| | that 3PL they | they | come-3PL | | |

² The status of the *-s(t)* ending on the complementizer in Germanic dialects has been hotly debated for about a century now. The *-s* element, which also shows up in the verbal agreement, appears to be inflectional, but it may be the case that the *-st* ending combines a complementizer agreement element and a subject clitic. See section 3.2. For recent discussion, cf. Van der Meer (1991) and De Haan (1992).

- | | | | | | |
|--------|-------------|----------|----------|----------|-----------------|
| (3) a. | -of | ik | kom | | Groningen |
| | whether | I | come | | |
| b. | -ofs | tee | koms | | |
| | whether 2SG | you | come-2SG | | |
| (4) a. | -dare | (do) | jûn | komst | Frisian |
| | that-2SG | you | tonight | come-2SG | |
| b. | -dat | (er) | jûn | komt | |
| | that | he | tonight | come-3SG | |
| (5) a. | -damid | ich | komm | | Munich Bavarian |
| | socht | I | come | | |
| b. | -damidst | kommst | | | |
| | socht-2SG | come-2SG | | | |
| c. | -damidds | kommst | | | |
| | socht-2PL | come-2PL | | | |
| (6) a. | -ob | ech | wëll | | Luxembourgish |
| | whether | I | want | | |
| b. | -obs | du | wëlls | | |
| | whether 2SG | you | want-2SG | | |
| c. | -datt | e | wëllen | | |
| | that | PL | we | want-PL | |

In these dialects, the agreement morpheme on the complementizer is identical to the agreement morpheme on the verb. However, Van Haeringen (1958) reports on East Netherlandic dialects in which the complementizer agreement (c) and the verbal agreement (v) differ.

- | | | | | | |
|-----|-----------|-----|-----------|--|-------------------|
| (7) | -datte | wij | speult | | East Netherlandic |
| | that-1PLc | we | play-1PLv | | |

The same appears to be the case in Brabantish:³

- | | | | | | |
|-----|-----------|--------|-----------|--|------------|
| (8) | -dade | gullie | komt | | Brabantish |
| | that-2PLc | you | come-2PLv | | |

Depending on the analysis of the phonological regularities connected with cliticization, the West Flemish 2SG may provide a third example where

³ The Brabantish facts are from the dialect of my native town, Osa. They are representative of the situation in other Brabantish dialects, as far as I have been able to check (cf. Stroop 1987). The *de* morpheme is not a clitic, because it cannot appear in subject initial main clauses, whether independently or in conjunction with a clitic doubling element, as in West Flemish. However, the presence of *-dt* does make referential prodrop possible (*de liegde* [that lie-2SG] 'you're lying (that)').

the complementizer agreement and the verbal agreement differ (cf. 2b vs 2c).⁴

- (2) b. *..da-Øj gie komt*
that 2SG you you come-2SG
"..that you come."
c. *..da-tj ij komt*
that 3SG he he come-3SG
"..that he comes."

West Flemish

In dialects where the complementizer agreement and the verbal agreement differ, the verb has verbal agreement in subject initial main clauses, and complementizer agreement in subject-verb inversion constructions.

- (9) a. *Wij speul-Ø-e*
we play 1PLv/c
b. *Waar speul-Ø-t wij?*
where play 1PLv we
"Where do we play?"

East Netherlandic

- (10) a. *Gullie kom-t-Ø-de*
you come 2PLv/c
b. *Wanneer kom-de-Ø-t gullie?*
when come 2PLv/c you
"When do you come?"

Brabantish

- (11) a. *Gie kom-Ø-Ø*
you come 2SGv/c
b. *Kom-Ø-j-Ø-tj gie?*
come 2SGv/c you you
"Are you coming?"

West Flemish

This is reminiscent of a peculiar agreement phenomenon in Standard Dutch, where the choice of the 2SG morpheme depends on whether the verb precedes or follows the subject (section II.1.1.1; cf. Goeman 1992):

- (12) a. *Jij loop-Ø-Ø*
you walk 2SG
b. *Daar loop-Ø-j-Ø*
there walk 2SG you

Standard Dutch

⁴ Liliane Haegeman (p.c.) suggests that in (2b) the complementizer agreement morpheme is not zero but a phonologically reduced *-Ø-* morpheme. However, this *-Ø-* does not reduce in 3SG, where the context appears to be the same (2c). Possibly, one could argue that the *j* of the 3SGM subject clitic is underlyingly different from the *j* of the 2SG subject clitic, but I have not seen any analyses in support of this possibility.

I will argue that this parallelism is not coincidental. However, let us first consider previous treatments of the Germanic complementizer agreement phenomena.⁵

3.2 Previous Analyses

3.2.1 Base Generation or Movement

The complementizer agreement phenomenon in Germanic has often been taken to indicate that in the relevant languages (Dutch, German, Frisian) C is an inflectional category. This leads to an analysis in which the agreement features are generated in C (see section II.2.3 and references cited there; cf. also Goeman 1980).

There is an obvious connection with the standard analysis of verb movement in main clauses in these languages. According to this analysis, the verb moves to C in all tensed main clauses (Den Besten 1977). If C is analyzed as an inflectional category, it becomes understandable that the verb has to move to C whenever C is not occupied by the complementizer.

This analysis of verb movement in Germanic as attraction by a C hosting inflectional features was first proposed by Den Besten in a 1983 Appendix to his 1977 paper. This appendix summarizes the main points of Den Besten (1978). Den Besten proposes that verb movement in Dutch (and German) is actually tense movement: movement of a tensed verb to a tensed C.⁶

However, Den Besten (1989:93) is very careful not to confuse the tense feature in C with the agreeing features in C. He notes that "these person endings [on agreeing complementizers] must be generated in a position separate from the complementizer position, (...) because deletion of a lexical complementizer does not force a person marking to delete as well".

The phenomenon Den Besten has in mind is best illustrated with the following example from Luxembourgish (Bruch 1973:106).

- (13) *..mat wien (datt) s do spaziere ganneg bas*
with whom that 2SG you walk gone are
"..with whom you went for a walk."

⁵ The theoretical possibility that complementizer agreement is phonetically or phonologically determined has been discarded as early as Van Haeringen (1939), and will not be considered here (see also Hoeksema 1986).

⁶ This is essentially the same mechanism as movement for feature checking purposes in the Minimalist Program.

In (13) the complementizer is optional, but the agreement ending remains. Den Besten analyzes the complementizer as a tense element (T) and the agreement ending as a person (P) element, and notes that the T-P ordering in the inflected complementizers is mirrored in the verbal morphology, where the person morpheme follows the tense morpheme:

(14)	ze	lacht-en	Standard Dutch
	they	laugh PAST 3PL	

Accepting Den Besten's point that the complementizer agreement morphology is not generated on the complementizer, we must conclude that there is a separate inflectional head associated with person agreement. This leads to a different type of analysis, in which complementizer agreement reflects movement from this separate functional head to C. Such an analysis is proposed by Hoekstra and Marácz (1989).

3.2.2 I-to-C Movement

Hoekstra and Marácz (1989) assume that C and I interact in the following way. C is the canonical locus for a "T-marker", a scope bearing element marking I for a specific tense feature. The relation between the T-marker in C and the tense feature in I can have two types of instantiation: either the T-marker binds tense, or tense moves to the T-marker (following Baker 1970). Languages may be parametrized with respect to tense movement. In view of this, Hoekstra and Marácz introduce the *I-to-C Parameter*.

Hoekstra and Marácz propose that this parameter divides the Germanic languages and dialects into two groups. The languages positively specified for the I-to-C parameter show complementizer agreement, the others do not.

In support of their analysis, Hoekstra and Marácz present and discuss three phenomena which they relate to a positive specification for the I-to-C parameter. These phenomena are: referential pro-drop, verb ellipsis in irrealis-complement clauses, and complementizer cliticization. I will illustrate these phenomena below.

Hoekstra and Marácz analysis raises the following question. If there is a parameter governing overt complementizer agreement, there must be a cluster of properties that to a certain extent correlate with the presence of complementizer agreement. More exactly, the phenomena Hoekstra and Marácz discuss should be present in those Germanic dialects that have overt complementizer agreement, and absent in all others. If such a

correlation cannot be attested, it is unlikely that the I-to-C parameter determines the presence of overt complementizer agreement.

Let us therefore turn to the three phenomena Hoekstra and Marácz relate to the I-to-C parameter, and see whether these phenomena constitute a cluster setting the complementizer agreement dialects apart.

a. Referential Pro-drop

Some dialects showing overt complementizer agreement allow referential pro-drop. Below are examples from Frisian and West Flemish, both taken from Hoekstra and Marácz (1989).

- | | | | | | |
|------|----|-----------------------------|------|---------|----------|
| (15) | a. | Komst | (do) | jûn? | Frisian |
| | | come-2SG | you | tonight | |
| | | "Do you come tonight?" | | | |
| | b. | -datst | (do) | jûn | komst |
| | | that-2SG | you | tonight | come-2SG |
| | | "...that you come tonight." | | | |
-
- | | | | | | | |
|------|----|-------------------------|--------|-------|----------|------------------------|
| (16) | a. | Goan-2-se | (zie) | goan | werken? | West Flemish (cf. (2)) |
| | | go 3SG | she-CL | she | go work | |
| | | "Is she going to work?" | | | | |
| | b. | -da-2-se | (zie) | komst | come-3SG | |
| | | that 3SG | she-CL | she | come-3SG | |

It can be shown in the case of Frisian that in the absence of overt complementizer agreement referential pro-drop is not possible.

- | | | | | | |
|------|----|-----------------------------|-------|---------|----------|
| (17) | a. | Komst | *(er) | jûn? | Frisian |
| | | come-3SG | he | tonight | |
| | | "Is he coming tonight?" | | | |
| | b. | -dat | *(er) | jûn | komst |
| | | that | he | tonight | come-3SG |
| | | "...that he comes tonight." | | | |

In the case of West Flemish this cannot be demonstrated, because West Flemish has a complete complementizer agreement paradigm.

However, it is clear that referential pro-drop in West Flemish is related to subject cliticization rather than to complementizer agreement. If the subject clitic is left out and complementizer agreement retained, referential pro-drop is impossible. Consider the following 3PL examples:

- (18) a. *Goan-ze* (zunder) *werk een?* *werk een?* West Flemish
 go 3PL they-CL they work have
 "Are they going to have a job?"
 b. *Goan* "zunder) *werk een?*
 go 3PL they work have
 "Are they going to have a job?"
- (19) a. *-da-ze* (zunder) *goan* *werk een*
 that 3PL they-CL they go-3PL work have
 "...that they are going to have a job."
 b. *-da-n* "zunder) *goan* *werk een*
 that 3PL they go-3PL work have
 "...that they are going to have a job."

In (18a) and (19a), the subject clitic *ze* is doubled by a full pronoun *zunder* 'they'. This full pronoun can be dropped, but not if the subject clitic is absent, as in (18b) and (19b). Note that in these examples the complementizer agreement (*-n-*) is present, but unable to license referential pro-drop.

The same may be the case in Frisian. The status of the Frisian complementizer agreement morpheme has been a subject of debate for a long time (see Van der Meer 1991, De Haan 1992 for recent discussions). It has been argued that this morpheme is really a subject clitic, reduced to the extent that it became unrecognizable as such, which made the optional addition of a pronoun possible. The similarity of the complementizer agreement to the verbal agreement would then be accidental.

It may well be the case that something along these lines took place, but the presence of the *-s-* preceding the *-to-/-de-/-t-* morpheme is unaccounted for in this scenario. It is likely, therefore, that the *-sto-* morpheme and its variants are combinations of an agreement morpheme and a subject clitic (Hoeksema 1986, Visser 1988, De Haan 1992). If this is correct, again referential pro-drop could be related to cliticization rather than to complementizer agreement.⁷

⁷ However, pro-drop in Frisian apparently may be licensed by the verbal 2SG agreement alone, witness examples like (i) (from De Haan 1992).

- (i) *Moast* *my helpe*
 must-2SG me help
 "You've got to help me."

Also, as pointed out to me by Josef Bayer (p.c.), even if there is historical evidence for the presence of a clitic element in the Frisian type inflected complementizer, this element does not function as a clitic anymore. Therefore, it may be the case that in certain languages and dialects, among which Frisian, pro-drop is licensed by agreement, and that in others (among

(continued...)

When we consider other Germanic dialects, there appears to be no correlation whatsoever between complementizer agreement and referential pro-drop. Hoekstra and Maráz (1989) mention the case of Zurich German as problematic for their generalization (cf. Cooper and Engdahl 1989). This dialect shows referential pro-drop, but no complementizer agreement:

- (20) a. *-das* (d/dtu) in Züri *wohnsch* Zurich German
 that you in Zurich live-2SG
 "...that you live in Zurich."
 b. *-ob* (d/dtu) *nach Züri* *chunnasch*
 whether you to Zurich come-2SG
 "...whether you come to Zurich."

Conversely, Hollandic dialects that show complementizer agreement never allow referential pro-drop.

- (21) a. *Komme* "ze)? *they* South Hollandic
 come-PL they
 "Are they coming?"
 b. *-ovve* "ze) *komme*
 whether-PL they come-PL

In short, there seems to be no significant correlation between overt complementizer agreement and referential pro-drop in the Germanic dialects. Certain dialects lacking overt complementizer agreement do have referential pro-drop, others that do have overt complementizer agreement lack referential pro-drop. Pending the analysis of the Frisian type referential pro-drop, it may even be the case that not a single example of referential pro-drop in Germanic is related to complementizer agreement.

b. V-ellipsis
 In Frisian infinitival complement clauses with an 'unrealized future' reading, the infinitive, along with the infinitival marker/preposition *te* 'to', can be left out:⁸

- (22) *Jan* is fan doel *om* *nei Ljouwert ta* (te *gean*) Frisian
 John is of purpose for to Leeuwarden to to go
 "John intends to go to Leeuwarden."

This is impossible in Standard Dutch.

⁸ (...continued)
 which West Flemish) pro-drop is licensed by cliticization. Even so, it cannot be maintained that there is a correlation between pro-drop and complementizer agreement.

⁹ In (22), the directionality is expressed by the circumposition *nei...ta*, the second element of which is not to be confused with the preposition/infinitival marker *te*.

- (23) Jan is van plan om naar Leeuwarden toe "(te gaan) St.Dutch
John is of plan for to Leeuwarden to
"John intends to go to Leeuwarden."

Hoekstra and Maráz offer the following explanation for the contrast in (22)-(23). In these constructions, an irrealis feature is present in the embedded INFL. This feature moves to C in Frisian, since Frisian is positively specified for the I-to-C parameter. The I-to-C movement of the irrealis feature turns C into a proper governor, licensing the ellipsis of the infinitival in (22). In Dutch, I-to-C does not take place, hence C is not turned into a proper governor, and ellipsis would result in a violation of the Empty Category Principle.⁹

Whatever the merit of this analysis, the point to be made here is that V-ellipsis is a phenomenon Hoekstra and Maráz (1989) fail to demonstrate in any other Germanic dialect, with or without complementizer agreement.

Many dialects of German do not allow inspection of the presence of V-ellipsis, because of a distinct preference for finite subordinate clauses (Alemannic, Bavarian, Luxembourgish).¹⁰ But the Dutch dialects that show complementizer agreement pattern with Standard Dutch rather than with Frisian with respect to the possibility of V-ellipsis, as far as I have been able to ascertain.

- (24) .datte ze van plan benne om naar A. toe "(te gaan)
that-PL they of plan are for to A. to to go
"...that they intend to go to A."
South Hollandic

V-ellipsis, then, appears to be a curious property of Frisian, not of complementizer agreement dialects:

c. Complementizer Cliticization

Hoekstra and Maráz (1989) note that Frisian has a phenomenon of complementizer cliticization which Dutch lacks. The phenomenon shows up in embedded questions and relative clauses:

⁹ Cf. Chomsky 1981, Travis 1984.

¹⁰ Nevertheless, purpose clauses in Luxembourgish can be expressed in a *fir ze* 'for to' construction (Bruch 1973:103). I have found no examples of the Frisian type V-ellipsis, however.

- (25) a. Hy freget wa (o) ("t) jûn komt
he asks who if that-CL tonight comes
"He's asking who's coming tonight."
b. de frou dy ("t) jûn komt
the woman that that-CL tonight comes
"the woman who's coming tonight"

The complementizer clitic is absent in Standard Dutch:

- (26) a. Hij vraagt wie (o) er vanavond komt
he asks who if there tonight comes
"He's asking who's coming tonight."
b. de vrouw die vanavond komt
the woman that tonight comes
"the woman who's coming tonight"

The origin of the complementizer clitic is unclear. De Rooij (1965a:110f) notes that it is the functional equivalent of *dat* in (Southern) dialects of Dutch, in constructions like (27):

- (27) Hij vraagt wie (o) (dat) er vanavond komt
he asks who if that there tonight comes

But as far as I know, this *dat* is optional, unlike the complementizer clitic. A further difference is that *dat* is not allowed in relative clauses, unlike the complementizer clitic:¹¹

- (28) de vrouw die ("dat) vanavond komt
the woman who that tonight comes
"the woman who's coming tonight"

In both Frisian and Dutch, *dat* occurs as the complementizer in non-wh complement clauses. This *dat* cannot be deleted:¹²

¹¹ The *die dat* combination in relative clauses occurs in the dialect of Ghent, and may be shortened to *die 't* (Overdiep 1937:600). Also, constructions like *de vrouw die west vanavond komt* appear to be possible in certain dialects. Such constructions are found in Limburgian dialects (Dumoulin and Coumans 1986:113), Bavarian (Bayer 1984a:215f, Fanselow 1991:314). Possibly the complementizer clitic can be analyzed as a reduced form of *dat* and *west*, and perhaps also of *asdat*, as De Rooij (1965a:116) suggests.
¹² I abstract away from the possibility that complementizer-less embedded clauses are saved by verb movement, as is possible in German, and marginally so in Dutch and Frisian.

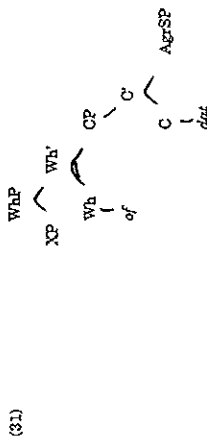
- (29) a. Hy tinkt se jûn komt Frisian
 he thinks that she tonight comes
 b. Hÿj denkt ze vanavond komt Standard Dutch
 he thinks that she tonight comes

In (29a), *dat* cannot be replaced by the complementizer *clitic*:

- (30) * Hy tinkt t_i se jûn komt Frisian
 he thinks that-CL she tonight comes

These facts suggest the following analysis.

Let us assume that the Frisian complementizer *clitic* is a reduced form of *dat*. Let us also assume that the complementizer system is more complex than standardly assumed, following much recent work (Culicover 1991, Hoekstra 1992a, Müller and Sternefeld 1993, Hoekstra and Zwart 1993a). Constructions like (27) suggest that the complementizer system consists of (at least) a Wh-phrase, headed by *of*, and a second phrase, headed by *dat*. This is illustrated in (31):



In Chomsky (1992) structures are built up in a bottom-up fashion, by successive application of generalized transformations, instead of in a top-down fashion, through a system of phrase structure rules and transformations. It follows from economy of derivation that structures are kept as simple as possible. In other words, the levels CP and WhP are added only if their presence is needed for convergence. Since the embedded clauses in (29) have no Wh-character, the Wh-level does not have to be added in the derivation of these sentences. It follows that in (29), C is the highest node in the complementizer system. In (25), on the other hand, both the WhP and the CP must be present.

We can now make the following generalization: complementizer cliticization in Frisian is possible when Wh is present. The process can be described as movement from C to Wh. This movement is impossible when Wh is absent, which explains (30).

Let us now turn to Hoekstra and Marácz's description of complementizer cliticization in terms of I-to-C movement. Hoekstra and Marácz offer an explanation for the fact that the complementizer *clitic* in (25) cannot be deleted (unlike the full complementizer in Dutch). Their suggestion is that in Frisian the complementizer has to remain overt because I must be hosted by a lexical item after moving to C.¹²

This analysis predicts that all dialects that have complementizer agreement must have something in C in relative clauses, either a *clitic* or a full complementizer.

This can easily be disproved. For instance, in West Flemish relative clauses, the complementizer can be left out (\emptyset indicates a phonetically empty element):

- (32) \emptyset den vent die hier goweest eet West Flemish
 the man who here been has
 "the man who was here"

West Flemish being a complementizer agreement language, we must assume, in Hoekstra and Marácz's analysis, that I-to-C takes place, and therefore that C cannot be emptied. Hoekstra and Marácz (1989:80) note that in this case the empty complementizer can be identified by spec-head agreement in CP, which is probably correct. But this leaves unclear why spec-head agreement does not also permit deletion of the complementizer *clitic* in Frisian in (25b).

In fact, there are many dialects in which complementizer agreement appears even if the complementizer is deleted. In addition to (13), consider the following facts from South Hollandic and Luxemburgish:

- (33) a. jonges die-e werk wille South Hollandic
 guys who PL work want-PL
 "guys who want a job"
 b. van die frame, waar-e ze de gordijne mee spanne
 of these frames where PL they the curtains with draw-PL
 "the type of frames which they draw the curtains with"
- (34) a. Géi wuer s de wëlls Luxemburgish
 go where 2SG you want-2SG
 "Go where you want"
 b. Kennes de déi Leit, déi-en dat behaupten?
 know-2SG you these people who PL that claim-PL
 "Do you know the people who claim that?"

¹² This explanation is not incompatible with the structure of the complementizer system in (31), assuming that I-to-C movement targets the highest head in the complementizer system.

In these constructions, the complementizer agreement appears to be attached to the *wh*-phrase. In view of the fact that complementizer agreement regularly shows up on heads rather than on phrases, it must be assumed that in (33) and (34) there is an empty complementizer hosting the complementizer agreement.¹⁴ If so, one cannot claim that I-to-C movement requires C to be lexically filled, as Hoekstra and Marácz do.

In sum, the complementizer cliticization facts do not allow us to make any generalizations over complementizer agreement dialects.

d. Conclusion

It seems fair to conclude that the four properties listed by Hoekstra and Marácz (1989) in connection with their I-to-C parameter do not constitute a cluster separating languages with overt complementizer agreement from languages without overt complementizer agreement.

This suggests that the I-to-C parameter as proposed by Hoekstra and Marácz has a very limited scope: it governs the presence or absence of overt complementizer agreement morphology only. This is an unsatisfactory state of affairs. A particular parameter setting generally has a number of tangible syntactic consequences, rather than a single morphological effect.

In section 4, I will argue that the I-to-C parameter is real, and that the syntactic consequences of the I-to-C movement (better: Agr-to-C movement) are pervasive. In particular, Agr-to-C movement will play a key role in the explanation of the verb movement patterns of Dutch, German, Frisian, and the Mainland Scandinavian languages. From this perspective, *overt* complementizer agreement is just a morphological reflex of abstract functional head movement, which happens to be suppressed in the standard varieties of Dutch and German (see Zwart 1993a).

First, however, let us consider the phenomenon of complementizer agreement from a minimalist point of view.

3.3 A Minimalist Analysis of Complementizer Agreement

The starting point of the analysis of complementizer agreement that I will propose in this section is the idea that complementizer agreement is a reflex of functional head movement (AgrS-to-C movement, cf. Hoekstra and Marácz 1989). I will mainly be concerned with two questions. First,

¹⁴ The presence of an empty complementizer in (32)-(33) is supported furthermore by the absence of verb movement in these constructions.

how can the functional head movement that yields complementizer agreement be described in minimalist terms? This means that we must identify a trigger for movement in terms of morphological feature checking requirements, and that the movement must meet conditions of economy of derivation and representation. Second, how does the functional head movement that gives rise to complementizer agreement interact with verb movement to AgrS becomes unnecessary.

This section has four subsections. In section 3.3.1, the feature checking requirement giving rise to AgrS-to-C movement is discussed. I will conclude that AgrS-to-C movement serves to help eliminate the N-feature of AgrS. In section 3.3.2, the properties of double agreement dialects are discussed. This will reinforce our earlier conclusion that the finite verb is not in C in subject initial main clauses. In section 3.3.3, the morphological aspects of complementizer agreement and the double agreement phenomenon are investigated. Finally, in section 3.3.4 the relation between complementizer agreement and verb movement is discussed.

3.3.1 AgrS-to-C Movement

Within the theoretical framework adopted in this book, complementizer agreement phenomena are problematic in two respects.

First, assuming that all languages have a functional domain with the structure in (35), we expect AgrS, not C, to be the locus of agreement (cf. Figure 1 in section 1.2.2):

(35) (CP [AgrSP [TP [AgrOP [VP]]])

Complementizer agreement is *subject agreement*. In the Minimalist Program, subject agreement features are located in the head position of a functional projection AgrS. These features must be checked off against the person/number features of the subject. Checking takes place in specifier configurations exclusively. For this reason, the subject has to move to the specifier position of AgrS at some point in the derivation. From this point of view, it is surprising that subject agreement features show up morphologically in C.

A second problematic aspect of complementizer agreement is that it never seems to be specifier-head agreement. Thus, assuming that the complementizer is in C, we expect the subject to appear in the spec of CP when the complementizer shows subject agreement, contrary to fact:

- (36) a. * .ik da-n-k komen West Flemish
I that 1SG I-CI come-1SG
"that I come"
b. * .ze datze komme South Hollandic
they that-PL come-PL
"...that they come."
c. * .doe of-s koms Groningian
you whether 2SG come-2SG
"...whether you come."

Similarly, when the verb shows the complementizer agreement, the subject always follows it. This can be seen in dialects where the verbal agreement (v) differs from the complementizer agreement (c) (from now on: *double agreement dialects*):

- (37) a. Wij "speul-e / speult East Netherlandic
we play 1PLc / play 1PLv
"We are playing."
b. Speul-e / *Speult wij?
play 1PLc / play 1PLv we
"Are we playing?"

In (37b), the verb arguably occupies the C position. Accordingly, it shows complementizer agreement morphology. As can be seen, the subject never appears in the specifier position of the head hosting the verb when the verb shows complementizer agreement morphology. Thus, although complementizer agreement is subject agreement, it does not seem to be *spec-head* agreement.

The first of these problems could be solved by assuming that the complementizer *dat* is in AgrS, instead of in C. This, however, would leave the second problem intact. Such a solution would also lead to the conclusion that the verb is in AgrS in subject-verb inversion constructions only, assuming that a verb with complementizer agreement morphology is in the same position as the complementizer. This is not an interesting conclusion, for the following reason.

In double agreement dialects, the complementizer agreement shows up in topicalizations and *wh*-constructions. As in Standard Dutch, the topic/*wh*-element and the fronted verb are obligatorily adjacent:

- (38) a. Daarom ("altijd) speule wij East Netherlandic
therefore always play-1PLc we
"That's why we play (all the time)."
b. Waarom ("altijd) speule wij?
why always play
"Why are we always playing?"

If we take adjacency to be a diagnostic of a spec-head configuration, (38) indicates that the topic and *wh*-element are in the spec of the head occupied by the verb carrying complementizer agreement morphology. If this head is AgrS, the topic/*wh*-element would be occupying the spec of AgrSP. But the spec of AgrSP is the designated position for licensing the subject. Even if the subject does not have to appear in the spec position of AgrSP in overt syntax, it will have to move there at some point in the derivation. This is impossible if that position is occupied by other elements.¹ This makes it unattractive to assume that the verb is in AgrS in (38).

Consequently, it is unattractive to assume that the agreeing complementizers are in AgrS.² This leaves us with the two problematic aspects of complementizer agreement mentioned before: C is not a designated agreement position, and complementizer agreement is never spec-head agreement.

In agreement with Zwart (1991b), I will adopt the following solution to these problems:

Complementizer agreement is a morphological reflex of AgrS-to-C movement.

AgrS-to-C movement is a case of *functional head movement*: the movement of a functional head, independently of overt verb movement.³

Consider how AgrS-to-C movement solves the two conceptual problems associated with complementizer agreement.

First, since complementizer agreement results from AgrS-to-C movement, the features involved in complementizer agreement can properly be represented in AgrS, the designated head for subject agreement.

¹ It could be argued that the topic/*wh*-element is removed from the spec.AgrS position before the subject moves there, without leaving a trace. This requires a trigger for the additional movement of the topic/*wh*-element. If such a trigger exists, one wonders what the trigger for the movement of the topic/*wh*-element to spec.AgrS was.

² Many analyses in the literature incorporate a more flexible approach to subject licensing. It is assumed, in these analyses, that the subject may be licensed in a lower specifier position or in the VP under certain circumstances. This would leave the spec position of AgrS available for fronted non-agreeing elements like topics and *wh*-elements. As a matter of methodological principle, I will not consider this possibility before having tested a stricter version of the minimalist approach to syntax. This stricter version implies that the specifier position of a head *α* is a *designated* licensing position for checking the features represented in *α*. As a result, this specifier position can only be occupied by elements carrying the features corresponding to the features of *α*.

³ Independent functional head movement is also proposed in Chomsky (1992:10), Bobaljik and Carnie (1992).

Second, since agreement originates in a lower functional head (AgrS), we expect subject agreement to be checked in the specifier position of that head, not in the specifier position of C. In short, the AgrSP still is the designated projection for subject agreement, even though the head of AgrS moves to C.⁴

Thus, the hypothesis that AgrS moves to C removes the problematic character of the Germanic complementizer agreement morphology. In section 4, I will argue that the AgrS-to-C hypothesis does more than that: it also explains the well known asymmetry between main clauses and embedded clauses in Dutch, German, Frisian, and Mainland Scandinavian. However, we first have to further investigate the properties of AgrS-to-C movement from a minimalist point of view.

Recall that in the minimalist approach, every movement has to be triggered by the need to eliminate morphological features. Moreover, the economy-related principle of *Greedy* prescribes that the moved element should benefit directly from the movement. We may wonder whether this applies to AgrS-to-C movement as well.

What morphological feature might be removed through the application of AgrS-to-C movement? Obviously, this morphological feature has to be represented in AgrS itself. If not, AgrS-to-C movement violates the *Greedy* principle. We may therefore make the following conjecture:

AgrS-to-C movement eliminates a feature of AgrS.

Recall that AgrS hosts two features: a V-feature and an N-feature. The former has a counterpart in the features of the verb, the latter in the features of the subject noun phrase. Since complementizer agreement is subject agreement, it must be the N-feature of AgrS which is eliminated through AgrS-to-C movement (cf. Zwart 1991b).

However, at this point a problem arises. In the minimalist approach, N-features are eliminated through XP-movement, not through head movement. Thus, the N-feature of AgrS is standardly eliminated through movement of the subject to the specifier position of AgrSP. In complementizer agreement dialects, like in Standard Dutch, the subject moves to the specifier position of AgrSP in overt syntax. Why does this not suffice to eliminate the N-features of AgrS?

I would like to propose the following solution to this problem. In section 1.3.2, I argued that feature checking invariably involves feature matching between sisters. The specifier is the designated position for

⁴ Chomsky (1992:19) argues that functional head movement changes the status of the specifier of the lower functional projection (cf. also Bobaljik and Carnie 1992). I will discuss this proposal in section 4.3.

checking the N-features of a head α , because it is the sister of the Projection of α (the first XP projection of α). I have assumed that the special status of the Projection of α is not expressed in bar-level status, but in feature content: the Projection of α may share the morphological features of α . If the Projection of α shares the N-features of α , movement of the relevant XP to the specifier position of α suffices to get the N-features of α checked.

In section 1.3.2, I suggested that the N-features of α may not be automatically present on the Projection of α as well. There is some room here for parametric variation. If α is [-accessible], the N-features of α will also be present on the Projection of α . In that case, movement of the relevant XP to the specifier position of α suffices for N-feature checking. If α is [+accessible], the features of α will not automatically spread to the Projection of α . In that case, something has to happen to α in order to make it possible for the N-features of α to spread to the Projection of α , so that feature checking under sisterhood can take place.

This approach suggests that in certain constructions or languages, a functional head must be affected in some way before its N-features can be checked. In these constructions, movement to the specifier position of that head does not suffice.

It is a quite general phenomenon that movement of an XP to the specifier position of a functional projection α is accompanied by movement of the verb to the head of α .⁵ Still, it is not *always* the case that XP movement is accompanied by head movement. For example, wh-movement to spec of CP triggers verb movement to C in English, but not in French:

- | | | |
|------|--|---------|
| (39) | a. When did John arrive?
b. * When John arrived/did arrive? | English |
| (40) | a. Quand Jean est-il arrivé?
when John is he-CI arrived
*When did John arrive?
b. * Quand est(-il) Jean arrivé?
when is he-CI John arrived | French |

This state of affairs can be described in two ways.

First, one could analyze English C as having both a strong N-feature and a strong V-feature, and French C as having a strong N-feature and a weak V-feature. The strong N-feature of C would force the wh-element to move to spec of CP in both English and French (abstracting away from the possibility of *wh-in-situ*). The strong V-feature of C would force the

⁵ This phenomenon underlies e.g. the *Wh-Criterion* of Rizzi (1990b), and the *Neg-Criterion* of Hägglund and Zanuttini (1991).

verb to follow suit in English, but in French, verb movement to C would be excluded because of the weak V-feature in C.

Alternatively, one could assume that the N-features and V-features of C are specified in the same way in both English and French. In both languages, C would have a strong N-feature and a weak V-feature. However, the difference could be that C is [-accessible] in English and [+accessible] in French. This would explain the obligatory verb movement in (39), and the absence of it in (40).

There is one interesting difference between these two approaches that will become important in section 4. Only in the second approach is verb movement to a functional head with a weak V-feature possible. In the first approach, the relation between strength of V-features and verb movement is too direct to allow this. Let us therefore call the first approach the *rigid* approach, and the second approach the *conditional* approach.

Returning now to AgrS-to-C movement, I would like to propose that in complementizer agreement dialects AgrS has strong N-features and weak V-features, and that in addition AgrS is specified as [-accessible].⁶ As a result, the specifier position of AgrSP has to be filled by the subject, but movement of the subject does not suffice to get the N-features of AgrS checked. Since AgrS is [-accessible], the N-features of AgrS are not present on the Projection of AgrS (the sister of the specifier), and feature checking under sisterhood cannot take place. Therefore, something has to happen to AgrS to make the N-feature of AgrS spread to the Projection of AgrS.

What I would like to propose is that AgrS-to-C movement serves this purpose:

AgrS-to-C movement makes AgrS [-accessible]

Thus, as a result of AgrS-to-C movement, the N-features of AgrS spread to the Projection of AgrS (the sister of the specifier of AgrS). As a result, checking of the N-features of AgrS under the required condition of sisterhood can proceed.

Notice that if this is correct, AgrS-to-C movement obeys the principle of *Greed*. After all, it is the strong N-feature of AgrS itself that is going to be eliminated through the movement of AgrS to C. Accepting the conditional approach to feature checking, then, we may draw the following conclusion:

AgrS-to-C movement indirectly eliminates the N-feature of AgrS.

⁶ I will argue in section 4 that these specifications carry over to Standard Dutch.

Thus, the proposed AgrS-to-C movement is a minimalist type of movement.

N-feature checking in complementizer agreement dialects can now be summarized in the following way. The N-feature of AgrS is strong. For this reason, the subject moves to the spec of AgrSP in overt syntax. However, the N-feature can only be eliminated if AgrS is [-accessible]. AgrS is specified as [-accessible], which would block N-feature checking unless AgrS is affected in such a way that it becomes [+accessible]. For this reason, AgrS moves to C, which makes AgrS [-accessible] (by hypothesis). As a result, the N-feature of AgrS spreads to the projection of AgrS, and N-feature checking can take place under sisterhood. This accounts for our earlier observation that AgrSP remains the locus for checking the features of AgrS, even after AgrS-to-C movement has taken place.

In section 4, the interaction of AgrS-to-C movement and verb movement will be discussed in greater detail. I will argue that verb movement to AgrS is another way to make AgrS [-accessible]. This has the result that the verb must move to AgrS in all and only those constructions in which C is absent. This accounts for the asymmetry between main and embedded clauses in Dutch, and allows us to maintain the minimalist assumption that in subject initial main clauses the finite verb is in AgrS.

One aspect of the interaction of AgrS-to-C movement and verb movement will have to be dealt with now, however. This concerns the morphology of verbs in C, especially in the dialects we have called *double agreement dialects*.

3.3.2 Double Agreement Dialects

In double agreement dialects the complementizer agreement and the verbal agreement differ. As mentioned before, the verb in these dialects has verbal agreement in subject initial main clauses, and complementizer agreement in subject-verb inversion constructions. This is illustrated in the following examples, partly repeated from section 3.1.

(41) a.	Wij	speult- <i>pl</i> -e	East Netherlandic
	we	play- <i>1PL</i> /c	
b.	Waar	speult- <i>pl</i> -t	wif?
	where	play- <i>1PL</i> /v	we
	"Where do we play?"	-datte	wij
c.	that- <i>1PL</i> c	we	play- <i>1PL</i> v

- (42) a. Gullie kom- σ^* -de Brabantish
 you come 2PLv/c
 Wanneer kom-de σ^* -t gullie?
 when come 2PLv/c you
 "When do you come?"
 c. -daedde gullie kom-t
 that-2PLc you come-2PLv
- (43) a. Gie kom- σ^* - \emptyset West Flemish
 you come 2SGv/c
 b. Kom- \emptyset - σ^* -t-j gief?
 come 2SGv/c you you
 "Are you coming?"
 c. -da- \emptyset -j gie kom-t
 that 2SGc you you come-2PLv
 "...that you are coming."

Does the analysis of complementizer agreement developed in section 3.3.1 carry over to the subject-verb inversion constructions in (41b), (42b), and (43b)?

In the analysis of complementizer agreement presented above, AgrS moves to C independently of verb movement. In the b-sentences in (41-43) however, the verb moves to C overtly (following Den Besten 1977). If the verb moves through AgrS on its way to C, there is no room for independent functional head movement from AgrS to C. This suggests that in subject-verb inversion constructions, AgrS-to-C movement is part and parcel of the movement of the lexical verb to C.

However, this yields a serious problem in double agreement dialects. Recall that in these dialects, one type of agreement shows up on the verb in subject initial main clauses and in embedded clauses (the verbal agreement), and another type of agreement shows up on the verb in subject-verb inversion constructions and on the complementizer (the complementizer agreement). This is illustrated in the following table (cf. (41)).

position of verb: agreement	C	AgrS	V
		c (- σ)	v (- σ)

In the Minimalist Program, verbs are inserted in fully inflected form. Accordingly, morphology cannot change in the course of a derivation. If subject initial main clauses are AgrSPs, as we have assumed throughout, we can associate verbal agreement morphology with verb movement to AgrS, and complementizer agreement morphology with verb movement to C. But if verb movement to C goes through AgrS, the verbal agreement

morphology apparently has to change into complementizer agreement morphology, which is not allowed.

At this point we may wonder whether there is any reason for V-c (the verb with complementizer agreement morphology) not to move to C across AgrS. This would obviously violate the Head Movement Constraint (see section 1.3.1). According to this constraint, heads can only move to the next head up. In Chomsky (1992), the Head Movement Constraint is reduced to the shortest steps requirement of economy of derivation.

However, I have argued in section 1.3.1 that economy of derivation does not involve a shortest steps requirement. The fact that head movement is as restricted as it is follows from the feature checking requirements that are independently established in the minimalist approach. If a lexical head α moves to a functional head β , across an intervening functional head γ , the derivation will not converge if γ contains V-features that must be checked by α . In this core case of Head Movement Constraint violations, the Head Movement Constraint is completely redundant.

Suppose α is an inflected verb, β is C, and γ is AgrS. Movement of the verb to C across AgrS yields a crashing derivation, because this would leave the V-features of AgrS unchecked. Thus, the effects of the Head Movement Constraint are trivially derived.

Suppose next that AgrS moves to C by independent head movement before verb movement takes place. This yields a chain (AgrS, t), where AgrS is adjoined to C, and t is the trace in the original position of AgrS. We may assume that the V-feature of AgrS is present on both members of the chain (AgrS, t). In this situation, movement of the verb to C across AgrS does not yield a crashing derivation. The verb adjoins to AgrS in C and checks the V-features of AgrS under the required sisterhood condition. This derivation is not allowed by the Head Movement Constraint, but it is allowed by the minimalist principles which the Head Movement Constraint must be derived from. This supports our earlier conclusion that the shortest steps requirement is not part of economy of derivation.

Let us now return to the double agreement dialects. The problem we faced was to account for the appearance of complementizer agreement morphology on the verb in C. This is unexpected if the verb moves to C through AgrS. Instead, the morphology on the verb in C suggests that the verb moves to C directly, skipping AgrS. Such a movement was seen to violate the Head Movement Constraint. Assuming the preceding discussion to be essentially correct, this is not a problem, if it can be shown that the verb movement to C across AgrS is part of a minimalist derivation.

First, we have to wonder whether the verb movement to C is triggered by the need to eliminate morphological features. This topic will be treated

more fully in section 5. Since AgrS moves to C, adjunction of the verb to AgrS serves to eliminate the V-feature of AgrS.

Secondly, we have to wonder whether the movement across AgrS (instead of *through* AgrS) is minimalist. Normally, this would not be the case, since movement across AgrS precludes checking AgrS's V-features. However, in this case AgrS moves to C itself. As discussed above, this means that V may check AgrS's V-features in C. So on both counts, verb movement to C across AgrS contributes to convergence.

A third question to ask is why movement across AgrS is preferred to movement *through* AgrS, instead of the other way around. The theory allows only one type of answer here: skipping AgrS must be the more economical derivation. Consider why this is in fact the case.

If economy of derivations does not contain a shortest steps requirement, it reduces to the requirement that the number of steps in a derivation be as small as possible. Assuming that AgrS-to-C movement turns C into a position where the V-features of AgrS can be checked, the V-features of C and AgrS can be checked in one step by moving the verb to C across the original AgrS position. Movement *through* AgrS is not barred by feature checking requirements, but would yield a derivation with more verb-movement steps. This is excluded by economy of derivation.⁷

This answers the third question that the analysis of V-to-C movement in double agreement dialects poses. In sum, the proposed analysis, which involves a violation of the former Head Movement Constraint, is fully consistent with the Minimalist Program.

The agreement phenomena in double agreement dialects can now be derived in the following way. In these dialects, complementizer agreement is present on the complementizer and on the verb in inversion constructions. In subject initial main clauses, the verb shows another type of agreement, which we called verbal agreement. The verb must be generated in V in fully inflected form, either with complementizer agreement or with verbal agreement. A verb with complementizer agreement cannot move to AgrS, and a verb with verbal agreement cannot move to C. The derivation of subject initial main clauses therefore may not involve verb movement to C, and the derivation of inversion constructions may not involve verb movement to AgrS. This leads to two conclusions. First, subject initial clauses are not expanded up to the CP

⁷ One might argue that the addition of the verb movement step is compensated by the circumstances that independent functional head movement of AgrS to C is no longer necessary. If the verb moves to C *through* AgrS, AgrS gets a free ride to C. However, in choosing the most economical derivation we are not interested in the global number of steps, but in the question whether each step is necessary or superfluous. From this perspective, AgrS-to-C movement is irrelevant in determining the most economical V-to-C movement.

level. As a result, the verb can move only to AgrS, and the verbal agreement must appear. Second, the verb may not move through AgrS in inversion constructions. This follows from economy of derivation, as discussed above.⁸

In the next section, the morphological aspects of the double agreement phenomenon will be discussed in more detail.

3.3.3 Morphological Issues

We have now reached the following description of the agreement pattern in double agreement dialects. When the verb stays in V or moves to AgrS it shows verbal agreement morphology. When the verb moves across AgrS to C, it shows complementizer agreement morphology. In this subsection, I will try to be a bit more explicit about the relation between syntax and morphology in this pattern.

In the minimalist approach, elements enter the syntactic component in fully inflected form. This implies that in complementizer agreement dialects, there must be a paradigm of complementizers.⁹ A feature must be associated with each form of the paradigm. This feature has to match the feature of AgrS after AgrS-to-C movement.

It is tempting to suggest that complementizers universally carry features that have to match the features of lower functional heads. If this is correct, an explanation must be found for the fact the complementizer agreement is typologically rare. I will return to this issue in section 4.2.

If complementizers carry a feature, the question arises what kind of feature this is. Since complementizer agreement is subject agreement, one could argue that the complementizer feature is an N-feature. However, this raises the previously mentioned issue why subjects cannot be licensed in the specifier position of CP.

I would like to suggest that the feature carried by the complementizer is not an independent N-feature, but a duplicate of the N-feature of AgrS. When AgrS adjoins to C, its features have to match the relevant features of C, carried by the complementizer. The duplicate feature may be automatically eliminated when the N-feature of AgrS is eliminated. This

⁸ The question arises whether topicalization of the subject in double agreement dialects would give rise to verbal agreement on the verb or complementizer agreement. The facts are that in these cases the verb always shows verbal agreement. This is also the case in the Standard Dutch ZSG, where the verb shows the double agreement pattern (*HIJ gaat/ya 'YOU go'*). The derivation of these constructions therefore must involve verb movement to AgrS before the verb moves on to C. Consequently, topicalization in these constructions does not involve independent AgrS-to-C movement.

⁹ Goeman (1980) reaches the same conclusion.

can be thought of as a result of the AgrS-to-C movement. Alternatively, we may assume that the duplicate feature is invisible at the interface levels, and hence need not be eliminated.¹⁰

Viewed in this way, the presence of a particular duplicate feature does not represent a *trigger* for movement, but a *condition* for movement. Put differently, AgrS-to-C movement is possible on condition that the duplicate feature be non-distinct from the relevant feature of AgrS.

The concept of a duplicate feature allows us to set up a paradigm for verbs in double agreement dialects. As always, particular-inflectional verb forms cannot be derived in the syntax. Hence, both the complementizer agreement verb form (V-c) and the verbal agreement verb form (V-v) must be present from the outset.

We can now say that the feature specification of V-c is equal to the feature specification of V-v, and that V-c in addition has the duplicate feature associated with the complementizer agreement. Thus, a particular V-v form like East-Netherlandic *speult* will be [+present, [1PL, Øagr]], and the corresponding V-c form *speult* will be [+present, [1PL, +agr]], where *agr* is the duplicate feature of the N-feature of AgrS.¹¹ I will assume that when the verb has a paradigm of forms in which one form is [+agr] and another form is [Øagr] the verb in C must take the marked [+agr] form. Thus, the condition on AgrS-to-C movement is that the duplicate feature of the element in C must be *maximally non-distinct* from the relevant feature of AgrS.

The mechanism of complementizer agreement can now be pictured as follows. AgrS moves to C, creating a chain (AgrS, *t*). This movement serves to make AgrS [+accessible], so that the N-features of AgrS can be checked. A condition on AgrS-to-C movement is that the features of the complementizer or the verb in C be maximally non-distinct from the features of AgrS. In double agreement dialects, this condition is not met when a verb with verbal morphology moves to C, because verbal morphology is associated with a feature [Øagr] in double agreement dialects, and another verb form with the duplicate feature [+agr] is available.

¹⁰ Notice that complementizer agreement never replaces the agreement on the verb. In this respect, complementizer agreement is fundamentally different from *do*-support. If the complementizer agreement feature is too weak to perform agreement on its own, it may also be weak enough not to count as an illegitimate object at the LF interface.

¹¹ Notice that the duplicate feature is part of the person/number feature specification, not an independent feature. Thus, the two verb forms (one with verbal agreement morphology, one with complementizer agreement morphology) constitute a paradigm *within* the person/number paradigm. The feature specification follows Jakobson (1935) where the unmarked value is neither + nor -. Consequently, we can assume that the duplicate feature is present with the unmarked Øagr specification in single agreement dialects.

In complementizer agreement dialects that do not display the double agreement pattern, the morphological technicalities are more straightforward, since the agreement of the complementizer is directly linked to person or number. Thus, the South Hollandic plural complementizer can be represented as [PL, Øagr], and the singular complementizer as [SG, Øagr]. AgrS-to-C movement meets the non-distinctness condition on complementizer agreement in a trivial way.

In single agreement dialects which do not show complementizer agreement, neither the verb nor the complementizer shows a morphological paradigm in connection with AgrS-to-C movement. Hence, we may characterize the verb forms and complementizers as [Øagr] in each case. As a result, AgrS-to-C movement is not excluded in these dialects, since the unmarked specification of the duplicate feature does not violate the non-distinctness condition on AgrS-to-C movement.

3.3.4 Complementizer Agreement and Verb Movement

In the analysis presented thus far, AgrS-to-C interacts with verb movement. In embedded clauses, where AgrS-to-C takes place, the verb does not move to AgrS. In subject initial main clauses, where AgrS-to-C cannot take place, the verb moves to AgrS. This is especially clear in double agreement dialects, in which the morphology of the verb varies depending on whether the verb moves to AgrS or to C.

I have proposed that AgrS-to-C movement and verb movement to AgrS serve the same goal. Both operations have the effect that AgrS becomes [+accessible], i.e., the Projection of AgrS may take over the features of AgrS. As a result, the N-features of AgrS can be checked by feature matching between the subject in the specifier position of AgrS and its sister, the Projection of AgrS (cf. section 1.3.2).

This analysis makes the prediction that all complementizer agreement dialects show the verb movement asymmetry between main clauses and embedded clauses illustrated for Standard Dutch in section II.1.2.1. This prediction is borne out, as the following facts show:

- (44) a. Ze *komme* *menge* *tomorrow* *come-PL* *tomorrow* *come-PL*
 they *come-PL* *tomorrow*
 b. Ze *datte* *ze* *menge* *komme*
 that-PL they *tomorrow* *come-PL*
 "...that they come tomorrow."

South Hollandic

- (45) a. Ik komen vandooge
I come-1SG today
b. -daan-k vandooge komen
that-1SG I.CI today come-1SG
"...that I come today."
- (46) a. Doe koms nait
you come-2SG not
b. -ofe-toe nait koms
whether-2SG you not come-2SG
- (47) a. Do komst jûn
you come-2SG tonight
b. -datst-do jûn komst
that-2SG you tonight come-2SG
- (48) a. Du kommsd ned
you come-2SG not
b. -damidsd ned kommsd
sothat-2SG not come-2SG
- (49) a. Du wells nêt
you want-2SG not
b. -ob s du nêt wells
whether 2SG you not want-2SG

In the dialects illustrated, the adverb follows the finite verb in main clauses (the a-sentences), but precedes it in embedded clauses (the b-sentences). In each of these sentences, a reversal of the verb-adverb order would be ungrammatical, just like in Standard Dutch.

At this point, recall the discussion of the syntactic properties of complementizer agreement dialects in section 3.2.2. It turned out that there is not a cluster of syntactic properties which all (or most) and only complementizer agreement dialects share, and which could therefore be associated with AgrS-to-C movement. As (44-49) bear out, there is a syntactic phenomenon associated with abstract AgrS-to-C movement which is invariant across complementizer agreement dialects, namely the absence of verb movement when AgrS-to-C takes place.

Notice, however, that AgrS-to-C cannot be restricted to constructions with overt complementizer agreement. Many complementizer agreement dialects do not show a full complementizer agreement paradigm. For example, the complementizer agreement of the Groningen type is restricted to 2SG. Yet the verb movement asymmetry is pervasive in all complementizer agreement dialects, regardless the person or number of the verb. This is accounted for on the assumption that the element in C has an unmarked [\emptyset agr] duplicate feature when there is no sign of overt complementizer agreement. The presence of this feature still allows AgrS-

to-C movement, since the unmarked feature is non-distinct from the N-feature of AgrS.

From here, it is only a small step to assume that dialects of Dutch *without* complementizer agreement, such as Standard Dutch, have AgrS-to-C movement as well. We may assume that in these dialects, the complementizer invariably carries the unmarked [\emptyset agr] duplicate feature which allows AgrS-to-C movement. On these assumptions, the absence of verb movement in embedded clauses in Standard Dutch would be accounted for. This will be the starting point of the discussion of the verb movement asymmetry in Standard Dutch in section 4.

To conclude this subsection, recall that Standard Dutch is in a sense a double agreement dialect. This may be concluded from the agreement pattern in the second person singular (cf. Goeman 1992):¹²

- (50) a. Jij komt*kom
you come
b. Wanneer kom/*komt jij?
when come you
"When do you come?"
c. -dat jij komt*kom
that you come
- Standard Dutch

The two verb forms can now be analyzed as in double agreement dialects. In the verbal paradigm there is a subparadigm connected with the second person singular. According to this subparadigm, *komt* is [2SG, \emptyset agr] and *kom* is [2SG,+agr]. As a result, only *kom* is allowed in C, because *kom* contains a duplicate feature that is maximally non-distinct from the features of AgrS.

¹² It is not likely that the final -t in (50b) is elided, because of the impossibility of such elision in the third person in identical contexts (*Wanneer komt/*komt Jan?* 'when comes John?'). Also, under an elision analysis one predicts that the final -t will show up again when the 2SG pronoun is modified, e.g. in *ook jij* 'also you'. However, this is not the case. Remarkably, **wanneer kom ook jij* 'when come also you' and **wanneer komt ook jij* 'when come-t also you' are both excluded (while *ook jij komt* [also you come-t] and the imperative *kom ook jij* [come also you] are unproblematic), apparently because of a requirement that the 2SG verb form be able to pass as a 3SG verb form (considering the pair *kom jij/komt hij* [come you/comes he], and the grammaticality of *wanneer moet hij/ook jij* 'when must he/also you' and *wanneer kunnen hij/ook jij* 'when can he/also you'; thanks to Eric Hoekstra for this observation). The ungrammaticality of **wanneer komt ook jij* 'when come-t also you' argues strongly against an elision analysis of the 2SG verb form *kom*. (In fact, *wanneer kom ook jij* 'when come also you' is slightly better than *wanneer komt ook jij* 'when come-t also you', in my judgment.)

3.4 Conclusion

In this section, I have described complementizer agreement as a morphological reflex of AgrS-to-C movement. It has also become clear that AgrS-to-C movement is an abstract functional head movement, which may take place independently of verb movement. AgrS-to-C movement has tangible effects in the syntax of verb movement, since it makes verb movement superfluous. This will be discussed more fully in section 4. If verb movement and complementizer agreement do interact in the way suggested here, it becomes unlikely that AgrS-to-C movement be restricted to dialects with overt complementizer agreement. In accordance with this, it has become clear that there is not an obvious cluster of syntactic properties which all and only overt complementizer agreement dialects share.

Another important conclusion that can be drawn from the analysis presented here is that Dutch has a separate functional projection for subject agreement, AgrSP. This confirms the starting point of this book, according to which the structure of the functional domain of Dutch is as assumed in the Minimalist Program. The analysis presented here provides strong confirmation for the applicability of the Minimalist Program to the syntax of Dutch.

Finally, the analysis of double agreement dialects (which possibly include Standard Dutch) allows us to draw a conclusion as to the central issue of this chapter: the position of the functional heads in Dutch. In double agreement dialects, verbs in C carry special agreement, identical to the agreement on the complementizer. In subject initial main clauses, the verb has the ordinary verbal agreement. Hence, the verb cannot be in C in these constructions. Since the verb has clearly moved out of its basic position, and, furthermore, is obligatorily adjacent to the subject, the verb must be in a lower functional head in subject initial main clauses, presumably AgrS. AgrS, then, must be to the left of the VP in double agreement dialects. In the spirit of this section, this conclusion carries over to other dialects of Dutch, including Standard Dutch.

4 The Verb Movement Asymmetry

In section II.4.3, I argued that the most straightforward implementation of the minimalist approach to the syntax of Dutch entails that in subject initial main clauses in Dutch, the finite verb is not in C but in AgrS. This leaves one question open: Why does verb movement to AgrS not take place in embedded clauses as well?

In this section, I will present an analysis of this asymmetry between main clauses and embedded clauses. The central ingredient of the analysis will be independent AgrS-to-C movement.

AgrS-to-C movement was argued to take place in complementizer agreement dialects in section 3. I will now argue that the analysis presented there carries over to Standard Dutch. The upshot of the analysis will be that movement of AgrS to C makes movement of the verb to AgrS superfluous.¹

If this analysis of verb movement is correct, it constitutes another argument in support of the hypothesis that all functional projections in Dutch are head initial.

This section is organized in the following way. In section 4.1, the analysis of verb movement and complementizer agreement developed in section 3 is applied to Standard Dutch. In section 4.2, the hypothesis is advanced that in Germanic, all and only verb movement asymmetry languages (Dutch, Frisian, German, Mainland Scandinavian) have abstract AgrS-to-C movement blocking verb movement in embedded clauses. Finally, the effect of functional head movement on the status of specifier positions is discussed in sections 4.3 and 4.4.

4.1 The Verb Movement Asymmetry in Dutch

4.1.1 Generalizing AgrS-to-C Movement

The position of the finite verb in main clauses and embedded clauses in Dutch is illustrated in (1), repeated from II.1.2.1:

¹ The question why movement of the verb to C in embedded clauses is excluded will be discussed in section 5.3.

- (1) a. Jan kust Marie
John kisses Mary
b. * Jan Marie kust
John Marie kisses
- (2) a. .dat Jan Marie kust
that John Marie kisses
"that John kisses Mary."
b. * .dat Jan kust Marie
that John kisses Mary

As explained in section II.4.3, the subject and the finite verb have to be adjacent in subject initial main clauses:

- (3) a. * Jan altijd kust Marie
John always kisses Mary
b. Jan kust altijd Marie
John kisses always Mary
"John always kisses Mary."

I take this to mean that the subject and the verb are in a spec-head configuration in (1a).

Assuming that in neutral constructions the subject cannot move to a position higher than the spec of AgrS, and considering that the subject appears to the left of sentence adverbials (as in (3b)), we may conclude that the verb is in a functional head position in (1a), presumably AgrS.

If correct, this analysis of verb movement in subject initial main clauses provides a compelling argument in support of the hypothesis that AgrSP is head initial in Dutch.

However, the analysis cannot be considered complete if no explanation is provided for the absence of verb movement to AgrS in embedded clauses (cf. (2)).

Verb movement in Dutch and German never takes place when the complementizer is present. Standardly, this is taken to indicate that the finite verb and the complementizer vie for the same position, C (Koster 1978a, Den Besten 1989, Lenerz 1985). If this view were correct, the position of the finite verb in (1) would have no bearing on the issue of the position of AgrS and T in Dutch.²

When two elements are in complementary distribution they do not necessarily have to be represented in one position. The presence and

² Importantly, if it were correct that the finite verb in Dutch always moves to C, this would not prove, or even suggest, that functional projections in Dutch are *not* head initial. On the contrary, this analysis would imply that CP in Dutch is head initial, and, in the absence of evidence to the contrary, we would have to draw a similar conclusion for the other functional heads.

position of each element has to be explained independently, and the apparent interaction of the two elements has to be described in terms of what explains their distribution in the first place.

Thus, postulating that the verb and the complementizer are in the same position in Dutch does not provide an explanation for the distribution of the complementizer and the verb. This explanation can only be reached if there is an independent reason for the verb to move to the position of the complementizer when the complementizer is not present.

At this point, the problem posed by the pattern in (1)-(2) can be formulated as follows. If the complementary distribution of the complementizer and the verb is explained by the fact that the verb has to move to the complementizer position, there must be a trigger TR for verb movement to C.³ But if TR exists, it must force the verb to move to C in embedded clauses as well. Since movement of the verb to C in embedded clauses is blocked by the presence of the complementizer, embedded clauses like (2a) are predicted to be ungrammatical. This is contrary to fact, hence TR does not exist. If TR does not exist, there is no reason for the verb to move to C in (1a) either.

It turns out, then, that the complementary distribution of the verb and the complementizer in Dutch can only be explained by assuming that the verb does *not* move to the complementizer position. Fortunately, this way of accommodating a complementary distribution is neither logically nor theoretically impossible. It may be the case, for instance, that the presence of a complementizer in C makes movement of the verb to a lower functional head superfluous.

An analysis along these lines was first proposed by Travis (1984, 1991). Travis argues that the verb movement in (1) is a function of the Empty Category Principle (ECP), applied to heads. Empty heads, in her view, must be either properly governed or filled. Assuming that subject initial main clauses are IPs (i.e. AgrSPs, in later terminology), the topmost functional head in (1) is not properly governed; therefore it has to be filled by the verb, moving to I (AgrS). In (2), on the other hand, the

³ We might conceive of TR as a V-feature of C. However, it is not clear that C contains V-features to begin with. The features that are conventionally associated with C are not associated with the verb itself, but with other grammatical features like tense and aspect. Verbs, on the other hand, do not have apparent 'complementizer features'. It may be necessary to draw a distinction between functional heads that are associated with grammatical features of the verb and functional heads that are not. If so, Agr and T belong to the former and C to the latter. This distinction is independently proposed in Chomsky and Lasnik (1991:37), who call the former category *L-related*. L-relatedness is redefined in terms of the presence of V-features in Chomsky (1992:40), where it is suggested that C is not L-related (see section 5.3.1).

empty head I is governed by the complementizer in C. This makes verb movement to I superfluous.⁴

Travis' reduction of Germanic verb movement to the ECP has been criticized in Schwartz and Vikner (1989), Schwartz and Tomaselli (1991:270), Vikner and Schwartz (1991) (cf. also Holmberg 1986:123f, Tomaselli 1990:131).

Schwartz and Vikner (1989:41) argue that the obligatory verb movement in (4), from German, is not expected if we assume that the matrix verb governs the C-position of the embedded verb.⁵

- (4) a. *Womit glaubte sie hatte das Kind das Brot gegessen?*
with what thought she had the child the bread eaten
"What did she think the child ate the bread with?"
b. * *Womit glaubte sie das Kind hatte das Brot gegessen?*
with what thought she the child had the bread eaten

The matrix verb *glauben* 'think' optionally takes a complement clause without a complementizer. In that case, the verb moves to the second position in the complement clause:

- (5) a. *Sie glaubte das Kind hatte das Brot gegessen*
she thought the child had the bread eaten
"She thought the child had eaten the bread."
b. * *Sie glaubte das Kind das Brot gegessen hatte*
she thought the child the bread eaten had

As (4) shows, extraction out of the complementizerless embedded clause yields subject-verb inversion. Schwartz and Vikner argue, correctly, that this subject-verb inversion is not expected if the matrix verb governs the empty C-position.

Following Schwartz and Vikner (1989), we may conclude that the various verb movements associated with the paradigm in (1)-(2) are not explained by the ECP. However, even if Travis (1984, 1991) was misguided in reducing verb movement to the ECP, this in no way invalidates her description of the verb movement asymmetry in Dutch and

⁴ More exactly, Travis assumes that the governing head 'identified' the empty head position. In order for a head to be identified, its feature complex must be complete. If the feature complex of a node is complete (as it must be in order to be identified), the node is "filled." This prevents movement from occurring in (embedded) clauses in German (Travis 1991:357). The idea that verb movement in embedded clauses is superfluous from the point of view of economy of derivations was first proposed in Zwart (1990b), as far as I can see (cf. also Zwart 1991a:85).

⁵ This assumption seems reasonable from an extraction theory point of view. Therefore, I will ignore the other options discussed by Schwartz and Vikner (1989). Cf. Zwart (1991a) for more discussion.

German. The crucial point in that analysis remains that the presence of a complementizer in C blocks verb movement to a lower functional head. I. This is the type of analysis we need, as I have argued above.

I will therefore assume in what follows, that Travis' description of the verb movement asymmetry is essentially correct. I also hope to supplement her analysis with the correct trigger for verb movement in Dutch.

The key elements of this part of the analysis have all been introduced in section 3, on complementizer agreement.

Recall that two interesting conclusions about complementizer agreement dialects have emerged. First, although some dialects of Dutch (and German, and Frisian) show overt complementizer agreement and others do not, no cluster of syntactic properties could be identified which correlates with the presence of overt complementizer agreement. Second, all dialects of Dutch (and German, and Frisian) have one syntactic property in common: the verb movement asymmetry.

Complementizer agreement was analyzed as a reflex of AgrS-to-C movement in section 3. AgrS-to-C movement takes place to ensure the elimination of the strong N-feature of AgrS. It was assumed that the N-feature of AgrS can only be eliminated if the N-features of AgrS are present on the Projection of AgrS, the sister of the specifier of AgrSP. This follows from the generalization that feature matching requires a sisterhood configuration (section 1.3.2). Thus, movement of the subject to the specifier position of AgrSP does not suffice if the Projection of AgrS has no access to the N-features of AgrS. The Projection of AgrS has access to the N-features of AgrS if and only if AgrS is [+accessible]. I assumed that AgrS is [-accessible] in complementizer agreement dialects, and that AgrS-to-C movement makes AgrS [+accessible].

Consider now what happens in subject initial main clauses. Again, the N-feature of AgrS is strong. This forces movement of the subject to the spec of AgrS. However, this does not suffice, since AgrS is [-accessible]. Because of that, the Projection of AgrS has no access to the N-feature represented in AgrS, and N-feature checking under sisterhood cannot take place. Therefore, AgrS has to be made [+accessible] in some way.

I would like to propose that verb movement to AgrS has the same effect as AgrS-to-C movement: it makes a [-accessible] AgrS [+accessible]. Thus, verb movement to AgrS, like AgrS-to-C movement serves to make checking of the strong N-features of AgrS possible.

Verb Movement to a head α makes α [+accessible]

The question arises what AgrS-to-C movement and verb movement to AgrS have in common that could yield the effect that AgrS is made [+accessible]. I will return to this issue in section 4.4.

Importantly, this analysis makes it possible to characterize the V-feature of AgrS as weak. If the V-feature of AgrS is weak, movement of the V to AgrS must be procrastinated until LF, unless violating Procrastination is the only way to contribute to convergence.⁶ In embedded clauses, the independent AgrS-to-C movement makes AgrS [-accessible], hence verb movement to AgrS is superfluous. Thus, the absence of verb movement to AgrS in embedded clauses follows from the system. In neutral order main clauses, no AgrS-to-C movement is possible, and verb movement to AgrS takes place as a Last Resort operation.

The net result is that AgrS is filled by the verb if and only if the C position is absent. In embedded clauses, and in topicalizations and wh-constructions, verb movement is excluded by the economy related principle of Procrastination. This result follows from two assumptions regarding complementizer agreement dialects:

1. The N-feature of AgrS is strong
2. AgrS is [-accessible]

From these assumptions, and the general assumptions of the Minimalist Program, it follows directly that the complementizer agreement dialects should display the verb movement asymmetry.

Standard Dutch shows the same verb movement asymmetry as the complementizer agreement dialects of Dutch. It is now the optimal hypothesis to assume that Standard Dutch has AgrS-to-C movement just like the complementizer agreement dialects of Dutch.

This hypothesis is legitimized by the observation that no syntactic properties are crucially associated with overt complementizer agreement morphology. The AgrS-to-C movement underlying complementizer agreement is very likely to cause some syntactic effect. On the assumption that AgrS-to-C movement takes place in all dialects of Dutch, AgrS-to-C movement has a very tangible syntactic consequence in that it makes V-to-AgrS movement superfluous. I will therefore assume that the analysis of verb movement in complementizer agreement dialects developed in section 3 carries over to all dialects of Dutch.⁷

⁶ Recall that Procrastination can be violated without effect on grammaticality. Crucially, movement of the verb to a functional head carrying a weak V-feature does not violate Greed, since the V-feature would have to be checked at some point in the derivation anyhow.

⁷ The hypothesis that AgrS-to-C movement takes place in dialects without overt complementizer agreement is also compatible with the analysis of the morphological aspects of AgrS-to-C movement presented in section 3.3.3. I have argued there that dialects without overt complementizer agreement have an unmarked [\emptyset Agr] duplicate feature on the complementizer. AgrS-to-C movement is not blocked, because the complementizer does not contain a duplicate feature which is distinct from the features of AgrS.

Following this hypothesis, the two assumptions regarding complementizer agreement dialects mentioned above apply to Standard Dutch as well. This automatically derives the verb movement asymmetry in Standard Dutch.

The verb movement pattern in this analysis can now be represented in the following way:⁸

- (6) a. C present C SUBJ AgrS XP V
 b. C absent C SUBJ AgrS XP V

In embedded clauses (6a), AgrS moves to C, and no verb movement takes place. In subject initial main clauses, AgrS-to-C is not possible, and the verb moves to AgrS.

To summarize, it follows from a minimalist approach to syntax that the verb movement asymmetry of Dutch cannot be explained in the traditional way: if verb movement to C is obligatory, a complementizer in C cannot block the movement without yielding a crashing derivation. But it also follows from the minimalist approach that Travis' analysis of the verb movement asymmetry can be maintained: the absence of an element in C forces the verb to move to a lower functional head, in violation of Procrastination.

It is most important to realize that a verb movement asymmetry can only be described properly on the assumption that the relevant V-features

⁸ In (6), 'present' and 'absent' may also be read as 'filled' and 'not filled'. In that case, C must also be represented in (4b). The relevant question is whether independent clauses are necessarily expanded up to the CP level before the Spell Out point. If Chomsky (1992) is right in assuming that binary Generalized Transformation cannot take place after Spell Out, this reduces to the question whether independent clauses are CPs at LF. It is generally assumed, since Chomsky (1981), that they are. If so, C is just a bundle of features in independent clauses, and does not suffice as a target for AgrS movement. (It could be, however, that an additional movement of the verb to C (across AgrS) turns C into a target for AgrS-to-C movement. This would yield an ungrammatical VSO order in neutral clauses. This derivation must be excluded. If C is absent, this is not a problem. If C is present but empty, this derivation may be excluded because the verb movement to C is not triggered by the need to eliminate a strong V-feature of C, nor by the need to assist in the elimination of a strong N-feature in C, if this N-feature can only be checked conditionally. We may propose a condition on head movement, related to Greed, according to which movement to a head α can never take place to assist in the elimination of the features of another head. This addition to Greed is necessary if we adopt the conditional approach to feature checking. Assuming this condition, verb movement to C for the sole purpose of creating a host for AgrS-to-C movement is not allowed.)

are weak. An asymmetry of this kind could not exist if the V-feature of AgrS were strong. This would force the verb to move in both main and embedded clauses. On the other hand, if the V-feature of AgrS is weak, the absence of verb movement in embedded clauses is expected. It is exactly the independently established principle that Procrastination can be violated (cf. Chomsky 1992:45) that makes it possible to have verb movement in one type of clauses only.

Thus, the absence of verb movement in embedded clauses in Dutch follows from economy of derivation.⁹ The presence of verb movement in subject initial main clauses follows from the need to fill AgrS, in order to eliminate the N-feature of AgrS. Verb movement in topicalizations and wh-constructions, I claim, is an entirely different matter, which will be the topic of discussion in section 5.

If this analysis is correct, the conclusion that the Dutch IP-system is head initial is fully legitimate. In the following subsection, I will briefly review a number of standard arguments that have been adduced in the literature to support the view that verb movement in Germanic verb second languages invariably targets C.

4.1.2 Arguments For Generalized V-to-C Movement

The arguments for generalized V-to-C movement in Dutch (and related languages) that I will discuss in this section are mainly drawn from Den Besten (1977:passim), Holmberg (1986:94ff), Tomaselli (1990:25f), Vilkner (1991a:53f), and Thráinsson (1991).

As I showed in section II.3.2, some of the more familiar arguments merely show that the verb is in C in inversion constructions.¹⁰ These are not arguments for generalized V-to-C movement. I will therefore leave them out of the discussion. For the moment, I will accept these arguments as showing that the verb moves to C in inversion constructions.¹¹

The following phenomena have been argued to support generalized V-to-C movement in Dutch and related languages:

1. The finite verb is not fronted in embedded clauses
2. The fronted verb and the complementizer show the same distributional effects
3. Narrative inversion
4. Auxiliary deletion in Swedish

⁹ Cf. Zwart 1990b, 1991a:85.

¹⁰ Cf. Den Besten 1977 (1989:25).

¹¹ See section 5 of this chapter.

These phenomena will be discussed in the following sections. It will turn out that they do not support the hypothesis that the verb moves to C in all main clauses in the relevant languages.

a. The finite verb is not fronted in embedded clauses.

This is the familiar verb movement asymmetry discussed in this section. The existence of the asymmetry is an argument for generalized V-to-C movement only if C is the only functional head to the left of the VP. The presence of other functional heads to the left of the VP cannot *a priori* be excluded, however. Therefore this phenomenon is irrelevant.

The following phenomenon from German is often quoted in this context (repeated from II.2.2):

- (7) a. Peter behauptet, daß Johann Maria küsse
 Peter claims that John Mary kisses-SUBJ
 b. Peter behauptet, Johann küsse Maria
 Peter claims John kisses-SUBJ Mary
 "Peter claims that John kisses Mary."

If the complementizer is absent, the verb is fronted.

However, in spite of what is usually claimed, it is not immediately obvious that the complementizer *daß* in (7a) and the verb *küsse* in (7b) are in the same position. In (7a), the complementizer precedes the subject *Johann*, but in (7b) the subject precedes the verb.

These word order facts follow from our analysis, on the assumption that German has the same interaction of AgrS-to-C movement and V-to-AgrS movement as Dutch. In both (7a) and (7b) the subject moves to the spec of AgrSP. This movement is triggered by the strong N-feature of AgrS. In (7a), AgrS moves to C, making AgrS [+accessible], so that the N-feature of AgrS can be checked. No verb movement to AgrS (or C) is required. In (7b), the target for AgrS-to-C movement is absent (cf. note 8 of this section). AgrS can now be made accessible only by verb movement to AgrS. This explains why the verb appears to the right of the subject in (7b), while the complementizer position is to the left of the subject, as (7a) shows.

At this point, it is interesting to note that some varieties of Germanic, while displaying the verb movement asymmetry, permit embedded verb movement, even when the complementizer is present (cf. De Rooij 1965a:92f, 127f; Den Besten 1986 (1989:138); Zwart 1991a:88 fn 23). A case in point is Frisian (Overdiep 1982; De Haan and Weerman 1986; De Haan 1990; Van der Meer 1988, 1991).¹²

¹² This type of embedded verb second appears to be limited to the complements of verbs of the class identified in Hooper and Thompson (1973) as allowing embedded root phenomena.

- (8) *hy sei dat hy hie der gin sin oan*
 he said that he had there no sense on
 "He said that he didn't feel like it."

Assuming generalized V-to-C movement, there must be a recursion of CPs in (8) (De Haan and Weerman 1986).¹³ In other words, both *dat* and *hie* in (8) must be in a head C, and *hy* must be in the spec of the lower C. In our analysis, (8) can be described as movement of the embedded verb *hie* 'had' to AgrS.

Verb movement to AgrS in embedded clauses is excluded, in our analysis, by economy of derivations. The V-feature of AgrS is weak, therefore overt movement of the verb to AgrS is not triggered. In subject initial main clauses, the economy-related principle Procrastination is overruled by the independent requirement that, in the absence of AgrS-to-C movement, AgrS must be filled by the verb to make N-feature checking possible. In embedded clauses it is not necessary to overrule the economy principle, because, as we have assumed, AgrS moves to C.

Given this analysis, (8) also instantiates an overruling of the economy principle Procrastination. Such overruling can only take place if, for some reason, AgrS-to-C movement cannot take place. We predict, therefore, that embedded verb movement and complementizer agreement never cooccur. Frisian being a complementizer agreement language, we can test this prediction immediately. As (9) shows, complementizer agreement is only possible in Frisian when the embedded verb remains in final position (Van der Meer 1991):

- (9) a. *Heit sei datst do soks net leauwe moast* Frisian
 dad said that-2SG you such not believe must-2SG
 "Dad said that you should not believe such things."
 b. *Heit sei dat datst do moast soks net leauwe*
 dad said that-that-2SG you must-2SG such not believe
 "Dad said that you should not believe such things."

In (9a), complementizer agreement appears. This, we have argued, signals AgrS-to-C movement, which makes AgrS [+accessible] and makes V-to-AgrS superfluous. In (9b), the impossibility of complementizer agreement shows that AgrS-to-C movement has not taken place. Consequently, the verb must move to AgrS to make sure AgrS becomes [+accessible] and the

¹³ Holmberg (1986:110) proposes CP-recursion for similar facts in Swedish. Holmberg argues that CP-recursion (his S-recursion) is justified by the observation that the order TOPIC-VERG-SUBJECT is also possible in embedded verb second clauses (cf. Platzack 1988:229). See also Maritz (1989) for extensive discussion of CP-recursion.

N-feature of AgrS can be checked. Verb movement and complementizer agreement interact exactly in the way predicted by our analysis.¹⁴

Thus, the complementary occurrence of complementizers and verb fronting follows from our analysis, as well as the apparent exceptions to this complementarity.

- b. The fronted verb and the complementizer show the same distributional effects.

The phenomenon I have in mind figures in a classical argument in Den Besten (1977:25f), which is already present in Paardekooper (1961). Paardekooper and Den Besten show that subject clitics in Dutch must be adjacent to both the complementizer and the fronted verb:

- (10) a. *dat je gisteren ziek was*
 that you yesterday ill were
 "that you were ill yesterday."
 b. * *dat gisteren je ziek was*
 that yesterday you ill were
 (11) a. *Waarom was je gisteren ziek?*
 why were you yesterday ill
 "Why were you ill yesterday?"
 b. * *Waarom was gisteren je ziek?*
 why were yesterday you ill

Den Besten's conclusion was that the fronted verb in (11) is in the same position as the complementizer in (10).

However, we cannot conclude from this paradigm alone that the fronted verb is always in the complementizer position. This can only be concluded if the order *verb-subject clitic* also shows up in neutral main clauses. As (12) shows, this is not the case:

- (12) a. * *Was je gisteren ziek* (declarative)
 were you yesterday ill
 "You were ill yesterday."
 b. *Je was gisteren ziek*
 you were yesterday ill
 "You were ill yesterday."

If anything, the distribution of the subject clitics in Dutch shows that the fronted verb is *not* always in the complementizer position.

Conversely, it is easy to show that the complementizer and the verb do not show the same distributional effects in a number of cases. For

¹⁴ See section 5.3.3 for a more detailed analysis of embedded verb movement constructions in Dutch.

example, subjects immediately precede the verb in neutral order clauses in Dutch, but are not allowed to precede the complementizer:

- (13) a. Jan ("altijd) kust Marie
 John always kisses Mary
 b. *Jan dat Marie kust
 John that Marie kisses
 "...that John kisses Mary."

Similarly, topics immediately precede the verb in topicalization constructions, but are not allowed to precede the complementizer:¹⁵

- (14) a. Honden ("altijd) bijt Jan (altijd)
 dogs always bites John always
 "Dogs, John always bites."
 b. *Honden dat Jan altijd bijt
 dogs that John always bites
 "...that John always bites dogs."

(13b) is puzzling on the standard assumption that the complementizer takes over the Nominative Case assigning property of the verb in embedded clauses. In that case, it is unclear why the verb would assign Case under spec-head agreement in (13a), whereas the complementizer apparently cannot assign Case under spec-head agreement in (13b).

In our analysis, the subject is always assigned Case (more accurately, always gets its features checked) in a sisterhood configuration in AgrSP (see section 1.3.2 for the reduction of spec-head agreement to sisterhood). This excludes (13b), on the assumption that the complementizer is in C.

(14b) apparently demonstrates that topics cannot be in the specifier position of CP, when C is occupied by a complementizer. Since I have chosen to adopt Den Besten's analysis of topicalization as involving verb movement to C, (14b) is as much a problem for my analysis as it is for the

¹⁵ In colloquial Dutch, constructions like (i) can be heard every now and then. According to my intuition, the verb has to appear between the proposed adverb and the complementizer in embedded clauses (ii). If so, (i) should presumably be analyzed as long distances scrambling rather than as movement to SpecCP. (See Van den Berg 1992 for possibly related constructions in Middle Dutch.)

- (i) Ik dacht morgen dat je zou komen
 I thought tomorrow that you would come
 "I thought that you would come tomorrow."
 (ii) *dat ik morgen dacht dat je zou komen
 that I tomorrow thought that you would come
 "...that I thought that you would come tomorrow."

standard analysis. I will therefore postpone discussion of this fact until section 5.

All other constructions in which the fronted verb and the complementizer show a parallel distribution are inversion constructions. These involve counterfactuals (15), conditionals (16), and imperatives (17):

- (15) a. Was jij op tijd gekomen, --
 were you on time come
 "Had you been on time, ..."
 b. Als jij op tijd gekomen was, --
 If you on time come was
 "If you had been on time, ..."
- (16) a. Ben je op tijd, --
 are you on time
 "If you are on time, ..."
 b. Als je op tijd bent, --
 if you on time are
 "If you are on time, ..."
- (17) a. Wees jij nou eens op tijd!
 be you now once on time
 "Be on time for a change!"
 b. Dat jij nou eens op tijd bent
 that you now once on time are
 "Make sure you are on time for a change!"

All these constructions have no non-inverted counterpart. Therefore, they are useless if we want to find out whether the verb moves to C always.

c. Narrative inversion.

Den Besten (1977; 1989:32) notes the existence in Dutch of constructions with the verb in the first position:

- (18) 1. Afijn, ik naar die vent toe.
 so I to that guy part
 2. Begint-ie me toch een verhaal op te hangen
 starts-he me weird a story on to hang
 2. ?? Hij begint me toch een verhaal op te hangen
 he starts me weird a story on to hang

"So I went over to this guy, and he starts to tell me a (crazy) story (you wouldn't believe it)."

As Den Besten indicates, this construction is particularly used in a certain narrative style of spoken Dutch, and is extremely effective in telling a story or a joke. Narrative inversion does not occur in complement clauses.

Den Besten analyzes the inversion in (18) as verb preposing (to C) without XP-preposing (to the spec of CP). It is unclear, however, why XP-movement is suppressed in this construction, and how the lack of XP-movement is related to the special character of this construction.

Let us follow Den Besten in assuming that the verb in the inverted construction in (18) is in C. If so, the order Verb-Subject is not unexpected in our analysis, since we have assumed that the subject always moves to the spec of AgrSP. The marked character of the inversion in (18) can then be analyzed as an additional movement of the verb to C.

At this point, there are two possibilities. Either there is an empty element in the specifier of CP in (18.2) which triggers the verb movement (see section 5), or there is no such empty element, and (18.2) is a kind of 'verb topicalization'.

Verb topicalization without a triggering element in spec,CP would be strange from a minimalist point of view. It could only take place if C hosted a particular V-feature which is strong in these constructions only. This would make a very *ad hoc* analysis.¹⁶ Verb topicalization in narrative inversion constructions generally does not show specific stress features on the fronted verb. This also makes an analysis focusing on properties of the verb alone doubtful.

An analysis involving an empty operator triggering movement to Spec,CP in narrative inversion constructions appears to be more promising.

First, as Den Besten (1977:1989:33) observes, certain narrative inversion constructions come close to being conditional or concessive constructions:

- (19) Hield Jan van Marie, Marie zag meer in Piet
held John of Mary Mary saw more in Pete
"Although John loved Mary, Mary liked Pete better."

The particular flavor of these constructions suggests the presence of an operator, just like in the conditional and counterfactual constructions (15-16).

Constructions like (19) can even be supplemented with a sentence initial element *al* or *ook al* (best translated as 'if' and 'even if').¹⁷

¹⁶ I assumed such an analysis in Zwart (1991a:79).

¹⁷ *Ook 'also' is used as a concessive particle in constructions like *al schreeuwden ze ook nog zo hard 'even if they yelled as hard as they could'.**

- (20) (Ook) al hield Jan van Marie, Marie zag meer in Piet
also if held John of Mary Mary saw more in Pete
"Even though John loved Mary, Mary liked Pete better."

The element (ook) *al* can be modified by *zelfs 'even'*:

- (21) Zelfs (ook) al hield Jan van Marie, ...
even also if held John of Mary
"Even if John loved Mary, ..."

This suggests that (ook) *al* is a phrasal element and not a head. If so, this could be the element in spec,CP triggering verb movement in the familiar way (see section 5). In that case, (19) can be derived from (20) by a kind of *topic drop* (cf. Cardinaletti 1990).

Following Cinque (1990), Cardinaletti (1990:78) argues that *topic drop* involves an empty operator binding a pronominal variable. The construction is only possible if the operator is "sanctioned by the preceding discourse or by pragmatics".

"Sanctioning by preceding discourse or pragmatics" appears to be generally possible in standard cases of narrative inversion like (18). The inverted continuation in (18.2) inevitably conveys the information that the two actions described are contiguous, and presumably also causally related. The non-inverted continuation in (18.2) characteristically lacks this information. We could describe the narrative inversion in (18.2) as containing an empty operator in the specifier of CP, which is pragmatically interpreted as indicating contiguity.¹⁸

In the present tense, narrative inversion constructions are ambiguous between a conditional and a non-conditional reading:

- (22) Speel ik een aas, speelt mijn partner troef
play I an ace plays my partner trump

(22) means: *everytime I play an ace, my partner always trumps, or: when I played an ace, my partner trumped.* The conditional interpretation is forced when an adverb like *altijd 'always'* is added in the second clause;

¹⁸ Den Besten (*loc.cit.*) also remarks that narrative inversion constructions make a great opening for a story. My intuition about this is that if a story is opened with a narrative inversion construction, this is always a subordinate clause. The opening sentence has a temporal or a conditional interpretation, also captured with the more formal *als 'if, when'* and, in the past tense, *toen 'when'*. Thus, Den Besten's example *ging ik laats naar De Swart 'went I late to De Swart'* can be translated with *toen ik laats naar De Swart ging 'when I went late to De Swart went'*. Crucially, in both cases the opening sentence must be followed by what looks like the main clause, *realize ik aan de pract met die advocaat 'got I into a chat with that lawyer'*. The narrative inversion opening is subordinate to the following clause in the same way as the subordinated opening would be.

likewise, adding a temporal adverb like *opeens* 'suddenly' forces the temporal interpretation:

- (23) a. Speel ik een aas, speelt mijn partner altijd troef
 I an ace plays my partner always trump
 "Everytime I play an ace, my partner always trumps."
 b. Speel ik een aas, speelt mijn partner opeens troef
 I an ace plays my partner at once trump
 "I played an ace. Then suddenly my partner trumped."

In both cases, the adverb *dan* 'then' can be used to introduce the second clause:

- (24) a. Speel ik een aas, dan speelt mijn partner altijd troef
 I an ace then plays my partner always trump
 "Everytime I play an ace, my partner always trumps."
 b. Speel ik een aas, dan speelt mijn partner opeens troef
 I an ace then plays my partner suddenly trump
 "I played an ace. Then my partner suddenly trumped."

The interpretation of *dan* is consecutive in (24a), and temporal in (24b). This suggests that in (23) an empty *dan* is present, the interpretation of which is determined contextually. Likewise, it appears reasonable to assume that there is an empty operator present in the first clause, receiving a conditional or temporal interpretation by the same mechanism.

Second, the presence of an empty operator can be concluded from the fact that narrative inversion constructions do not allow (additional) topic drop phenomena (cf. the argument in Cardinaletti 1990). Thus, (25a) cannot be shortened to (25b), without loss of the narrative inversion interpretation:

- (25) a. Sia ik die vent voor zijn bek
 strike I that guy for his mouth
 "So I knocked this guy in the face."
 b. Sia ik voor zijn bek
 strike I for his mouth
 "I will knock (him) in the face."

(25b) is only grammatical as a topic drop construction of the type studied in Huang (1984). Following Huang, the interpretation of the empty object pronoun is mediated by an empty operator, which is discourse bound. Crucially, (25b) lacks all the properties of narrative inversion: it cannot be used in story telling, and there is no expression of contiguity. (25b) connects to a discourse situation in which a certain person is saliently present, not to an immediately preceding situation, like in narrative inversion constructions. Consequently, (25b) is preferably used as an answer to a question like *What will you do about that guy?*.

On the standard assumption that the specifier of CP can host only one operator, the absence of the narrative inversion interpretation in (25b) follows immediately. This explanation is not available if narrative inversion does not involve an empty topic/operator in CP.

A third argument linking narrative inversion to the presence of an empty topic in CP is that narrative inversion is limited to languages in which topics trigger verb movement to C. Thus, narrative inversion is absent in English and French, but present in German and the Scandinavian languages.¹⁹

To summarize, narrative inversion is characterized by the presence of an empty operator in the specifier position of CP.²⁰ This empty operator is interpreted contextually, and gives the narrative inversion construction its special flavor. As will become clear in section 5, operators in the spec of CP always trigger movement of the finite verb to C.

Thus, the special character of narrative inversion is not explained by the lack of XP-movement to spec of CP, but by the presence of an empty element in the spec of CP triggering verb movement to C. What is special about narrative inversion is not the position of the subject, but the position of the verb.

The absence of narrative inversion in complement clauses now ties in with the general observation that topics are not allowed to precede the complementizer in Dutch (see 14).

If this is correct, narrative inversion cannot be presented as an argument for general V-to-C movement in Dutch.

¹⁹ For Old French, see Roberts (1998, section 2.1.2), Vance (1988). In Icelandic, verb-first clauses are more general than in other Germanic languages (Thráinsson 1985:172). Following Sigurðsson (1990:41) we may assume that narrative inversion is only a subtype of a larger class of verb-first constructions in Icelandic. Narrative inversion, unlike the other verb-first constructions in Icelandic, is limited to root clauses.

²⁰ I will not be concerned with the question what the empty operator binds. The analysis of narrative inversion here shares certain aspects with the analysis of imperatives in Beukema and Coopmans (1989) and Den Dikken (1992b). Curiously, it appears to be the case that the empty operator facilitates parasitic gap interpretation. (i) is surprisingly good, on a par with (ii), from Den Dikken (1992b):

- (i) Log ik [zonder pg in te kijken] dat boek weg
 put I without pg in to look that book away
 "I put down the book without looking (it) in."
 (ii) Log [zonder pg in te kijken] weg dat boek!
 put without pg in to look away that book
 "Put down that book without looking (it) in!"

d. Swedish *ka*-deletion.

Swedish shows the same pattern of verb movement as Dutch with respect to the asymmetry between main and embedded clauses. In subject initial main clauses and in topicalizations and *wh*-constructions, the finite verb is in the second position. In embedded clauses, the verb is further to the right.

In the next section, I will argue that in Swedish, this verb movement asymmetry is due to the same interaction of AgrS-to-C movement and V-to-AgrS movement as in Dutch. Thus, in subject initial main clauses in Swedish, the verb is again not in C but in AgrS.

This makes it possible to address here another argument advanced in the literature to support the hypothesis that the finite verb moves to C in all main clauses of Dutch, Swedish, and related languages (Den Besten 1977, Platzack 1986, Holmberg 1986).

In Swedish, the auxiliary *ka* 'have' is optionally deleted in embedded clauses, but not in matrix clauses:

- (26) a. -att han (har) varit sjuk
 that he has been ill
 Han måste (ha) varit sjuk
 he must have been ill
 c. Han *(har) varit sjuk
 he has been ill
 d. *(Har) han varit sjuk?
 has he been ill

Platzack (1986) and Holmberg (1986) both advocate an analysis of this phenomenon in which auxiliary deletion is the default case. This makes the non-deletion in (26c,d) the marked case.²¹

Platzack (1986) stipulates that the auxiliary can be deleted unless the auxiliary is in C. This suffices if the verb is in C in both (26c) and (26d). The simplicity of this rule may count as an argument for generalized V-to-C movement.

Holmberg (1986:176,197) derives Platzack's stipulation from a theory of visibility of empty heads. In particular, Holmberg argues that empty heads that are not properly governed cannot be involved in assigning Case. In main clauses, the verb is involved in Nominative Case assignment (under Holmberg's assumptions, after having moved to C), and the verb is not properly governed. Hence, the verb may not be empty in main clauses.

Importantly, Holmberg's derivation of Platzack's stipulation removes the argument for generalized V-to-C movement in main clauses. If (26c)

²¹ Thus, preserving the Penthouse Principle, contra Andersson and Dahl (1974).

is not a CP but an IP (or an AgrSP), the verb will not be properly governed, and hence cannot be deleted.

Holmberg's analysis can be transferred to the minimalist framework without problems. If we are correct, the auxiliary moves to AgrS in (26c) to assist in the elimination of the N-feature of AgrS. We can translate Holmberg's generalization, saying that the Swedish auxiliary may not be empty if it assists in N-feature checking in overt syntax.

Under our assumptions, this also captures the non-deletability of the auxiliary in inversion constructions like (26d). We have assumed that in these constructions, the verb moves to C directly, without landing in AgrS first. I will argue in section 5.3 that verb movement to C in inversion constructions is needed to make N-feature checking in CP possible. We may assume that in yes/no-questions like (26d) the specifier position of CP is occupied by an empty operator which checks the N-features of C. I will argue the lexical presence of the auxiliary is a necessary condition for this N-feature checking operation, making C [+accessible].

This analysis is independently confirmed when the deletability of auxiliaries in embedded clauses is considered (Holmberg 1986:198). Here, there is a contrast between control infinitivals and Exceptional Case Marking constructions. The auxiliary can be deleted in the latter, but not in the former:

- (27) a. Det är bra att PRO *(ha) läst den
 it is good to have read it
 Jag anser honom (ha) varit för passiv
 I consider him have been too passive
 ?I consider him to have been too passive.²²

In the Exceptional Case Marking construction (27b), the embedded subject *honom* is licensed in an AgrOP in the matrix clause. Thus, the auxiliary *ha* is not involved in checking the features of the embedded subject. In the control construction (27a), PRO must be licensed in the embedded clause.²² Assuming that in non-finite clauses no AgrS-to-C movement takes place, the auxiliary will have to be involved in checking the N-features of PRO (either in overt or in covert syntax). Hence, the fact that it cannot be deleted follows from our assumption that the lexical verb is involved in N-feature checking when AgrS-to-C does not take place.

²² I follow Chomsky and Lasnik (1991) in assuming that PRO must be licensed (its features must be checked) in a specifier-head configuration, like all other arguments of the verb. Adapting the proposals made there, we may assume that PRO has Null features, which must be matched with Null features in a functional head, presumably AgrS. If this implies that AgrS also has Null V-features, we may assume that only infinitivals are fit to check these features. This would explain the general impossibility of having PRO in finite constructions.

4.2 The Verb Movement Asymmetry in Other Germanic Languages

In section 4.1, a mechanism was proposed to account for the complementary distribution of complementizers and fronted verbs in Dutch and German, without having to assume that verb fronting always targets the complementizer position. This mechanism implies that the relation between the absence of the complementizer and the presence of verb fronting is indirect. When the complementizer is present, AgrS moves to C, making verb movement to AgrS superfluous. When the complementizer is absent, verb movement to AgrS is necessary. Both movements are needed to make sure that the N-features of AgrS are checked.

This analysis is most clearly supported in the complementizer agreement dialects of Dutch, in which AgrS-to-C movement has an overt morphological reflex. I have argued, however, that AgrS-to-C also takes place in dialects of Dutch which do not show complementizer agreement, and that the analysis of the verb movement asymmetry involving an interaction of AgrS-to-C movement and verb movement to AgrS carries over to these dialects. Foremost among these dialects, of course, is Standard Dutch.

The strongest hypothesis now appears to be that AgrS-to-C movement explains the verb movement asymmetry in all Germanic languages that display it. Conversely, the absence of such an asymmetry ought to follow from the lack of AgrS-to-C movement.

The Germanic languages that show the relevant asymmetry are Dutch, German, Frisian, and the Mainland Scandinavian languages (Danish, Norwegian, Swedish). This is illustrated in (1)-(4):¹

- | | | | | |
|-----|----|--------|--------------|---------------|
| | | | | German |
| (1) | a. | Johann | kußt | Maria |
| | | John | kisses | Mary |
| | b. | -daß | Johann | Maria |
| | | that | John | Mary |
| | | | ..that John | kisses Mary.. |
| (2) | a. | Ik | sjoch | in bynder |
| | | I | see | a horse |
| | b. | -dat | ik | in bynder |
| | | that | I | a horse |
| | | | ..that I see | a horse.. |

¹ The Mainland Scandinavian facts are taken from Mølling (1979). Ten Cate-Silfverbrand (1973), Haugen (1937), unless indicated otherwise. The Frisian facts are adapted from Reuland (1990a).

- | | | | | | |
|-----|----|---------|-----------------------------|------|-------------------|
| | | | | | Danish, Norwegian |
| (3) | a. | Han | kommer | ikke | |
| | | he | comes | not | |
| | | | ..he's not coming.. | | |
| | b. | -fordi | han | ikke | kommer |
| | | because | he | not | comes |
| | | | ..because he's not coming.. | | |
| (4) | a. | Han | har | inte | sjuk |
| | | he | has | not | been |
| | | ..att | han | inte | har |
| | | that | he | not | has |
| | | | ..that he hasn't been ill.. | | ill |

The Germanic languages that do not show the relevant asymmetry are Icelandic, Faroese, Yiddish, and English.

Only (dialects of) Dutch, German and Frisian have remnants of complementizer agreement. In the Mainland Scandinavian languages no trace of complementizer agreement has been attested in the literature.

It is often said that the Mainland Scandinavian languages lack agreement, which is a statement about morphological agreement. There is no overt person agreement morphology in the Mainland Scandinavian languages. The present tense paradigm consists of only one form in Danish, Norwegian, and Swedish, ending in *-er*.

However, when agreement is considered to be an abstract syntactic licensing relation we cannot simply conclude from the absence of an overt agreement paradigm that a language lacks agreement. Saying that Swedish lacks agreement is like saying that English noun phrases lack Case.

There are several independent reasons to assume that Mainland Scandinavian languages do have abstract agreement.

First, Mainland Scandinavian dialects do show overt person agreement. For example, the Swedish *Ävdalsmål* dialect shows a full person agreement paradigm in the plural (1PL *-um*, 2PL *-er*, 3PL *-a*) (Piatzack 1988, Vikner 1991b).² Likewise, many Norwegian *Middlandsk* dialects show a number distinction in the verbal paradigm, e.g. *Hallingdal* (SG *-a/-e*, PL *-ø*) (Trond Trosterud, p.c.; see also Trosterud 1989, quoted in Vikner 1991b).³

² Piatzack (1988) notes that *Ävdalsmål* does not show the verb movement asymmetry, i.e., the finite verb precedes the sentence adverbials in embedded clauses. According to Levander (1909:133), quoted in Piatzack (1988:233), this is the only possible word order in embedded clauses.

³ Vigeland (1981:87f) also reports the number paradigm in the central *Middlandsk* dialects, especially the *Hallingmål* dialect. However, the endings reported there are slightly different (SG *-e*, PL *-a*). Both Vikner (1991b) and Vigeland (1981) note that the plural ending in the (continued...)

Second, the Mainland Scandinavian languages generally do show a morphological difference between finite verb forms and infinitival verb forms. The infinitival ending is *-e* in Danish and Norwegian, and *-a* in Swedish. Infinitivals are generally characterized as lacking tense, although some have argued that tense is also present in infinitival forms (notably Stowell 1981:40f). There is no question, however, that there is an agreement opposition between infinitivals and finite verb forms.⁴ This agreement opposition is morphologically encoded in the Mainland Scandinavian languages. Thus, although an internal person/number paradigm is absent, the finite verb form in itself does show the presence of agreement.

Third, Wexler (1991) shows that children acquiring Germanic pass through a stage where they master agreement and verb movement, but not tense (i.e., not the difference between present and past tense). This holds for both Dutch (an overt agreement language) and Swedish. If Swedish were to lack agreement altogether, we could not express Wexler's findings in a satisfactorily generalizing way. On the other hand, if Swedish does have abstract agreement, we can simply say that at this early stage children acquire abstract agreement.⁵

Fourth, Mainland Scandinavian languages do show overt agreement phenomena in the nominal system. Noun phrase internal agreement is illustrated in (5), predicative agreement in (6).

- (5) a. en stor mand Danish
 a-MASC big man
 b. et stort hus
 a-NTR big-NTR house

3 (...continued)

relevant dialects equals the infinitival ending. Presumably, the differences are only of an orthographic nature.

4 Chomsky and Lasnik (1991) argue that infinitivals do have abstract agreement (*N_{int} Agreement*), which licenses the empty subject in control complements, PRO.

5 Of course, the child does not know it masters abstract agreement. The point is that the child learns the differences between finite verbs and nonfinite verbs, and that the former have to be in a different position. This can all be done on the basis of positive evidence, even without an overt agreement paradigm. If Wexler (1991) is correct, what children acquire first is the realization of abstract formal syntactic relations, and the realization of relations with more semantic impact, such as tense, is acquired later. To avoid misunderstandings: I assume that a child masters agreement when it realizes that there is a distinction between finite and non-finite verb forms, even if the child does make mistakes in picking the correct agreement form at that stage.

- (6) a. manden er syg Danish
 man the-MASC is ill
 "the man is ill"
 b. barnet er sygt
 child the-NTR is ill-NTR
 c. jeg malede huset
 I painted house the-NTR green-NTR
 I grent

It would be strange if this agreement system were only operative in the nominal syntax. More generally, since agreement features are obviously present in noun phrases (DPs), these features have to be checked in the syntax. This means that the structure of a clause must contain agreement phrases containing the designated positions for checking and eliminating the agreement features before the derivation reaches the interface levels.

I will therefore assume that the absence of morphological agreement does not exclude the presence of abstract agreement. Consequently, the Mainland Scandinavian languages can be said to have Agr-S-to-C, and the fact that these languages show a similar asymmetry between main and embedded clauses as Dutch and German follows straightforwardly.

This raises the question why complementizer agreement is never overt in Mainland Scandinavian, not even in the dialects that do show an agreement paradigm.

At this point, it may be relevant to consider the distribution of complementizer agreement in Dutch dialects. The distribution of complementizer agreement of the South Hollandic type among Dutch dialects is studied in E. Hoekstra (1993). The relevant dialects show number agreement pattern, where the complementizer ends in *-e* (*schwa*) when the subject of the embedded verb is plural. Hoekstra observes that this type of agreement is found only when *both* the verbal plural form and the nominal plural form end in *schwa*. When one of the plural forms ends in *schwa* and the other one in *-en*, complementizer agreement is systematically absent.⁶

Put more generally, it is a precondition for complementizer agreement that the nominal plural forms and the verbal plural forms be identical.⁷ Another precondition for complementizer agreement, Hoekstra notes, is that there be a morphological opposition between singular and plural in the verbal paradigm.

⁶ It does not follow from this observation that all dialects in which the plural ending of verbs and nouns are identical show complementizer agreement. This situation also obtains in Standard Dutch, for instance, where complementizer agreement is nevertheless absent.

⁷ Abstracting away from subregularities and irregularities in the verbal and nominal paradigm.

paradigms in the Mainland Scandinavian languages and dialects fail to meet the preconditions for the appearance of overt complementizer agreement. There is no reason, however, to conclude from the absence of overt complementizer agreement that AgrS-to-C movement does not take place. In this respect, Mainland Scandinavian is comparable to Standard Dutch and Standard High German, where the AgrS-to-C movement hypothesis provides a satisfactory account for the verb movement asymmetry in these languages. The optimal assumption, therefore, appears to be that AgrS-to-C movement takes place in Mainland Scandinavian as well, explaining the asymmetry between main clauses and embedded clauses with respect to the position of the finite verb in the familiar way.

4.3 The Status of Specifier Positions

In this section, I will discuss the following question: Does AgrS-to-C movement turn the specifier position of CP into a checking position for the N-features of AgrS? This question can also be phrased differently: Does not AgrS-to-C movement disqualify the specifier position of AgrS as a checking position for the N-features of AgrS?

These questions are relevant for the validity of the analysis of verb movement in subject initial main clauses proposed here, since this analysis entails that AgrS-to-C is a precondition for checking the N-features of AgrS in the specifier position of AgrSP. Consequently, it cannot be the case that AgrS-to-C movement disqualifies the specifier position of AgrS as the checking position for the N-features of AgrS. The idea that AgrS-to-C movement turns the specifier position of CP into a checking position for the N-features of AgrS is equally incompatible with the analysis of subject initial main clauses proposed here. If AgrS-to-C movement had this effect, we could assume that AgrS moves to C in subject initial main clauses as well, and then the subject would have to move to the specifier position of CP to get its N-features checked. Consequently, we would lose our argument for the head initial status of AgrSP.

More generally, the issue under consideration here touches on the question whether licensing positions are derived from head movement or fixed. I will argue that the restrictive theory of feature matching under sisterhood advanced in section 1.3.2 provides an answer to this question.

The idea that functional head movement changes the status of the specifier positions involved has been put forward several times in the literature. In this view, AgrS-to-C movement would disqualify the specifier position of AgrSP as a position for checking the N-features of AgrS. Instead, the specifier position of CP would become a derived checking

These preconditions for complementizer agreement appear to be absent in the Mainland Scandinavian languages and dialects. A cursory check of Norwegian dialects shows that either the nominal and verbal plural forms are different, or the singular and plural verbal forms are identical.

In Standard Danish, Norwegian, and Swedish, the nominal plural form ends in *-er*, just like the verbal plural form.⁸ Thus, one of the preconditions for complementizer agreement is met. However, the other precondition for complementizer agreement is not met, since there is no morphological opposition between singular and plural in the verbal paradigm.

This is also true of the Norwegian dialects I checked which show similar endings for the verbal plural forms and the nominal plural forms. For instance, the dialects spoken in the North of Norway generally show a plural ending *-e* both in the nominal and in the verbal paradigm. However, these dialects also do not show a morphological opposition between singular and plural in the verbal paradigm. As in Standard Norwegian, there is only one present tense agreement form (ending in *-e* in these dialects) (Lockertsen 1984).

Other Norwegian dialects, especially in the Midlandsk area, do show a morphological opposition between singular and plural in the verbal paradigm. However, all the dialects I have been able to check fail to meet the other precondition for complementizer agreement: the non-distinctness of the plural ending in the nominal and the verbal paradigm.⁹ Thus, the Midlandsk dialects reported in Vigeland (1981:86f) have in the present tense a singular ending *-e* or \emptyset and a plural ending *-æ* ([ɛ], according to Trosterud, p.c.). Indefinite plural nouns, on the other hand, have a variety of productive plural endings. For several stems, the ending is *-a*, but this vowel does not have the same quality as the plural ending indicated by *æ* above (Trosterud, p.c.).

Similar conclusions can be drawn for older stages of the Mainland Scandinavian languages. Thus, the facts from Middle Danish reported by Vikner (1991a:131) show that the nominal plural ending is *-er* whereas the verbal plural ends in *-e*. Old Norse had a full person agreement paradigm in the plural, again excluding complementizer agreement.

If I am correct, the absence of overt complementizer agreement in Mainland Scandinavian is related to the fact that the nominal and verbal

⁸ In actual fact, there are several types of plural formations for nouns. The formation with *-er* appears to be the more productive one. It should also be noted that the parallelism between the nominal and the verbal plural breaks down when the noun in question is definite, as in Swedish *bilder* 'pictures' versus *de bilderna* 'the pictures'.

⁹ I owe a debt of gratitude to Trond Trosterud for providing me with the necessary detailed information about the nominal and verbal paradigms of the Norwegian dialects discussed here.

position for the N-features of AgrS.¹ This has been suggested as a way to refute a forceful argument against the generalized V-to-C analysis of Dutch and German in Travis (1984:121), based on the impossibility of moving weak pronouns to the specifier position of CP.²

The idea that head movement creates derived checking positions will be illustrated and discussed in section 4.3.1. This discussion hinges on the definition of checking domain proposed in Chomsky (1992) to account for the properties of multi-argument verb constructions. I will conclude that the proper analysis of these constructions does not require the definitions to be set up as proposed in Chomsky (1992). In section 4.3.2, I will propose a more restrictive definition of checking domain, based on the theory of feature matching in section 1.3.2.

The conclusion will be that functional head movement may create derived checking positions for V-features but not for N-features.

This raises the question, whether AgrS-to-C movement in Dutch does not make the specifier position of CP available as a licensing position for the subject. This issue will be illustrated and discussed in section 4.3.2. The conclusion will be that the specifier of CP in Dutch never qualifies as a licensing position for the subject, and that Travis' argument is valid.

4.3.1 The Effect of Functional Head Movement

a. The Problem

It is commonly assumed that heads can enter into a relation with other elements (e.g. for the purpose of θ -role assignment or feature checking) only under certain conditions of locality. Thus, there is a limited set of positions in any X-bar representation that a certain head α can access. Chomsky (1992:16) calls this set of positions the *domain* of α .

The domain of α is the set of nodes contained in the maximal projection of α , except α itself and the projections of α .³ A head β which is adjoined to α will also be part of the domain of α (Chomsky 1992:16).

¹ See Rizzi and Roberts (1989:5 and 25 note 3), Rizzi (1991a), Chomsky (1992:44 and 65 note 33), Bobaljik and Carnie (1992), Bobaljik and Jonas (1993). In referring to some of these works, the generalizations in the text use a terminology which is updated in the obvious way.

² Travis argued against the idea that subjects in Dutch and German move to the specifier position of CP, as this would imply topicalization. Topicalization of weak elements, such as weak pronouns, is excluded. Since weak subject pronouns may precede the verb in main clauses, their positioning cannot involve topicalization (cf. Koester 1978a:214). See Holmberg (1986:125), Cardinaletti (1990), Rizzi (1991a), Vikner and Schwartz (1991).

³ α contains β if some segment of α dominates β (Chomsky 1992:15). As *maximal projection* of α is understood the highest segment of the least maximal projection dominating α (the least full-category maximal projection dominating α).

In that case, the domain of β will equal the domain of α , with the exception that β itself is not part of the domain of β (ibid.). Thus, the effect of head movement of β to α is that β acquires the domain of α as its domain.

It is slightly misleading to speak of the domain of β , when β adjoins to α . β heads a chain $CH = (\beta, \beta)$. Therefore, not β itself enters into relations with elements in the domain of β , but the chain $CH = (\beta, \beta)$. Thus, adjunction of β to α has the effect that the domain of α becomes part of the domain of the chain (β, β) .

Chomsky further assumes that the domain of a head is divided into two complementary subdomains: the *complement* domain and the *residual* domain (Chomsky 1992:17). Of these, only the former is strictly defined: the complement domain of a head α is the complement of α and everything dominated by the complement of α . The residual domain of α is what is left of the domain of α when the complement domain is left out. Intuitively, the complement domain is relevant for θ -role assignment, and the residual domain is relevant for feature checking.

The set of nodes accessible to the head must be further reduced to comply with minimality (cf. Chomsky 1986b:42). For this reason, Chomsky defines as the *minimal domain* of a head α the set of nodes in the domain of α that are not dominated by another node of the domain of α (1992:16).⁴

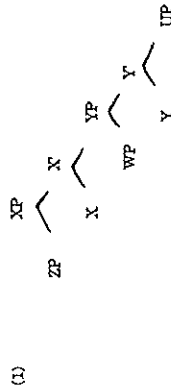
The minimal domain of α can now be divided again into a minimal complement domain and a minimal residual domain. The minimal complement domain is called *internal domain*, and the minimal residual domain is called *checking domain* (Chomsky 1992:17).

The internal domain of α consists of the complement of α . The checking domain of α consists of the specifier of α , including, possibly, an element adjoined to the specifier of α , and furthermore by elements adjoined to α (a raised head) or to projections of α .⁵

⁴ Chomsky (1992) adopts the modification of the definition of *dominate* proposed in Chomsky (1986b:7), following May (1985): α is dominated by β only if α is dominated by every segment of β . This increases the minimal domain somewhat, so as to include elements adjoined to the specifier of α . To exclude these elements from the minimal domain, *dominate* would have to be replaced by *contain*, since elements adjoined to the specifier of α are contained by (a segment) of the specifier of α , and thus excluded from the minimal domain (Chomsky, MIT class lectures, Fall 1991).

⁵ In particular, elements adjoined to the maximal projection of α are also part of the checking domain. This case is included to accommodate Kayne's (1987) analysis of French past participle agreement in *wh*-constructions, where Kayne assumes that the *wh*-element moves through a position adjoined to the agreement phrase associated with past participle agreement (instead of through a specifier position of this agreement phrase), and nevertheless triggers agreement on the participle. If this analysis is correct, adjoined positions must be part of the checking domain.

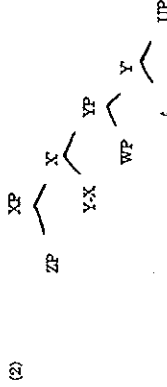
Let us now consider the effect of head movement on the definition of the internal domain and the checking domain of the moved head. The definitions provide a head β , which will move to α , with an internal domain and a checking domain before the movement takes place. In (1), $\beta = Y$ and $\alpha = X$:



Then the internal domain of Y in (1) is {UP}, and the checking domain of Y in (1) is {WP}.

Chomsky (1992:17) notes that after Y is moved to X, we do not want to 'redefine' the internal domain and the checking domain of Y. Rather, a new object, the chain (Y,t), has emerged from the movement operation. For this new object, we have to determine the internal domain and the checking domain again. As noted above, the domain of a head β which adjoins to a head α equals the domain of α .

In (1), the internal domain of $\alpha = X$ is {YP}, and the checking domain of $\alpha = X$ is {ZP}. This would imply that in (2), resulting out of (1) after moving Y to X, the internal domain and the checking domain of the chain (Y,t) will also be {YP} and {ZP}, respectively.



However, Chomsky (1992:19) slightly revises the definition of the minimal domain so as to exclude YP from the minimal domain of the chain (Y,t), and to include WP in the internal domain of this chain. As before, the first maximal projection dominating the head of the chain determines the outer limit of the domain of the chain. In (2), the first maximal projection dominating Y is XP. Thus, all nodes represented in (2) are potentially part of the domain of Y, except XP.

In the previous definition, X' and X were also excluded from the domain of Y. This was done by the stipulation that the domain of α can only contain nodes that are *distinct* from α . Chomsky now proposes that the domain of a chain CH (α_i, α_n) can only contain nodes that do not themselves contain any α_i .⁶

This excludes YP from the domain of the chain (Y,t) in (2). YP contains t, a member of the chain (Y,t). Consequently, WP is included in the domain of the chain (Y,t). WP is not dominated by another node in the domain of the chain (Y,t), therefore WP is also in the minimal domain of the chain (Y,t).

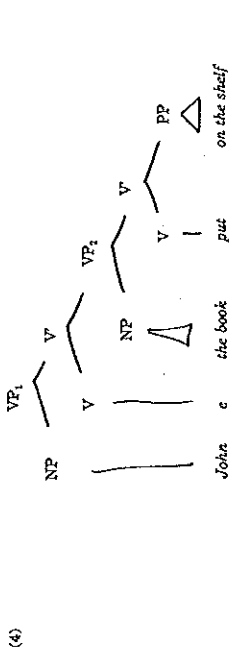
This leaves one question open: Is WP in the internal domain of the chain (Y,t) or in its checking domain? UP is obviously in the internal domain of the chain (Y,t), and ZP is obviously in the checking domain of this chain. But WP is stuck in between.

Consider the relevance of this question for our investigation. The checking domain of a head α consists of the set of nodes accessible to α for the purpose of feature checking. We have assumed that in Dutch, AgrS moves to C in order to make it possible that the N-features of AgrS be checked off against the features of the subject in the specifier position of AgrS. AgrS-to-C movement creates a chain (AgrS,t). If the specifier position of AgrS is not in the checking domain of the chain (AgrS,t), AgrS-to-C movement could never serve the purpose of checking the N-features of AgrS.

Chomsky (1992:19) proposes that the complement domain of a chain (α_i, α_n) consists of the complement of α_i and whatever it dominates. Recall that the complement of a head β which is adjoined to α is the complement of α . Thus, in (2), the complement of Y equals the complement of X, i.e. YP. YP itself is excluded from the complement domain of the chain (Y,t) since it contains a member of this chain, t. But WP, dominated by YP, is part of the complement domain, and hence of the internal domain, of the chain (Y,t).

This implies that movement of a head β to a head α disqualifies the specifier of β as a checking position for the features of β . This conclusion puts our analysis of AgrS-to-C movement in jeopardy. If AgrS-to-C movement disqualifies the specifier position of AgrSP as a checking position for the N-features of AgrS, the requirement that the N-features of AgrS be checked in overt syntax cannot be the trigger for overt AgrS-to-C movement.

⁶ Notice that this revision also covers the original case, where CH is a trivial chain (consisting of only one member). The nodes of α that are non-distinct from α (i.e. the projections of α) also contain α .



(3) is derived by moving *put* to the empty head of VP_1 . This head movement yields a chain ($\mu t, t$). Before head movement, *the book* is outside the internal domain of μt . After head movement, *the book* is in the internal domain of the chain ($\mu t, t$).

Thus, the definitions in Chomsky (1992) exactly give the required result for multi-argument verb constructions, under the assumptions of Larson (1988).⁹

However, it is not clear that these definitions have similar results outside the domain of multi-argument verb constructions.⁹ For instance, if β is a functional head moving to α , yielding a chain (β, t), the specifier of t will belong to the internal domain of the chain (β, t). However, this result is void, since functional heads do not assign a θ -role.¹⁰

Thus, it looks like Chomsky's definition of the internal domain of head movement chains is *ad hoc*.

Recall that the crucial point in Chomsky's definition is that the internal domain of the chain (α_1, α_n) consists of a subset of the nodes of the complement of the *head* of the chain, α_1 . Let us change this definition slightly, and propose that the internal domain of the chain (α_1, α_n) is the minimal complement domain of the *foot* of the chain, α_n .¹¹

This will have the consequence that the specifier position of a moved head will not become part of the internal domain of the chain resulting from the head movement. Being outside the complement domain of the chain, it will automatically become part of the residual domain of the

Let us therefore turn to a critical examination of the way the internal domain of a chain is defined in Chomsky (1992).

b. Larsonian Structures

In Chomsky (1992), the internal domain of a chain resulting from head movement consists of the complement and the specifier of the foot of the chain, say β (i.e., the internal domain of (Y, t) in (2) is (WP, YP)).

Before head movement, the specifier of β does not belong to the internal domain of β , but to the residual domain (also, the checking domain). Thus, head movement enlarges the internal domain of β . More correctly, head movement of β to α creates a chain (β, t) with an internal domain consisting of the minimal domain of t , the trace of β .

Recall that the internal domain contains the positions relevant for θ -role assignment. We can now say that head movement makes an additional position for θ -role assignment available.

This ties in with the analysis of Larson (1988a,b) of multi-argument verbs like *put* in (3):

(3) John put the book on the shelf

The verb *put* appears to have two internal arguments, roughly characterized as a theme (*the book*) and a location (*on the shelf*). On the assumption that syntactic representations consist of binary branching structures, constructions like (3) pose a problem, since the two internal arguments of *put* cannot both be a complement of the verb *put*.

To solve this problem, Larson (1988b) proposes that (3) be analyzed as containing two VPs, each with a head, a specifier, and a complement. The second VP is the complement of the first VP. *Put* is generated in the head of the second VP, and the head of the first VP is empty.⁷ This yields the following structure for (3):

⁷ See Hoelstra (1991) for a similar analysis, in which the head of VP_1 is empty and the lexical verb is generated in the head of VP_1 .

⁹ In fact, the definitions are set up so as to achieve this result. Cf. Chomsky 1992:19.

¹⁰ The same point is made in Broekhuis and Den Dikken (1993).

¹¹ Chomsky (1986b) assumes that I assigns a θ -role to the VP. However, I know of no constructions where it has been argued that a functional head (or a chain headed by a moved functional head) assigns a θ -role to an element in a specifier position.

¹² Chomsky (1992:17) argues that head movement chains always consist of maximally two members, so that $\alpha_n = \alpha_1$.

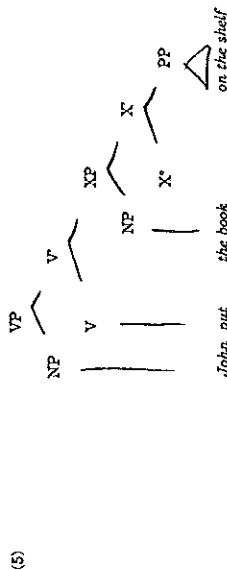
chain. On the assumption that nodes containing a member of the chain are not part of the domain of the chain, the specifier position of the foot of the chain will then be in the minimal residue of the chain, hence in its checking domain.

This is a desired consequence for us, since now the specifier of AgrSP will be in the checking domain of the chain (AgrSP) resulting from AgrS-to-C movement.

Another consequence, however, is that the Chomsky-Larson analysis of multi-argument verb constructions is no longer available. Since head movement does not enlist the specifier of the foot of the chain in the internal domain of the chain, the generalization is lost that the theme *the book* is an argument of the verb *put* in (3).

At this point, we are fortunate that Larson's analysis of multi-argument verb constructions is not the only theoretically acceptable way to reconcile the properties of these constructions with the binary branching principle. In particular, it has been argued often that constructions like (3) contain a *Small Clause* of which the theme is the subject and the location the predicate.¹²

This would give (3) the structure in (5):¹³



According to the structure in (5), *put* takes a propositional complement. *The book* is not an internal argument of *put*, but an external argument of *on the shelf*.

¹² Hoekstra (1984:234), Zwart (1991e).

¹³ I assume that Small Clauses have an empty head (cf. Kayne 1993:section 3), but I will not be concerned with the question of the internal structure of Small Clauses at this point. See Den Dikken (1992a) for extensive discussion.

This gives multi-argument verb constructions of the type in (3) the same analysis as resultative constructions like (6):¹⁴

- (6) a. John put the book down
 b. John ran the pavement thin

In (6b), it is clear that *the pavement* is not an internal argument of *ran* but an external argument of *thin*. An analysis in which *ran* has been moved up in the same way as *put* in (3) does not seem to be available here. Likewise, we could argue that *the book* in (6a) and (3) is not an argument of *put*, but an (external) argument of *down* and *on the shelf*, respectively. The interpretation that *the book* is an argument of *put* in these constructions may be due to our knowledge of the world, since it cannot be avoided that John actually handled the book in order to put it down or on the shelf (cf. Kayne 1985, Hoekstra 1988, Sybesma 1992, Mulder 1992).¹⁵

The Small Clause analysis of constructions like (3) captures the fundamental idea underlying the Larsonian structures, namely that "all arguments are initially structured within the VP in subject-predicate form, with outermost elements being hierarchically most subordinate" (Larson 1988b:8).

The two analyses differ in the role played by the verb *put*. In the Larsonian analysis, *put* is generated as the head of a lower VP, whereas in the Small Clause analysis the head of the Small Clause is empty, and *put* is generated as the head of the (higher) VP.

In terms of Generalized Transformations, the first step in creating a Larsonian structure for (3) is to combine *put* with the PP *on the shelf*. In

¹⁴ See Den Dikken (1992a) for a Small Clause analysis of constructions like *John put the book down on the shelf*.

¹⁵ Carrier and Randall (1992) argue that the Small Clause analysis is inappropriate for resultatives. See Den Dikken and Hoekstra (1993) for a convincing reply in defense of the Small Clause analysis. Relevant for our discussion are Carrier and Randall's arguments in support of the idea that in resultative constructions with obligatorily transitive verbs (like *shatter sth into pieces*) the theme receives a theta-role from the verb (which is impossible if it were a Small Clause subject). This is evidenced by the contrast between *the baby shattered the porringer into pieces* and **the baby shattered the oatmeal into portions*. I agree with Carrier and Randall that in this class of constructions, there is a close connection between the verb *shatter* and the theme *the porringer/the oatmeal*, which is responsible for the limited set of possible themes. However, it does not follow that the theme receives an internal theta-role from *shatter*. If we follow Sybesma (1992) in analyzing causative constructions as multi-verb constructions, it seems reasonable to assume that *shatter* is embedded under an empty causative, and that *the baby* is the external argument of the causative verb, and the theme the external argument of *break*, as in *the porringer shattered*. For detailed argumentation, see Hoekstra and Zwart (1993b). Cf. also Den Dikken and Hoekstra (1993).

the Small Clause analysis, the first step consists in combining the PP *on the shelf* with an empty head.¹⁶

It may seem unattractive to start out a derivation by expanding an empty head. However, this is not an argument against analyzing (3) as involving a Small Clause. If Hornstein and Lightfoot (1987) are correct, Small Clauses *generally* contain an empty head. Thus, if Small Clauses exist at all, we must accept the possibility that derivations start out by expanding an empty head.

Let us assume that the empty head of a Small Clause is a copular verb, indicated by capital BE. Then the Small Clause constructions in (6) can be paraphrased as in (7):

- (7) a. John put [the book [BE down]]
 b. John ran [the pavement [BE thin]]

The derivation of these constructions then starts out by combining BE and a predicate.

Likewise, (3) must be paraphrased as (8), in the Small Clause analysis:

- (8) John put [the book [BE [on the shelf]]]

More generally, we can state that a PP cannot function as a predicate unless it is first combined with a copular verb.¹⁷

The Small Clause analysis of (3) thus yields a 'small predicate' *BE on the shelf*, instead of a 'small predicate' *put on the shelf*. *BE on the shelf* is then predicated of the subject *the book*, just like *BE thin* is predicated of *the pavement* in (7b). Then, by another application of Generalized Transformation, the resulting subject-predicate combination *the book BE on the shelf* is combined with *put*.

In a Larsonian analysis, the derivation of (3) starts out by combining *put* with the PP *on the shelf*. The resulting 'small predicate' is combined with an external argument *the book*, which is combined with an empty verb to yield the larger predicate *e the book put on the table*. *Put* is then moved to *e* in order to enlarge the internal domain of *put*: *the book* becomes the internal argument of the chain (*put*:*t*).¹⁸

¹⁶ Alternatively, if Small Clauses do not contain a head, the Small Clause results from combining the PP *on the shelf* with the subject *the book*.

¹⁷ See Hoekstra and Mulder (1990) for an analysis of locational and positional unergative verbs which appear to take PP arguments, e.g. *walk (into the room)*, as copular verbs.

¹⁸ This is a reformulation of the analysis in Larson (1988a, 1998b) in terms of the Minimalist Program, as in Chomsky (1992:18f and Fall term class lectures of 1991). In Larson's original analysis, *put* raises to the head of the higher VP in order to assign Case to the theme *the book* in the specifier position of the lower VP.

This analysis has two problems which the Small Clause analysis does not have. First, the movement of *put* to the head of the higher VP is not obviously triggered by morphological requirements. Chomsky (Class Notes, 1991) suggests that verbs are specified in the lexicon for the number of internal arguments that are associated with it. Let us call this the ID value (for *Internal Domain*). *Put* has ID = 2, because it requires a theme and a location. If *put* is the head of the lower VP, as in a Larsonian analysis, it has only one argument, the location *on the shelf*, in its internal domain. Chomsky suggests that *put* moves to the head position of the higher VP in order to enlarge its internal domain. As a result of the movement, *the book* belongs to the internal domain of the chain (*put*:*t*). Thus, *put* moves to satisfy its ID value.

This amounts to saying, in pre-minimalist terms, that *put* moves in order to assign an internal θ -role. This runs counter to what seems to be one of the core ideas of generative syntax, namely the idea that generation of elements (binary operation) is motivated in terms of thematic relations, whereas movement of elements (singulary operation) is motivated in terms of morphological relations (such as structural Case, number, person). This idea is prominently present in the minimalist framework, which restricts movement to morphological feature checking. We could of course define the set of morphological features triggering movement in such a way that the ID value is included, but it is unclear whether this mixing thematic and morphological features is independently needed.¹⁹

Chomsky (1992:29f) argues against the idea that the initial representation is a full fledged 'D-structure'. But even if we adopt the structure building process of generalized transformations, it appears that there has to be some order in the way structures are built up, to the extent that heads are first combined with their complements rather than with adjuncts. If thematic relations can be satisfied by singulary operations, nothing prevents generation of complements in the external domain. A stricter version of the minimalist approach would be to maintain that singulary operations are driven by morphological licensing requirements only.²⁰

¹⁹ Including the ID value in the set of morphological features leads to the consequence that elements are always generated in order to eliminate 'morphological' features. We could maintain that a verb with ID = 1, like *miss*, is generated and combined with a direct object to satisfy the ID value of *miss*. Obviously, this stretches the meaning of the term 'morphological' somewhat.

²⁰ Chomsky (1992:29) mentions *easy to please* constructions as problematic for the concept of D-structure. He suggests that *John is easy to please* occupies a non- θ -position, and hence cannot appear at D-structure. However, if we assume that *be* always has a Small Clause complement, *John* is generated in the position of external argument of the Small Clause, hence in a θ -position. This assumes a structure is [*John*:*t*easy to please].

A second problem with the Larsonian analysis of multi-argument verb constructions is that it is not clear whether enumeration of the number of arguments of a verb, and specification of the type of thematic roles of these arguments, must be part of a minimalist theory of the organization of the lexicon. T. Hoekstra (1990) forcefully argues that the combinatorial properties of lexical elements are to a large extent determined by the aspectual properties of these elements. Small Clauses specify a state (e.g. *the pavement thin*). The function of a state argument to a non-telic verb is to terminate the event being denoted (e.g. in *John ran the pavement thin*). For this reason, resultative Small Clauses are only found when the predicate does not have an inherent termination point. This excludes Small Clause complements with verbs like *kill* (e.g. **John killed the house into a morgue*). So, the combinatorial properties of verbs like *run* and *kill* need not be specified in the lexicon. A specification of the aspectual properties of these verbs suffices.

Importantly, this makes it superfluous to specify verbs that can be combined with resultative Small Clauses as (potential) multi-argument verbs (contra Carrier and Randall 1992). A verb like *run* simply denotes a non-telic event which can be turned into a telic event by adding a Small Clause complement.

Ideally, this simplification of the lexicon carries over to other multi-argument verb constructions. In the case of *put*, this can be achieved by stipulating that *put* lacks an inherent termination point. Therefore, it has to be combined with a Small Clause terminating the event, in order to create a meaningful predicate. *Put* differs from *prove* in that *put* has to combine with a state denoting element, whereas *prove* can also combine with a simple noun phrase.²¹ All that needs to be specified in addition is that *put* requires that the state denoted by its complement is locational or situational (to exclude **John put the barn red*).

This approach, initiated by Hoekstra (1990) (see also Mulder 1992), promises a more minimalist theory of lexical information. In particular, it becomes possible to maintain that all lexical elements take one internal argument at the most.²² If so, the Chomsky-Larson analysis, in which

²¹ There are some special uses of *put* in which a Small Clause complement is not required, as in *I don't know what to put* and *You put first* (in shot put).

²² See also E. Hoekstra (1991) and Mulder (1992). Hoekstra argues that licensing relations are unique in the sense that a verb can have only one complement multi-argument verb constructions must therefore contain several verbs (1991:45). Mulder follows T. Hoekstra in arguing that complementation serves to (essentially) bound the event denoted by the verb, and notes that it follows that verbs can have but one object, since events can only be bounded once. Mulder (1992:51, fn 9) stresses the differences between his Single Object Corollary and Larson's (1988a) Single Complement Hypothesis. The latter follows from binary branching. (continued...)

put is first introduced as the lower verbal head, taking a PP as its complement, and then moves up to the higher verbal head to make sure that the theme noun phrase is included in the internal domain of *put* (or the chain (*put*,*t*)), is not satisfactory.

Positive evidence that *on the shelf* in (3) is a predicate rather than an adjunct or a complement can be obtained if we consider the Dutch counterpart of (3):

- (9) Jan zette het boek op de plank
John put the book on the shelf Dutch

In embedded clauses, the PP *op de plank* 'on the shelf' has to appear to the immediate left of the verb:

- (10) a. -dat Jan het boek gisteren op de plank zette
that John the book yesterday on the shelf put
b. * -dat Jan het boek op de plank gisteren zette
that John the book on the shelf yesterday put
c. * -dat Jan het boek gisteren zette op de plank
that John the book yesterday put on the shelf

In this respect, *op de plank* in (10) differs clearly from adjunct PPs (Hoekstra 1984:235) (11) and complement PPs (12):

- (11) a. -dat Jan Marie gisteren in de tuin kuste
that John Marie yesterday in the garden kissed
"...that John kissed Mary in the garden yesterday."
b. -dat Jan Marie in de tuin gisteren kuste
that John Marie in the garden yesterday kissed
c. -dat Jan Marie gisteren kuste in de tuin
that John Marie yesterday kissed in the garden
- (12) a. -dat Jan nog altijd van Marie houdt
that John still always of Mary holds
"...that John is still in love with Mary."
b. -dat Jan van Marie nog altijd houdt
that John of Mary still always holds
c. -dat Jan nog altijd houdt van Marie
that John still-always holds of Mary

2 (...continued)

and entails that verbs need additional VP-shells to accommodate additional arguments; according to Hoekstra's uniqueness of licensing principle and Mulder's Single Object Corollary, there can be no more than one argument altogether. The reader is referred to these works for ample argumentation.

PPs like *op de plank* in (9) share the property of being obligatorily left-adjacent to the verb with particles, resultative predicates, and unsuspect Small Clause predicates, as is demonstrated in (13)-(15):

- (13) a. *-dat Jan het boek maar weer neer zette*
 that John the book but again down put
 "...that John finally put the book down again."
 b. * *-dat Jan het boek neer maar weer zette*
 that John the book down but again put
- (14) a. *-dat Jan zijn gympies telkens door rende*
 that John his sneakers time and again through ran
 "...that John ran his sneakers through all the time."
 b. * *-dat Jan zijn gympies door telkens rende*
 that John his sneakers through time and again ran
- (15) a. *-dat Jan Marie nog steeds aantrekkelijk vindt*
 that John Mary still attractive considers
 "...that John still considers Mary attractive."
 b. * *-dat Jan Marie aantrekkelijk nog steeds vindt*
 that John Mary attractive still considers

This left adjacency to the verb is generally taken to be a rock solid test for Small Clause predicate status.

Finally, let us consider what happens when *op de plank* is combined with a particle, as in (16):

- (16) Jan zette het boek op de plank neer
 John put the book on the shelf down
 "John put the bok down on the shelf."

In that case, the particle shows the distribution of a Small Clause predicate, whereas the PP shows the distribution of a non-predicate (Den Dikken 1992a:70):

- (17) a. *-dat Jan het boek neer zette op de plank*
 that John the book down put on the shelf
 "...that John put the book down on the shelf."
 b. *-dat Jan op de plank het boek neer zette*
 that John on the shelf the book down put
 c. * *-dat Jan het boek neer op de plank zette*
 that John the book down on the shelf put

This becomes relevant when we consider one of the seemingly favorable consequences of a Larsonian analysis for (3).

Larson (1988b) argues that Heavy NP Shift does not consist in movement of a heavy NP to the right, but of movement of a predicate to the left. In multiple-argument verb constructions like (3), the heavy NP

is in the specifier position of the lower VP, and the predicate moving to the left is the 'small predicate' *put on the shelf* (1988b:11). This is illustrated in (18):

- (18) John [put on the shelf] [all the Tarzan novels he possessed] :

In (18) the 'small predicate' *put on the shelf*, a V category, has been reanalyzed as a V, and has moved to the head of the higher VP.

However, this analysis is inappropriate if we consider particle verb constructions like (19):

- (19) John put the book down on the shelf

The Dutch evidence shows that in this case, the particle *down* is the Small Clause predicate, and the PP *on the shelf* is a non-predicate (cf. (17)). We expect that if we turn (19) into a Heavy NP Shift construction, the adjunct PP will not be part of the 'small predicate', and will not be able to move along with the 'small predicate' *put down* to the head of the higher VP. However, this is not what we find:

- (20) a. John put down on the shelf all the Tarzan novels he possessed
 b. ? John put down all the Tarzan novels he possessed on the shelf

If Larson's analysis of Heavy NP Shift in multi-argument verb constructions is correct, we must conclude that the combination of a verb, a particle and an adjunct PP can be reanalyzed as a V and can move up to a V-position. This seems to be an unattractive extension of the analysis.

Summarizing, it appears that much is gained by analyzing the theme in (3) not as an internal argument of *put* (or of the chain (*put*:*t*)) but as the subject of the Small Clause complement of *put*. Recall that Chomsky's (1992:19) definition of the internal domain of a head movement chain (α_i, α_j) was devised in such a way that the specifier position WP of α_i becomes part of the internal domain of the chain (α_i, α_j). As a result, this definition ensures that head movement disqualifies the specifier position of the lower head as a checking position for features of the chain resulting from the head movement.

We have seen that this definition is *ad hoc*. It is tailor made to fit the analysis of multi-argument verb constructions of Larson (1988a). This in itself is sufficient reason to amend the definition if such an amendment is called for. In addition, we have seen that the Chomsky-Larson analysis of multi-argument verb constructions can be replaced by a Small Clause analysis with favorable results. If so, there is no empirical or conceptual motivation for Chomsky's definition of the internal domain of a chain left.

c. English and Irish
 Chomsky (1992:44) employs the idea that head movement from β to α disqualifies the specifier position of β as a checking position to derive the Extended Projection Principle for English.
 According to the Extended Projection Principle, the structural subject position must be realized (Chomsky 1981:40). In our framework, the structural subject position is the specifier position of AgrSP.
 Chomsky assumes that some languages, English among them, adhere to the Extended Projection Principle, whereas other languages, like Irish, do not. The latter conclusion follows if these languages have overt verb movement to AgrS, but no overt movement of the subject to the specifier position of AgrSP. The overt SVO-VSO distinction between English and Irish suggests such an analysis (22 from Bobaljik and Carnie 1992):

(21)	John	kissed	Mary	English
(22)	Chonnac	Seán	an madras	Modern Irish
	see-PAST	John	the dog	
		'John	saw the dog.'	

How can we ensure that the specifier position of AgrSP is always filled in English? The easiest way would be to state that the N-feature of AgrS is strong. However, Chomsky (1992:10,44) assumes that languages have only one AGR, which can be instantiated in various positions to check off different features. Thus, AgrS and AgrO are not inherently different. As a result, AgrS and AgrO cannot have different feature specifications: if AgrS has strong N-features, so has AgrO.

Consequently, if we assume that English AgrS has strong N-features, it must be the case that English AgrO has strong N-features as well. This means that the direct object in English overt syntax must not be inside the VP, but in the specifier position of AgrOP. On the assumption that this is not the case, we must define the N-features of Agr in English as weak.²² We must therefore find another way to make sure that the subject ends up in the specifier position of AgrSP in overt syntax in English.

At this point, we must introduce another assumption concerning English syntax made in Chomsky 1992. Chomsky (1992:10) notes that subject noun phrases check their features against AgrS, but that part of the properties of the features involved (in particular, the Nominative Case feature) depends on T. Likewise, part of the properties involved in checking the N-features of AgrO depends on V.

²² We might, however, interpret the findings in Johnson (1991) to indicate that the direct object in English is in Spec-AgrOP.

To express this close connection between T and AgrS for checking the features of the subject, Chomsky assumes that T raises to AgrS, yielding a complex head [T AGR] combining the Case features of T and the ϕ -features of AgrS.²⁴

Consider the consequence of this T-to-AgrS movement for checking the N-features of T. The N-features of T have to be checked in the specifier position of TP. However, according to the definitions in Chomsky (1992), the specifier position of TP is not in the checking domain of the chain (T, \bar{t}), but in the *insertion* domain of this chain. Recall that the minimal domain of a chain is the minimal domain of the *head* of the chain, with the exception of all nodes containing a member of the chain. The internal domain of a chain is the part of the minimal domain that is in the complement of the head of the chain, and the checking domain is the residual part of the minimal domain of the chain, basically the specifier of the head of the chain.

These definitions allow Chomsky to derive the Extended Projection Principle for English, by stipulating that the N-features of T in English are strong. Because of the independently established T-to-AgrS movement, the specifier position of TP is no longer available for checking the strong N-features of T. These features can only be checked in a position in the checking domain of the chain (T, \bar{t}), hence, in the specifier position of AgrSP. This then, explains the obligatory presence of the subject in the spec of AgrSP in English.

The difference between English and Irish now follows simply by stating that the N-feature of T is strong in English and weak in Irish (Chomsky 1992:44).

This way of deriving the difference between English and Irish seems to provide independent support for the idea that head movement disqualifies the specifier position of the lower head as a checking position. However, Bobaljik and Carnie (1992) show that the analysis in Chomsky (1992) is built on incorrect assumptions concerning word order in Modern Irish.

In particular, Bobaljik and Carnie argue that in a Modern Irish VSO construction like (22) the verb is in AgrS and the subject in the specifier

²⁴ The ϕ -features are the features of person, number, gender.

position of TP.²³ This suggests that, in Modern Irish, the N-features of T and the V-features of AgrS are strong.

The V-features of AgrS being strong, the verb must move to AgrS in a head-to-head fashion. The final step in this movement process takes the verb (actually the complex [[V AgrO] T]) from T to AgrS, yielding a chain (T,t), where T stands for [[V AgrO] T] and is adjoined to AgrS, and the trace occupies the position of the head of TP.

As before, the specifier position of TP is not in the checking domain of the chain (T,t). This means that the N-features of T cannot be checked in the specifier position of TP when T-to-AgrS movement takes place. If the specifier position of TP is not in the checking domain of the chain (T,t), the subject should not be able to appear in this position.

Nevertheless, the subject in (22) appears in the specifier position of TP, as argued by Bobaljik and Carnie (1992). We therefore cannot accept the idea that head movement disqualifies the specifier position of the lower head as a checking position.

Let us therefore tentatively define the checking domain of a chain (α,β) as the union of the checking domain of α and the checking domain of β . This can be achieved by proposing the following definition of the internal domain of a chain (α,β):

(23) The domain of a chain (α,β), where β is the trace of α , is the union of the domain of α and the domain of β .

(24) The internal domain of a chain (α,β), where β is the trace of α , is the minimal domain reflexively dominated by the complement of β .

(definitions to be revised in section 4.4)

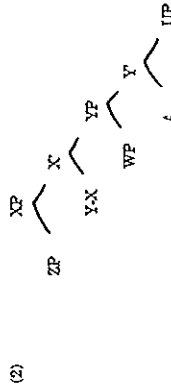
This means that the specifier positions of α and β are in the residual domain of the chain (α,β). Consequently, both ZP and WP in (2) are in the checking domain of the chain (Y,t). As a result, the specifier position of AgrSP remains a checking position for the N-features of AgrS, even after AgrS has moved to C.

²³ The more traditional analysis of VSO order in Celtic has the subject in the structural subject position and the verb in C (Sprent 1985). This analysis is rejected in Bobaljik and Carnie (1992) because the VSO order also shows up in finite embedded clauses where a complementizer is present. The argument that the subject is outside the VP in Modern Irish VSO constructions is based on the observation that in non-finite embedded clauses, where the VSO order is impossible, structurally Case marked objects occupy a position further to the left than inherently Case marked objects. Taking this to indicate overt object movement out of the VP when the object shows structural Case features, Bobaljik and Carnie conclude that the subject must also be outside the VP, since it appears to the left of the structurally Case marked object.

The definition of internal domain in (24) answers one of the two questions we set out to investigate in this section. It follows from (24) that AgrS-to-C movement does not disqualify the specifier position of AgrS as the checking position for the N-features of AgrS. However, the definitions leave the possibility that AgrS-to-C movement turns the specifier of CP into a derived checking position for the N-features of AgrS wide open. This question will be discussed in the next section.

4.3.2 Does Head Movement Create Derived Checking Positions?

Consider again a simple head movement structure:



In (2), the head of YP has raised and adjoined to the head of XP, yielding a chain (Y,t). In the definitions of Chomsky (1992), this chain has a minimal domain consisting of the nodes [ZP, WP, UP]. The checking domain of the chain is [ZP], and the internal domain is [WP, UP].

We have argued above, that WP should not be included in the internal domain of (Y,t), but in its checking domain. The question to be asked now is whether ZP must be included in the checking domain of the chain (Y,t). If not, head movement has no effect on the definition of domains at all.

In other words, the question to be asked is whether *derived checking positions* exist at all. This question is familiar from the recent literature, predominantly from Rizzi (1991a), where it is argued that head movement may turn an A'-position into an A-position. In particular, if ZP in (2) is an A'-position, head movement from Y to X may turn ZP into an A-position.

Rizzi (1991a:46) proposes the following definition of A-positions, where [Agr] refers to agreement in ϕ -features:²⁴

²⁴ In Chomsky (1981), A-positions are defined as 'potential theta positions'. In the less articulated structure employed there, this comprises all VP-internal theta-positions, and the specifier position of IP. This is the position where the external theta role was assigned. The 'potential' clause ensures that in unaccusative constructions, in which no external theta-role is assigned, the specifier position of IP would still count as an A-position, so that raising to (continued...)

- (25) A-positions: (i) Theta positions
(ii) Specifiers of a [+Agr] X'

Rizzi then argues that (ii) should be interpreted "as meaning that a Spec is A when *constructed* (coindexed) with an Agr specification in its head. The subject agrees with I at the IP level, then if the subject and I are moved to the CP level (...), the spec of C will agree with C containing I, and will count as an A-position under (25)(ii)".

Chomsky (1992:65 note 33) notices that this idea is problematic: "Note that if I adjoins to C forming I₀ C', SPEC of C is in the checking domain of the chain (I, I₀). Hence SPEC of C is L-related (to I), and nonL-related (to C). A sharpening of notions is therefore required to determine the status of C after I-to-C raising."²⁶

I propose the following sharpening of notions: a specifier cannot be construed locally with an adjoined head. Thus, no agreement is possible in (2) between ZP and Y. The specifier of CP will therefore always be an A'-position (a nonL-related position).

This restrictive notion of agreement follows from the minimalist theory of feature checking developed in section 1.3.2. This theory of feature checking requires that N-features be checked in a configuration of *sisterhood*. This can only be achieved if the N-features of a head α are also present on the first projection of α , which we have defined as the Projection of α . I have therefore proposed that the morphological features of α spread to the Projection of α (under the condition of accessibility).

I have argued that the special status of the first projection of α should not be expressed in terms of bar level, but in terms of feature content. This special status of the first projection of α , I have assumed, derives from the circumstance that α cannot be integrated into a larger structure (through Generalized Transformations) without this first projection. Since the first projection of α is the only projection that is indispensable, I have

proposed to call the first projection of α *Projection*, and the other projections of α *Segments*.

In this theory, the idea that the features of α may spread to the Projection of α leads to an extremely restricted mechanism of feature checking: it can only take place between sisters. Sisterhood, of course, is already known as the required configuration for the head-complement relation, and for checking of V-features. In the latter case, adjunction to the head creates the required sisterhood configuration. Thus, the idea that features may spread actually leads to a more restrictive theory of feature checking.

At the same time, by limiting feature spreading to the head-Projection relation, the number of possible checking positions is maximally restricted. This leads to the following definitions of checking domain and internal domain.²⁷

- (26) *Checking domain*
 α is in the checking domain of β iff (i) α is in the residue of β , and
(ii) γ carries the morphological features of β , and
(iii) α and γ are sisters
- (27) *Internal domain*
 α is in the internal domain of β iff (i) α is in the complement domain of β , and
(ii) α and β are sisters

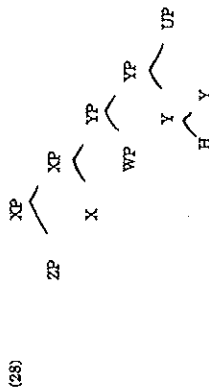
In (26), it is not excluded that $\beta = \gamma$. Thus, the checking domain of β contains the sister of β and the sister of the Projection of β . According to (27), the internal domain of β is just the complement of β , expressing the idea that heads have but a single complement.

Consider now the effects of head movement on the definition of checking domain. Assume the structure in (28), adapted from (2):

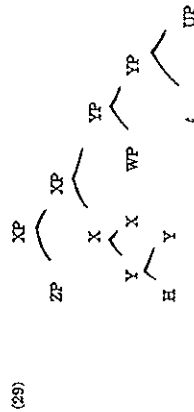
²⁶ (...) continued)
subject has the properties of A-movement, not of A'-movement. With the emergence of more functional projections, several other target positions for A-movement were introduced, but these could not be defined as potential theta-positions. Also, on the assumption that subjects are generated inside VP, the specifier position of IP (AgrSP) could not be defined as a theta-position. In the course of these developments, A-positions came to be defined as positions that are construed in agreement with a head (E.Hoekstra 1991:24). On the assumption that the specifier of CP may also agree with C (for instance in wh-features), a further restriction defines as A-positions those specifier positions that are construed in agreement with a feature of the verb. Calling these features 'L-features', Chomsky and Lasnik (1991) replace the distinction between A-positions and A'-positions by a distinction between L-related positions and non-L-related positions.

²⁷ See note 26 for terminology.

²⁸ Where *complement domain* and *residual domain* are understood as in Chomsky (1992:16).



Before head movement of Y to X, the checking domain of Y is (H, WP). H is the sister of Y, WP is the sister of the YP Projection. Only Y and the YP Projection carry the morphological features of Y (see section 1.3.2). Head movement of Y to X yields the structure in (29):



In (29), again only Y and the YP Projection carry the morphological features of Y. Hence, the checking domain of Y remains (H, WP). Crucially, ZP is not in the checking domain of Y, since the sister of ZP is not a Projection of Y but of X.

This leads to the following conclusions:

1. Head movement creates a derived checking position for V-feature checking.
2. Head movement does not create a derived checking position for N-feature checking.

The conclusion that head movement creates a derived checking position for V-features ties in with our earlier analysis of verb movement to C across AgrS in inversion constructions in Dutch. In these constructions, AgrS moves to C. Additional verb movement to C then yields the substructure [H Y X] in (29), with H=V, Y=AgrS, and X=C. It follows from the definition in (26) that V and AgrS can check off the V-features of AgrS under sisterhood in this substructure.

The conclusions listed above do not change if we accept the point made in Chomsky (1992:17) that what is relevant in head movement constructions like (29) is not the domain of Y, but the domain of the chain (Y,t) that results from the head movement. All that is required is the following definition of Projection of a chain:

- (30) *Projection of a chain*
 α is a Projection of a chain CH iff α is a Projection of a member of CH

Since the XP Projection is not a Projection of any member of the chain (Y,t), ZP cannot be in the checking domain of the chain (Y,t). But the YP Projection is the Projection of t, and hence may carry the morphological features associated with the chain (Y,t). This makes WP a checking position for the N-features of Y (in fact, the only checking position for these features).

Finally, the position of the sister of t may be a checking position for the V-features of Y, but this position will never be used as such if we assume that adjunction to a trace is excluded.

It follows from this restrictive theory of feature checking that head movement does not create derived checking positions for N-feature checking. Let us therefore consider the empirical argumentation that has been advanced in the literature to support the existence of such derived checking positions (cf. Rizzi 1991a).

Consider the following paradigm (cf. Koster 1978a:210, Travis 1984:123):

- (31) a. Het lukt niet
it succeeds not
'It doesn't work out.'
b. * Het kan ik niet
it can I not
'I can't do it.'
- Dutch

Weak object pronouns cannot appear in the first position, weak subject pronouns can. Travis (1984, 1991) takes this to indicate that subjects and topics occupy different positions in Dutch and German. In (31a), *het* 'it' is in the structural subject position, the specifier position of IP (AgrSP), whereas in (31b), *het* is in the topic position, the specifier position of CP. The ungrammaticality of (31b) then follows from a restriction on topicalization, to the extent that unstressed pronouns may not topicalize (Travis 1984:119).

This leads to an analysis of Dutch and German subject initial main clauses in which the subject does not end up in the preverbal position by way of topicalization. Consider (32):

an A-position in (31a). Consequently, no focalization is required for the pronoun to survive in the specifier position of CP in (31a).²⁹ Thus, the idea that verb movement to C may turn the specifier position of CP into an A-position allows Rizzi to maintain the traditional analysis of verb movement in Germanic.

However, the analysis fails in an important respect. If the subject is licensed in the specifier position of IP (AgrSP), there is no trigger for additional movement of the subject to the specifier position of CP. Therefore, by economy, this movement will not take place. The specifier-head agreement relation that existed between the verb and the subject at the IP level can never be reconstructed at a higher level, unless the subject has additional features that must be checked at that higher level (e.g. a [topic] feature to be checked in the specifier position of CP).

More generally, specifier-head relations can never be instantiated twice in a derivation. A specifier-head configuration can only be created to check a feature, say ϕ . This feature ϕ gets eliminated as soon as the specifier-head configuration is created. This precludes the possibility of recreating the same agreement relation in a second specifier-head configuration.

Suppose subjects carry a second feature, say, a [topic] feature, which forces an additional movement to the specifier position of CP. As will be discussed in section 5, this movement triggers verb movement to C. Adopting Travis' (1984) topicalization restriction or Rizzi's (1991a) focalization requirement leads to the prediction that only strong pronouns and full noun phrases will be able to move to the specifier position of CP.³¹

If so, (31a) cannot be topicalization, as argued above. If we assume, with Rizzi (1991a), that subject initial main clauses in German and Dutch involve a subject in the specifier position of CP, we predict that constructions like (31a) are non-existent in German and Dutch. This follows from the assumption, entertained by Rizzi (1991a) as well, that

²⁹ A similar analysis is presented in Cardinaletti (1990:82f). Cardinaletti argues that referential subject pronouns can be topicalized, as in (i), whereas expletives cannot (ii):

(i)	Er	(da)ub	ich)	hat	angesehen	German
	he	think	I		has	called	
(ii)	Es	(da)ub	ich)	wurde	gestanzt	
	there	think	I		was	danced	

The difference between (i) and (ii), however, follows from the fact that *es* 'it, there' is always a clitic, whereas *er* 'he' can be stressed. In the minimalist framework this follows on the natural assumption that weak elements cannot carry topic features. If all weak elements are clitics, this assumption need not be stipulated, considering that clitics are heads, and topic features must be checked in specifier-head configurations.

- (32) a. Dat lukt niet
 that succeeds not
 "That doesn't work out."
 b. Dat kan ik niet
 that can I not
 "I can't do that."

If we assume that the subject in (32a) is in the structural subject position (the specifier position of IP/AgrSP) and the object in the topic position (the specifier position of CP), the ungrammaticality of (31b) follows from the ban on topicalizing unstressed pronouns. Hence, the subject *dat* 'that' in (32a) and the object *dat* in (32b) cannot be in the same structural position.

This analysis carries over to the minimalist framework in a natural way. In (32a), the subject moves to the specifier position of AgrSP to check the N-features of AgrS. In (32b), the object has a [topic] feature, which must be checked in the specifier position of CP. (31b) shows that weak pronouns lack a [topic] feature. Preposing weak pronouns therefore is not triggered by the need to check a [topic] feature. If so, the preverbal subjects in (31a) and (32a) cannot be topics either, and must occupy a different position from the preverbal objects.³²

It seems, then, that Travis' analysis is clear and simple, and it ties in with the conclusions of this book, namely that the functional projections in Dutch, as in English, are head initial, and that the verb moves to AgrS in subject initial main clauses, and not to C.

Rizzi (1991a) argues that the asymmetry in (31) may be analyzed in a different way if we assume (25ii). Rizzi assumes that non-operator elements, such as pronouns, can only survive in an A'-position if they are focalized. Weak pronouns, by their nature, cannot be focalized. This excludes (31b), on the assumption that the object pronoun occupies the specifier position of CP, an A'-position.

For (31a), Rizzi assumes the standard analysis of Dutch subject initial main clauses (Den Besten 1977). Thus, the subject pronoun occupies the specifier position of CP, just like the object pronoun in (31b). However, (31a) differs from (31b) in one respect. In (31a), the head of CP is occupied by a verb which agrees with the subject pronoun. By Rizzi's interpretation of (25ii), this spec-head agreement turns the specifier position of CP into

³² If the analysis of clitics in Germanic put forth in section 2 is correct, the weak subject pronoun *het* occupies a position adjoined to AgrS. As with all subject clitics, *het* will not show up to the left of the verb when the verb moves to C. Instead, the verb will skip AgrS on its way to C, and *het* will adjoin to the right of the verb in C, as in yes/no questions like *Kan het?* 'Can it?'

subjects are first licensed in the specifier position of IP. This means that ϕ is eliminated inside IP. The additional movement to the specifier position should then be restricted to focalized elements, since agreement with the feature ϕ is no longer visible at the CP level.

It is obvious from constructions like (31b) that subjects in Dutch are licensed in the specifier position of IP (AgrSP). Assuming that licensing takes place in specifier-head configurations only, the subject in (31b) checks its N-features against the N-feature of AgrS. AgrS may be occupied by the trace of the verb which has moved to C, or, as we have assumed, by the trace of AgrS-to-C movement.²²

Thus, the analysis of (31) in Rizzi (1991a) cannot be taken to support the idea that head movement of β to α turns the specifier position of α into a checking position for the features of β .

4.3.3 Conclusion

It follows from a restrictive theory of feature checking that head movement does not create derived checking positions for N-feature checking. Consequently, the proposed analysis in which AgrS-to-C movement in Dutch is a precondition for checking the N-features of AgrS in the specifier position of AgrSP can be maintained.

4.4 Accessibility and the Representation of Features

Let us try to make the accessibility parameter more precise. This parameter was introduced in section 1.3.2 and employed in this section to explain the verb movement asymmetry. In particular, we have to make clear why AgrS-to-C movement and verb movement to AgrS both have the effect of turning a [+accessible] AgrS into a [-accessible] AgrS.

If we assume that feature checking invariably takes place in a sisterhood configuration, the N-feature of AgrS can only be checked by the AgrSP Projection (i.e., the first projection of AgrS, see section 1.3.2). Therefore, the AgrSP Projection has to have access to the N-feature represented in AgrS. The AgrSP Projection has access to the features of AgrS if and only if AgrS has the feature [-accessible]. This is expressed in (33)-(34):

²² Rizzi and Roberts (1989:5) likewise assume that I-to-C movement in Germanic does not destroy the specifier-head agreement configuration needed to license the subject in the specifier position of IP.

(33) A functional head is [+accessible]

(34) α , the Projection of β , has access to the morphological features of β iff β is [+accessible]

We have conjectured that AgrS in Dutch is [-accessible], and that AgrS-to-C movement and verb movement to AgrS have the effect that AgrS becomes [+accessible]. Since the N-feature of AgrS is strong, one of these movement processes has to take place in overt syntax, otherwise the N-feature of AgrS would not be accessible to the AgrSP Projection, and the N-feature could not be checked. The effects of head movement on accessibility can be stated as in (35):

(35) A [-accessible] head α becomes [+accessible] iff (i) α moves to β , or (ii) γ adjoins to α

How can (35) be derived?

I propose that (35) ultimately derives from economy of representations, formulated in (36):

(36) *Economy of Representations*
Use as few symbols as possible

The morphological features represented in functional heads must count as symbols. Otherwise, the presence of features at the interface would not cause a violation of the Full Interpretation principle (cf. section 1.2.3). If so, we can derive the following principle from (36):

(37) Morphological features are present in as few positions as possible

The economy related principle (37) severely restricts the distribution of the morphological features of a functional head. In particular, it dictates that morphological features can only be present on nodes that are actively involved in feature checking.

In the case of N-feature checking, this means that, if AgrS is [-accessible], the N-feature of AgrS will be present on the AgrSP Projection only. This is because only the AgrSP Projection is actively involved in N-feature checking, due to the sisterhood condition on feature checking. We can now say that if AgrS is [+accessible], the N-feature of AgrS moves from AgrS to the AgrSP Projection, and that this movement is blocked when AgrS is [-accessible]. As far as I know, (37) has no further consequences in the domain of N-feature checking.

In the domain of V-feature checking, however, (37) has an interesting consequence. Consider the case where AgrS moves to C. I have argued that in that case, the V-feature of AgrS is checked by adjunction of the

verb to AgrS in C. In other words, AgrS-to-C movement yields a chain (AgrS_f), and the only member of the chain that is actively involved in V-feature checking is the head of the chain, AgrS. It then follows from (37) that the V-feature of AgrS is present only on the head of the chain (AgrS_f).

This has a number of consequences. One consequence is that adjunction of the verb to the foot of the chain (the trace of AgrS) is excluded by economy of derivation. Since the V-feature of AgrS is only present in the head of the chain (AgrS_f), adjunction of the verb to the foot of the chain is not triggered by feature checking requirements, hence is excluded.

It is standardly assumed that adjunction to traces of heads is excluded (cf. Baker 1988). However, this does not follow from the condition of Strict Cyclicity, since this condition does not refer to the content of heads, and does not exclude head adjunction in general.³³ But if head movement actually removes the V-feature, as expressed in (37), the ban on adjunction to traces follows from economy of derivation.³⁴

A second consequence of (37) in the domain of head movement is that it is now possible to unify the effects of head movement of AgrS to C and head movement of the verb to AgrS. AgrS-to-C movement removes the V-feature from the AgrS position, since the V-feature of AgrS can only be represented on the head of the trace (AgrS_f). Verb movement to AgrS has the effect that the V-feature of AgrS is checked and eliminated. Both movement operations therefore have the same effect: the V-feature of AgrS is removed from the AgrS position.

If we now assume that the presence of the V-feature in AgrS blocks movement of the N-feature of AgrS to the AgrSP Projection, we can replace (35) by (38):

(38) α is [+accessible] if (and only if) the V-features of α have been removed

The *and only if* clause is only needed for languages in which the functional heads are not [-accessible] by parameter setting, like Dutch. The presence of the *and only if* clause in (38) therefore is the only instance of parametric variation in this system.

According to (38), the phenomenon that in some languages head movement is a precondition for N-feature checking is due to the fact that

³³ See p. 26 in section 1.3.2 for a definition of the condition of Strict Cyclicity that allows head movement.

³⁴ Notice that this does not in principle exclude adjunction of a clitic to the trace of a head, since it is not clear that clitic adjunction is triggered by morphological licensing requirement to begin with (see section 2.3).

in these languages the V-feature must be removed before N-feature checking can proceed. This, then, appears to be characteristic of the syntax of verb movement in Dutch.

4.5 Conclusion

In this section I have argued for the following analysis of the verb movement asymmetry in Dutch.

AgrS in Dutch has weak V-features and strong N-features. The strong N-features force movement of the subject to the position of sister of the Projection of AgrS (i.e., the specifier position of AgrSP). However, AgrS is specified as [-accessible]. As a result, the Projection of AgrS has no access to the N-features of AgrS. Since the N-features must be checked under sisterhood, AgrS has to be made [+accessible], so that the N-features of AgrS spread to the Projection of AgrS, and the specifier and Projection of AgrS can check off the N-feature of AgrS under the required condition of sisterhood.

There are two ways to make AgrS [-accessible]. One way is to move AgrS to C. This takes place in embedded clauses, as discussed in section 3 for complementizer agreement dialects. AgrS-to-C movement does not violate Greed, since this movement serves to eliminate the N-features of AgrS. Since the V-features of AgrS are weak, Procrastinate ensures that no verb movement to AgrS takes place in embedded clauses. Another way to make AgrS [-accessible] is to move the verb to AgrS. This can be done, in violation of Procrastinate, since movement of the verb to AgrS serves to also check off the features of the verb against the V-features of AgrS. Again, Greed is not violated. This derivation applies in subject initial main clauses. In inversion constructions, both AgrS-to-C movement and verb movement to C take place. In moving to C, the verb skips the original AgrS position, and adjoins to AgrS in C. As this results in the elimination of the V-features of AgrS, Greed again is not violated.

Movement from AgrS to C, by way of independent functional head movement or via head-to-head verb movement to C, does not turn the specifier of CP into a derived checking position for the N-features of AgrS. Hence, if verb movement to C takes place, the subject must always follow the verb (unless the subject carries additional features to be checked in the specifier position of CP).

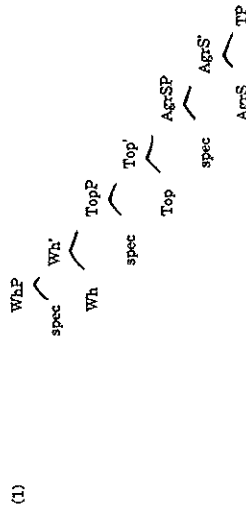
It follows that the verb in subject initial main clauses does not occupy C but AgrS. This proves that AgrSP in Dutch is head initial.

5 Topicalization and Wh-Movement

In the previous two sections, I have developed a minimalist analysis of subject initial main clauses in Dutch. In this analysis, the finite verb moves to AgrS and the subject moves to the specifier position of AgrSP. This analysis supports the idea that the functional projections in Dutch are head initial.

The analysis, however, also raises questions concerning the other verb second constructions in Dutch, topicalizations and wh-constructions. Den Besten (1977) showed that verb movement in these constructions targets the position that is occupied by the complementizer in embedded clauses. If this is correct, we must conclude that subject initial main clauses on the one hand, and topicalizations and wh-constructions on the other hand, are different categories: the former are AgrSPs, the latter CPs.

In this section, I will argue that this distinction between subject initial main clauses and other main clauses in Dutch is correct. I will argue for an even stronger conclusion: subject initial main clauses, topicalizations, and wh-constructions are all categorically different. Subject initial main clauses are AgrSPs, topicalizations are TopPs, and wh-constructions are WhPs. This leads us to propose the following phrase structure:



In section 5.1, I will point out certain differences between subject initial main clauses and topicalizations. In section 5.2, I will present the argumentation for splitting up CP into a WhP and a TopP. Finally, section 5.3 contains a minimalist account of the various movement processes associated with topicalizations and wh-constructions.

This section presents further arguments against collapsing all verb second phenomena in Dutch. In addition, it supports the general idea argued for in this chapter, namely that the functional projections in Dutch are invariably head initial.

5.1 Differences between Subject Placement and Topicalization

5.1.1 General Considerations

In the minimalist framework, all movement operations are triggered by the need to eliminate morphological features. These morphological features are represented in functional heads, and are eliminated through a matching operation with elements in the checking domain of these functional heads.¹ The question whether two movement operations target the same position then reduces to the question whether the relevant features are represented in the same functional head.

I have assumed, following Chomsky (1992), that subject placement in general is triggered by the need to eliminate the N-feature of AgrS. This feature is represented in AgrS, must be matched with the corresponding feature on an XP in the specifier position of AgrSP. Let us also assume that topicalization is triggered by the need to eliminate a special 'topic' feature, represented as [topic]. I assume that this feature, like all features, is represented in a functional head, and that a corresponding feature is present on the XP which is to be topicalized. Topicalization can then be described as a movement operation taking place to eliminate [topic].²

The question whether subject placement and topicalization are the same then reduces to the question whether the features of AgrS and the [topic] feature are represented in the same functional head.

It is easy to see that this is not the case in Dutch. Since subject placement and topicalization are both overt in Dutch, we must assume that the N-feature of AgrS and [topic] are both strong in Dutch. This implies that both topics and subjects must be in their licensing position in overt syntax (assuming that no other features are involved that could trigger additional movements). Therefore, we can localize the licensing positions of subjects and topics in a simple topicalization construction like (2):

¹ For expository reasons, I abstract away from the actual operation of N-feature checking under sisterhood, involving movement of the N-feature of a functional head α to the Projection of α .

² I assume that [topic] is an N-feature by definition. I will argue below that the [topic] feature is not present on the visibly topicalized XP, but on an operator element (an empty operator or a *G-word*) in the specifier position of the CP (to be defined as TopP below). Because of this, it is difficult to associate the [topic] feature with particular prosodic features like stress or pragmatic features like [focus]. The actual topic, I will assume, is adjoined to the TopP, and can be stressed or focalized at will.

- (2) Dat boek ken ik niet
 that book know I not
 'That book I don't know.'

In (2), the topic *dat boek* 'that book' must be in the designated position for licensing the feature [topic]. Similarly, the subject *ik* 'I' must be in the designated position for licensing the N-features of AgrS. Since the verb *ken* 'know' appears between these two positions, we must conclude that the positions designated for licensing the subject and the topic are different. Therefore, the feature [topic] cannot be represented in AgrS.

Thus, on standard minimalist assumptions, subject placement and topicalization differ in a trivial way.

Notice that even if the verb in (2) did not intervene between the subject and the topic, we would still have to conclude that the feature [topic] and the features of AgrS are represented in different functional heads. This situation obtains in English:

- (3) That book I don't know

If the topic *that book* and the subject *I* were both in the checking domain of AgrS (with [topic] also represented in AgrS), we would have to stipulate that the topic always linearly precedes the subject.³

- (4) * I that book don't know

No such stipulation is needed if we assume that in (3), like in (2), the topic moves to the specifier position of a functional projection designated for licensing topics.

In the next section, I will present a number of independent differences between subject placement and topicalization, all leading to the conclusion that both movement operations target different positions.

5.1.2 Subject Placement vs. Topicalization

The following differences between subject placement and topicalization in addition suggest that both operations target different positions.

³ In the definitions of Chomsky (1992), elements adjoined to XP (i.e., not in the specifier position, but adjoined higher up) are in the checking domain of X. In sections 1.3.2 and III.4.3, I argued that the checking domain consists only of the sister of X and the sister of the Projection of X (i.e. the specifier position of XP). This excludes adjuncts from the checking domain, and it also excludes the possibility of having two features represented in one functional head.

a. Verbal Agreement

As we have seen, the 2SG present tense verb in Dutch has two morphological realizations, one for subject-initial constructions and one for topicalizations (and wh-constructions):

- (5) a. Jij kent/*ken dat boek
 you know that book
 b. Dat boek kent/*kent jij
 that book know you
 'That book you know.'

I have argued that the short form *ken* is required when the verb is in C, and contains a duplicate feature associated with AgrS-to-C movement. In other words, this form 'shows complementizer agreement'. The long form *kent*, on the other hand, is the default form, used in all other environments. Therefore, in (5a), the verb cannot be in C.

All aspects of this explanation for the double agreement phenomenon are independently established. It is hard to imagine an equally satisfactory account of the phenomenon if we assume that *kent* and *ken* in (5) occupy a single position.

Similar double agreement phenomena occur in several Dutch dialects, as discussed in section 3.3.

b. The Position of Object Clitics

Object clitics are right adjacent to the verb in subject initial main clauses, but not in topicalizations:

- (6) a. Jan kent (*nog altijd) 't niet
 John knows still always it not
 'John (*still) doesn't know it.'
 b. Toch kent (nog altijd) Jan 't niet
 Yet knows still always John still always it not
 'Yet John still doesn't know it.'

As argued before, the verb and the clitic are adjacent in (6a), and so are the subject and the clitic in (6b). This is accounted for if the subject is in the specifier position of AgrSP in both (6a) and (6b), while the verb is in AgrS in (6a) and in C in (6b). It follows that topicalization and subject placement target different positions.

If the verb were to move to C in both (6a) and (6b), we would have to find an explanation for the fact that the subject in (6a) can undo the adjacency requirement that the verb and the object clitic are subject to in (6a).

Note that the subject and the verb are not necessarily adjacent in (6b). If (6a) were analyzed as a topicalization construction, with the verb in C

and the subject in the specifier position of CP, we would expect the trace of the subject in the specifier position of AgrSP to be not necessarily adjacent to the verb either. In other words, we would expect the adverbial *rog alti/z* 'still' in (6a) to be able to appear between the verb and the subject trace (hence, between the verb and the object clitic), contrary to fact.

c. Restrictions on embedded topicalization

If subject placement and topicalization are the same process, topicalization should be possible wherever subject placement is possible. However, the two processes are clearly different in embedded contexts.

Notice first that the subject is placed outside the VP in embedded clauses in Dutch, just like in main clauses. This can be concluded from the position of the subject with respect to sentence adverbs, as in (7):

- (7) $\text{--dat Jan gisteren Marie kuste}$
 that John yesterday Mary kissed
 "that John kissed Mary yesterday."

On the other hand, topicalization in embedded clauses is severely limited:

- (8) a. * $\text{--dat Marie Jan gisteren kuste}$
 that Mary John yesterday kissed
 "that John kissed MARY yesterday."
 b. $\text{--dat gisteren Jan Marie kuste}$
 that yesterday John Mary kissed
 "that John kissed MARY YESTERDAY."

As can be seen, only adjuncts can be topicalized in embedded clauses.

As shown by Neeleman (1990), objects can also be topicalized in embedded clauses, provided they receive a strong focus intonation.⁴ In addition, another constituent in the construction must be stressed, to achieve a kind of intonational balance:

- (9) a. $\text{--dat MARIE zelfs JAN gisteren niet kuste}$
 that Mary even John yesterday not kissed
 "that not even JOHN kissed MARY yesterday."
 b. $\text{--dat MARIE Jan zelfs GISTEREN niet kuste}$
 that Mary John even yesterday not kissed
 "that Jean did not even kiss MARY YESTERDAY."
 c. $\text{--dat MARIE Jan gisteren zelfs niet kuste}$
 that Mary John yesterday even not kissed
 "that John did not even KISS MARY yesterday."

⁴ Neeleman (1990) refers to this phenomenon as Focus Scrambling (cf. section II.1.4).

This special intonational pattern is not required for subject placement in embedded clauses or for topicalization in main clauses.

Notice that the absence of verb movement in embedded clauses is irrelevant. This is an independent property of embedded clauses in Dutch. If topicalization and subject placement were really the same, one would expect topicalization to take place in embedded clauses, even without verb movement, just like subject placement takes place in embedded clauses without verb movement.

On the other hand, if topicalization and subject placement target different positions, we can explain the restrictions on embedded topicalization by stating that 'there is not enough room' for topicalization in embedded clauses.

One way of implementing this idea would be to assume that the specifier position of CP is not available as a landing site for topics in embedded clauses. This assumption is needed in the standard analysis as well, to account for the fact that subjects and topics never appear to the right of the complementizer.⁵

⁵ Focus scrambling is clearly a marked phenomenon. Neeleman (1990) shows that it has the properties of A'-movement. This suggests the presence of a third non-L-related XP-position (in addition to the specifier position of WhP and TopP), perhaps comparable to the Polarity Phrase of Culicover 1991.

⁶ In Middle Dutch topics can be seen to precede the complementizer (Stoett 1977:246, Van den Berg 1992). However, in these cases it looks like an element of the embedded clause appears in the matrix clause, i.e. not in the specifier position of the embedded CP. This is evidenced by the presence of a resumptive pronoun in the embedded clause:

- (1) $\text{Man plecht in sine nusewagten}$
 one usually-does in his marital
 dicke-- "evening" in doot
 that one there at-ACC risk in puts
 "One usually puts a rug in one's marital."

Also, in my intuition, there is a preference for (i) over (ii) (cf. note 16 of section 4.1):

- (ii) a. $\text{7 --dat Piet Marie dacht dat Jan kuste}$
 that Pete Mary thought that John kissed
 b. $\text{--dat Piet dacht Marie dat Jan kuste}$
 that Pete thought Mary that John kissed

In (ii), the embedded object has been moved into the functional domain of the matrix clause, instead of to the specifier of the CP of the embedded clause.

- (10) a. * Piet zag Jan dat de meisjes kuste
 Pete saw John that the girls kissed
 "Pete saw that John kissed the girls."
 b. * Piet zag de meisjes dat Jan kuste
 Pete saw the girls that John kissed
 "Pete saw that John kissed THE GIRLS."

However, this is not a very attractive assumption, considering the fact that the specifier of CP must be available as an intermediate position in constructions of long distance movement (cf. section I.3.1).

A possibly more viable implementation would be based on the analysis of topicalization in Koster (1978b) (cf. II.2.3; also Weerman 1989:52, Haider 1990, Kosmeijer 1993). In this analysis topics are base generated as left peripheral adjuncts to a clause, coindexed with a resumptive demonstrative element (a *d-word*) in the specifier position of CP. This *d-word* is generated inside VP and moves to the specifier position of CP, just like a full topic word, explaining the movement effects associated with topicalization (cf. Chomsky 1977). The *d-word* may be phonologically null.

This analysis correctly predicts that a *d-word* may always be present in topicalization constructions in Dutch.⁷

- (11) Marie (die) kust Jan niet
 Mary that kisses John not
 "Mary John doesn't kiss."

On the *d-word* analysis of topicalization, there must be room for *two* elements if topicalization is to occur, the *d-word* in the specifier position of CP, and the topic adjoined to CP.

We may now assume that there is room for a *d-word* in embedded clauses in Dutch, but not for a topic adjoined to CP. This may follow from a general ban on adjunction to arguments, as proposed in Holmberg (1986) and Chomsky (1986b).⁸

On this analysis, the constructions in (8b) and (9) are not topicalizations. This is a welcome result, since the special intonational requirements in (9) suggest that the two constructions do not represent a unitary phenomenon.

Recall that we have assumed that sentence adverbs do not have a fixed position (section II.4.2.4). This assumption allows us to describe

⁷ On restrictions on the use of an overt *d-word*, see below, section 5.2.1.c. In Middle Dutch, topics could be resumed by the element *so* (Sjoett 1977:229, De Vries 1910-1911:45).

⁸ This raises the question why topicalization is also excluded in adjunct clauses. Notice, however, that adjunct clauses often appear to be complements of a preposition, as they are introduced by the combination of a preposition and a complementizer (e.g. *voor/zij* 'for that', 'before').

scrambling as movement to the specifier of AgrOP, hence as a minimalist type of movement. However, as (12) shows, adverbs may not be adjoined to Agr-SP in main clauses:

- (12) * Gisteren Jan kuste Marie
 yesterday John kissed Mary

The grammaticality of (8b) now suggests that in embedded clauses the domain in which adverbs may appear is stretched, so as to include the position adjoined to Agr-SP.

The same domain stretching takes place in inversion constructions, as (13) shows:

- (13) Daarom heeft gisteren Jan Marie gekust
 therefore has yesterday John Mary kissed
 "That's why John kissed Mary yesterday."

In our analysis, embedded clauses and inversion constructions have one thing in common: AgrS-to-C movement. It is tempting, therefore, to link the stretching of the domain for adverbs to AgrS-to-C movement, but I will not pursue that issue here.⁹

If this analysis of topicalization is on the right track, there is only one way to create an embedded topicalization construction in Dutch, namely by inserting a topic *after* the complementizer and by resuming it by a *d-word*. This yields a kind of anacoluthon, which can be observed quite frequently in spoken Dutch:

- (14) Jan zei dat Marie (die) kuste bij niet
 John said that Mary that kissed he not
 "John said that Mary, he didn't kiss."

Notice that the (possibly empty) *d-word* triggers verb movement:

- (15) * Jan zei dat Marie (die) bij niet kuste
 John said that Mary that he not kissed

This can be analyzed in the same way as topicalization in main clauses. I will return to this construction in section 5.3.3, arguing that the complementizer in these constructions is not a target for AgrS-to-C

⁹ This does not exclude the possibility that language particular constraints block adjunction of adverbs to Agr-SP. As Liliane Haegeman informs me (p.c.), adverbs cannot appear between the complementizer and the subject in West Flemish, even though we must assume that in West Flemish, like in Dutch, AgrS-to-C movement takes place.

movement. As a result, the phrase in the complement of *dat* has the syntax of an independent CP or AgrSP with matrix clause word order.

The analysis of (14) closely resembles the analysis of Vikner (1991a) of embedded inversion phenomena in Icelandic and Yiddish. Importantly, these languages do not show the verb movement asymmetry of Dutch and German. In terms of our analysis, this suggests that Icelandic and Yiddish lack AgrS-to-C movement altogether. Possibly, languages without AgrS-to-C movement create constructions like (14) freely, whereas AgrS-to-C languages tend to regard (14) as an anacolouthon.¹⁰

In conclusion, embedded topicalization in Dutch is not freely possible. It has to be either Focus Scrambling or a kind of anacolouthon. This supports the idea that subject placement and topicalization are different.

d. Subject deletion.

In clausal coordination constructions in Dutch, the subject or topic of the second clause can be deleted under identity with the subject or topic in the first clause.¹¹

- (16) a. *Dese trein rijdt verder als intercity naar Groningen*
 this train goes on as intercity to Groningen
en zal alleen stoppen te Assen
 and will only stop at Assen
- b. *? Na Zwolle rijdt deze trein verder naar Groningen*
 after Zwolle goes this train on to Groningen
en zal alleen stoppen te Assen
 and will only stop at Assen

In (16), the subject of the second clause is deleted under identity with the subject of the first clause. The subject gap is indicated by a hyphen.

As argued in Zwart (1991c), the subject gap in (16b) should not be placed to the right of the verb *zal* 'will' (cf. also De Vries 1910-1911:170). This is clear from the agreement on the verb if the subject is the second

¹⁰ Structures like (14) are islands for extraction, whereas the comparable constructions in Icelandic and Yiddish are transparent (cf. Vikner 1991a and references cited there). It is generally assumed that the island character of embedded inversion constructions in Dutch is due to a violation of the Empty Category Principle. However, this line of analysis leads to the prediction that object extraction out of embedded inversion constructions in Dutch yields a milder ungrammaticality (along the lines discussed in Lasnik and Saito 1984, Chomsky 1986b, Rizzi 1990a, Cinque 1990), but this is not what we find. See Zwart (1991b:310).

¹¹ The properties of this type of subject deletion are discussed more extensively in Zwart 1991c. See also Höhle (1983), Te Velde (1992), Heycock and Kroch (1993), Thiersch (1993).

person singular pronoun. The 'short' form, indicating subject-verb inversion, is not allowed here (Bakker 1968:217 fn 3a):

- (17) a. *Dan keer je je om en gaat/ga weer terug*
 then turn you you around and go-2SG again back
 "Then you turn around and go back again."
 b. ** Dan keer je je om en dan ga - weer terug*
 then turn you you around and then go again back

As (17b) shows, the deleted subject in the second clause must precede the verb.

(16b), on the other hand, shows that the subject in the first clause does not have to precede the verb in order to trigger the deletion of the subject in the second clause.

As (18) shows, topics may also trigger deletion of a topic in the second clause:

- (18) *Dan keer je je om en - ga je weer terug*
 then turn you you around and go you again back
 "Then you turn around and you go back again."

In (18), the topic *dan* 'then' is also understood to be part of the second clause, where it triggers inversion.¹²

Interestingly, a topic may also trigger deletion of the subject in the second clause, and a subject may trigger deletion of a topic in the second clause:

- (19) a. *? Jan ken ik niet, maar - werkt bij ATW*
 John know I not but works at General Linguistics
 "John I don't know, but (he) works for the Dept. of Linguistics."
 b. *? Jan werkt bij ATW, maar - ken ik verder niet*
 John works at Gen.Ling. but know I further not
 "John works for the Dept. of Linguistics, but I don't know him apart from that."

¹² This phenomenon is not to be confused with the so-called *Tenz Beje* construction, in which the conjunction *en* 'and' triggers inversion in the second clause (De Vries 1910-1911:170). This construction also appears in Middle Dutch (Van der Horst 1981:47) and in Low German dialects (Jedig 1969:145). In present-day spoken Dutch, the construction is felt to be extremely marginal, unlike the topic deletion construction in the text.

These constructions are slightly odd, like (16b), but far from ungrammatical.¹² They indicate that grammatical function is irrelevant for deletion in coordinate structures (cf. Zwart 1991c).

Consider now the following ungrammatical deletion construction:

- (20) * Na Zwolle zal deze trein alleen stoppen te Assen
 after Zwolle will this train only stop at Assen
 en - kun je dus beter niet nemen
 and can you therefore better not take

*After Zwolle this train will only stop at Assen, so you'd better not take it.

A subject following the verb in the first clause cannot trigger deletion of a topic in the second clause.

We can account for this if we assume that an element in the second clause of a coordinate structure can only delete under identity with an element in the first clause if the two elements are in the same structural position.

In (20), the subject in the first clause triggering the deletion is in the specifier position of AgrSP, and the deletion site in the second clause is the specifier position of CP. Hence, the deletion is ungrammatical.

Turning back to the grammatical deletion construction (16b) now, we must conclude that the trigger and the deletion site are in the same structural position. The trigger in the first clause is an inverted subject, hence it is in the specifier position of AgrSP. Consequently, the deletion site in the second clause must also be in the specifier position of AgrSP. The second clause is a subject initial 'verb second' construction. Hence, these facts lead to the conclusion that subject initial main clauses can be AgrSPs.

This account of the contrast between (20) and (16b) also has consequences for the analysis of the grammatical deletion constructions in (19). Here, we must conclude that the second clause in (19a) and the

¹² The marginal deletion constructions in the text contrast sharply with ungrammatical deletion constructions like (i) and (ii). In (i) the trigger for the deletion is in object position, in (ii) deletion cannot take place under identity, since the trigger is an overtly Case marked pronoun.

(i) * Ik ken Jan niet, maar - werkt bij ATW

'I don't know Jan, but (he) works for the Dept. of Linguistics.'

(ii) * Een ken ik niet, maar - werkt bij ATW

'Him I don't know, but (he) works for the Dept. of Linguistics.'

first clause in (19b) are also CPs, with the subject in the specifier position of CP. This leads to the conclusion that subjects can be topics as well.

Notice that nothing in the analysis of subject placement proposed in this book excludes the possibility that subjects move on to the topic position, just like objects and adjuncts do. We cannot in principle exclude the possibility that subjects occasionally have a feature [topic]. If a subject has this feature, it is forced to move to the specifier position of CP. The important point, however, is that there is also no reason to assume that subjects *always* carry a feature [topic], any more than objects and adjuncts do.

Concretely, in the second clause of (19a) and in the first clause of (19b), the subject has the feature [topic] and moves to the specifier position of CP. In that position, it can be deleted under identity with a topic in the first clause, or trigger deletion of a topic in the second clause.

There is empirical evidence that this is the correct approach. Recall that weak pronouns cannot appear in the specifier position of CP. We predict now that a construction like (19b) is impossible when the subject in the first clause is a weak pronoun (19a) with a weak pronoun triggering the deletion would be out independently, because the first clause contains a topicalization in that construction).¹⁴ This prediction is borne out:¹⁵

- (21) a. * Je werkt bij ATW, maar - ken ik verder niet
 you work at Gen.Ling but know I further not
 "You work for the Dept. of Linguistics, but I don't know (you) apart from that."
 b. * Het speelt perfect, maar - kun je nauwelijks horen
 it plays perfectly but can you hardly hear
 "It plays perfectly, but one can hardly hear (it)."

The ungrammaticality of the sentences in (21) can be related to the impossibility of having weak pronouns in the topic position. It is not clear to what extent this affects the second clause of the coordination, since the

¹⁴ Notice that in order to test this prediction, we need to select a weak pronoun that has identical subject and object forms (see section II.1.5). The 2SG and the 3SG neuter pronouns are the only candidates, therefore.

¹⁵ Pronouns generally do trigger deletion in coordinate structures, as in *Je werkt bij ATW maar - komt nooit naar de Lesingen* 'You work for the Linguistics Department, but never attend the talks' and *Het speelt perfect, maar - maakt geen geluid* 'It plays perfectly, but doesn't make a sound'. Also, a strong pronoun having but one form for subject and object, like *jullie* 2PL, you behaves like a full noun phrase, e.g. in allowing *Jullie werken bij ATW, maar - ken ik verder niet* 'You work for the Linguistics Department, but I don't know you apart from that', or *Das speelt perfect, maar - kun je nauwelijks horen* 'That (thing) plays perfectly, but you can hardly hear it'.

weak pronoun is deleted before reaching PF. But under our analysis, the sentences in (21) could only occur when the subject in the first clause occupies the specifier position of CP as well, and this is excluded when the subject is a weak pronoun (Kruisinga 1938:95, Merckens 1961:152, Koester 1978b:210, Travis 1984:123).

Summarizing, this analysis of coordinate structure deletion leads to the conclusion that subjects and topics in Dutch occupy different positions.

5.1.3 Conclusion

The hypothesis that the subject and the topic in Dutch occupy different positions in overt syntax follows from the minimalist approach, and is supported by several empirical observations.

5.2 Differences between Topicalization and Wh-Movement

In section 5.1, I have argued that topicalization and subject placement should be kept apart. Both movements are triggered by different feature checking requirements, and target different positions.

Müller and Sternefeld (1990) argue that topicalization and wh-movement should be distinguished likewise. Consequently, CP should be split up in a projection involved in wh-movement and a projection involved in topicalization (see also Müller and Sternefeld 1993, Hoekstra 1992a, Hoekstra and Zwart 1993a). In this section, I will present empirical evidence from Dutch in support of this 'split CP hypothesis'.

5.2.1 General Considerations

a. Terminology

In the literature, several types of constructions are distinguished in which arguments or adjuncts occupy a marked sentence initial position. Following Ross (1967), we may distinguish *topicalization* constructions (1) and *left dislocation* constructions (2):

- (1) a. John, I don't like
 Jan mag ik niet
 John may I not
 "John I don't like." Dutch

- (2) a. John, I don't like him
 Jan, ik mag hem niet
 John I may him not
 "John, I don't like him." Dutch

In addition to these two constructions, Dutch has a construction in which the leftmost constituent is immediately followed by a d-word:

- (3) Jan, die mag ik niet
 John that may I not
 "John, I don't like."

This construction is absent from English. Following Kosmeijer (1993), I will refer to it as *contrastive dislocation*.

Contrastive dislocation must not be confused with a fourth type of fronting, *clitic left dislocation* (Cinque 1990):

- (4) Gianni, non lo conosciamo
 John not him we-know
 "John, we don't know him." Italian

The clitic *lo* resuming the fronted element *Gianni* cannot be a tonic pronoun (Cinque 1990:56), whereas the resumptive d-word in (3) does not have the phonetic or syntactic properties of a clitic. Thus, *die* in (3) can be stressed, and can be replaced by a phrasal category:

- (5) a. Met Jan, daarmee praat ik niet
 With John therewith speak I not
 "With John, I don't speak."
 b. Jan, die z'n ouders ken ik niet
 John that his parents know I not
 "John, I don't know his parents."

Another clear difference between *lo* in (4) and *die* in (3) is that *lo* can be clause internal, whereas *die* is the first element following the fronted element. In fact, *die* looks like a fronted element itself, triggering subject verb inversion:

- (6) * Jan, die ik ken niet
 John that I know not

Other differences between clitic left dislocation and contrastive dislocation are that clitic left dislocation can take place in embedded clauses and can involve a stacking of fronted elements (see Cinque 1990:58 for examples), whereas this is impossible in contrastive dislocation (see 5.1.2.c and 5.3.3 for the status of (7b)):

- (7) a. * *...dat* Jan die ik niet ken
 that John that I not know
 b. % *...dat* Jan die ken ik niet
 that John that know I not
- (8) a. * Jan, *op school, daar die/die daar* zag ik niet
 John at school there that/that there saw I not
 b. Jan, *op school, daar* zag ik hem niet
 John at school there saw I him not
 "John, I didn't see him at school."
 c. * Jan, *op school, die zag* ik daar niet
 John at school that saw I there not

(8b) and (8c) contain a combination of contrastive dislocation and left dislocation. As can be seen, the left dislocated element appears to the left of the contrastively dislocated element.

b. Wh-movement

It is useful to compare these four types of left dislocation with wh-movement. In addition to fronting of a wh-element, wh-movement constructions characteristically show the presence of a gap, and much discussed locality conditions on the relation between the wh-element and the gap (Ross 1967, Chomsky 1977:92, Chomsky 1981, Chomsky 1986b, many others). If any of the four left dislocation constructions shows similar properties, it may be the case that covert wh-movement is involved.

It is clear that left dislocation and clitic left dislocation do not involve a gap. This suggests that these constructions cannot be reduced to wh-movement. The non-wh character of left dislocation was demonstrated in Ross (1967) and Chomsky (1977). Cinque (1990) shows the same for clitic left dislocation.¹

Topicalization and contrastive dislocation do involve a gap. In addition, they show the same locality effects on the relation between the gap and the fronted element as do wh-constructions (Chomsky 1977:91). The same goes for contrastive dislocation constructions, as can easily be shown:

¹ Cinque (1990) also shows that there are significant differences between left dislocation and clitic left dislocation, but these do not concern us here.

- (9) a. * *Wie* vertelde Piet het verhaal dat hij *t* verslagen had?
 who told Pete the story that he beaten had
 "Who did Pete tell the story that he had beaten?"
 b. * *Jan* vertelde Piet het verhaal dat hij *t* verslagen had
 John told Pete the story that he beaten had
 "John, Pete told the story that he had beaten."
 c. * *Jan, die* vertelde Piet het verhaal dat hij *t* verslagen had
 John that told Pete the story that he beaten had
 "John, Pete told the story that he had beaten."

In (9a), there is an object gap in the object noun phrase inside the embedded clause, which cannot be related to the leftmost wh-element *wie* 'who' on standard locality conditions (cf. Ross 1967). Apparently, the same effect shows up in the contrastive dislocation construction in (9c).

Likewise, wh-movement, topicalization, and contrastive dislocation are all unbounded:

- (10) a. *Wie* dacht je dat Piet zei dat hij gezien had?
 who thought you that Pete said that he seen had
 "Who did you think Pete said he saw?"
 b. *Jan* dacht ik dat Piet zei dat hij gezien had
 John thought I that Pete said that he seen had
 "John, I thought Pete said he saw."
 c. *Jan, die* dacht ik dat Piet zei dat hij gezien had
 John that thought I that Pete said that he seen had
 "John, I thought Pete said he saw."

It is assumed that in (10a) the wh-element *wie* moves through the specifier positions of the embedded CPs to the specifier position of the root CP, in a successive cyclic manner (Chomsky 1973; see section 1.3.1 for a modification of successive cyclic movement in a minimalist framework). Again, topicalizations and contrastive dislocations appear to behave in the same way.

For these reasons, Chomsky (1977:91) assumes that topicalization involves wh-movement. This leads to the following structure for (1a):

- (11) [_{CP} John [_{CP} *Wie* [_{CP} I *t*]]]

Wh-movement in English triggers subject verb inversion, except in embedded clauses (including relative clauses). Chomsky assumes that the CP in (11) is a kind of free relative. This would explain the absence of inversion in topicalization constructions. On this analysis, (1a) could be paraphrased as (12a). As (12b) shows, free relatives display no subject verb inversion:

- (12) a. John (is who) I don't like
 b. Who I don't like is John

However, if this is correct, topicalizations in Dutch (1b) should not show inversion either. (13a) is a free relative paraphrase of topicalization in Dutch, and (13b) a standard free relative construction in Dutch:

- (13) a. Jan (is wie) ik niet mag
 John is who I not may
 "John (is who) I don't like."
 b. Wie ik niet mag, is Jan
 who I not may is John
 "Who I don't like is John."

As can be seen, the constructions in (13) show no inversion, contrary to the topicalization construction in (1b) (*Jan mag ik niet*). It is difficult, then, to derive topicalization in Dutch from a free relative, in the way Chomsky proposes for English.

The Dutch evidence, then, suggests that (11) is not a completely correct analysis of topicalization. In particular, the empty element moved to the specifier position of CP cannot be a Wh-element.

This is not to say that the *structure* in (11) is inappropriate. It may well be the case that there is movement of an empty element inside CP, and that the topic is adjoined to CP (cf. II.2.3 and section 5.1.2.c). Only, the empty element cannot be a wh-element. Rather, if it exists, it must be an element that triggers inversion in Dutch, but not in English.

c. **Unifying Topicalization and Contrastive Dislocation**
 Kosmijer (1993:132) argues that topicalization and contrastive dislocation in Dutch are structurally similar. That is, both (1b) and (2b) have the structure in (11), where the element in the specifier position of CP is not a wh-word but a possibly covert d-word.²

(14) [_{CP} Jan [_{CP} (*die*) mag [_{CP} ik niet]]]

I will adopt this analysis, for the following reasons.

First, it is not clear that (1b) and (2b) have different properties. In the absence of evidence to the contrary, we want to reduce the two constructions to one type.

It is true that not all topicalization constructions allow insertion of a d-word, and that in not all contrastive dislocation constructions the d-word

² In (14), the topic is Chomsky-adjoined to CP instead of generated in a CP-external Top position. The distinction is irrelevant for our concerns. Recall that adjunction of the topic to CP is allowed by the LCA of Kayne 1993 if the results of section 1.3.3 are correct.

can be omitted. Thus, quantified noun phrases, personal pronouns, and anaphors in topic position do not allow insertion of a d-word:

- (15) a. Iedereen (*die*) ken ik
 Everyone that know I
 "Everyone, I know."
 b. Hem (*die*) ken ik
 him that know I
 "Him, I know."
 c. Zichzelf (*die*) herkent Jan niet
 SE-self that recognizes John not
 "Himself, John doesn't recognize."

On the other hand, when the topic is associated with a PP-internal gap, there must be a d-word:³

- (16) a. Jan ??(dmar) houd ik niet van
 John there hold I not of
 "John, I don't love."
 b. * Jan die houd ik niet van
 John that hold I not of

As (16b) shows, the d-word in this case must have the feature [+R]; only elements carrying this feature can be moved out of the PP in Dutch (Van Riemsdijk 1978).

The obligatory presence of a d-word in (16a) is obviously related to this restriction on extraction out of PP. We may assume that in order to interpret (16a) correctly, the [+R] feature must be overtly realized.⁴ [This does not exclude the possibility that in other contexts, the d-word is covertly present.]

As for the obligatory absence of the d-word in the sentences in (15), I assume that that is the result of a feature matching requirement between the overt d-word and the topic. As observed in Lasnik and Uriagereka

³ Quite possibly, however, the presence of a d-word in these constructions is not grammatically enforced but stylistically preferred (cf. Jansen 1981).

⁴ An exception to the rule that the [+R] feature must be overtly realized is presented by so-called topic drop constructions (Cardinaletti 1990), as in (17):

- (17) (Dmar) houd ik niet van
 there hold I not of
 "There I don't love."

Other exceptions involve infinitival relatives and *ough*-constructions (*kennd om van te houden* [someone comp of to hold 'someone to love']), and infinitival imperatives (*niet over praten* [not to talk] 'don't talk about that'; cf. Dea Dikken 1992b). See Jansen (1981) for a discussion of preposition stranding constructions in spoken Dutch involving extraction of non-[-R] elements.

1988:157), in topicalization constructions the features of the gap must match the features of the topic. For example, if the topic is an anaphor, the gap must also be interpreted as having the features of an anaphor:

- (17) *Zietzelf* ziet Jan niet *t*
 SE-self sees John not
 "John does not see himself."

Likewise if the topic is a pronoun:

- (18) a. * *Hem* ziet Jan, niet *t*
 him sees John not
 "Him, John doesn't see."
 b. *Hem* wil Jan, niet dat Marie ziet *t*,
 him wants John not that Marie sees
 "Him, John doesn't want Mary to see."

In (18a) the pronoun *hem* 'him' cannot be interpreted as being coreferential with the subject *Jan*, but in (18b) it can. Apparently, the gap indicated by *t* functions as a pronoun for Principle B of the Binding Theory (Chomsky 1981).

An overt d-word cannot be used as a (non-demonstrative) personal pronoun, as the following examples suggest:

- (19) a. *Ik* ken hem/*die
 I know him/that one
 b. *Ik* praat over hem/*die
 I talk about him/that one

Thus, it cannot be used to resume a pronominal topic, as in (15b). I assume that something similar excludes (15c).⁶

As for (15a), I assume that overt *die* would not match the semantic features of *iedereen* 'everyone'. (15a) differs minimally from (20), where a d-word is allowed:

⁶ D-words with the feature [+R] can resume R-expressions, pronouns, and anaphors. Apparently, these d-words have features that match with all these categories. The relevant examples show that pronouns and anaphors are not in principle incompatible with resumptive d-words:

- (i) *Piechens/zichzelf*, daar praat Jan niet over
 Piechens/self there talks John not about

- (20) a. *Alle sprekers die kende ik*
 All speakers that knew I
 "I knew all speakers."
 b. *Iedereen in de tuin die kende ik*
 Everyone in the garden that knew I
 "I knew everyone in the garden."

It seems that as soon as the quantified noun phrase refers to a subset of a well known set, or to the individual members of such a subset, a resumptive d-word is allowed. Apparently, a quantified noun phrase can only be resumed by a d-word if its interpretation is linked to the discourse (*D-linked*, cf. Pesetsky 1987).

This effect is also apparent in the pair in (21):

- (21) a. ?? *Overal daar zit paardehaar*
 everywhere there sits horse-hair
 "There's horse hair everywhere."
 b. *Overal waar je kijkt daar zit paardehaar*
 everywhere where you look there sits horse-hair
 "There's horse hair everywhere you look."

The d-word is inappropriate unless the quantified expression *overal* 'everywhere' is D-linked by the restrictive relative clause.⁷

Again, this is a generalization concerning the presence of an overt d-word. I assume that an empty d-word with the appropriate semantic features is still present in sentences like (15a), on a par with (20) and (21b). Since the availability of an overt d-word can be expressed in semantic terms, there is no need to conclude that (15a) has a completely different structure in exactly these cases.⁷

In sum, there does not seem to be a structural difference between (1b) and (2b).

⁶ E. Hoekstra (1991:34) notes that quantified subjects can easily be combined with a resumptive d-word. However, in all the relevant cases the interpretation of the quantified noun phrase is fixed by the discourse, as in (ia). If this is not the case, the d-word becomes impossible again (ib):

- (i) a. *Iedereen die was er*
 everyone that was there
 "Everyone (who was supposed to be there) was present."
 b. * *Iedereen die in wettelijk*
 everyone that is moral
 "Everyone (all human beings) is moral."

⁷ Koster (1973a:207) notes the fact that sentential adverbs like *waarschijnlijk* 'probably' cannot be resumed by a d-word. I assume that in these cases too there is a mismatch between the semantic properties of the adverb and the overt d-word, and that a null d-word with the required properties is present in the specifier position of CP.

A second argument for reducing topicalization to contrastive dislocation is based on 'VP preposing' (cf. Haider 1990). In the constructions referred to as VP preposing, the topic is a verbal projection, not necessarily a complete VP, but possibly also including some functional projections. The relevant aspect of this type of construction here is that the VP topic cannot always be reconstructed without yielding an ungrammatical construction:

- (22) a. *Boeken lezen (dat) doet Jan niet*
 books read that does John not
 "John does not read books."
 b. * *Jan doet niet boeken lezen*
 John does not books read
 c. *Jan leest geen boeken*
 John reads no books
 d. *Jan doet dat niet*
 John does that not
 "John doesn't do that."

In (22a), the d-word *dat* is apparently optional. Suppose that when it is absent, the VP *boeken lezen* is not base generated outside CP, but moved to the specifier position of CP, leaving a gap. Then we expect that the VP can be replaced in the position of the gap. As (22b) shows, this is impossible.³ The correct non-topicalized variant of (22a) (without the d-word) would be (22c), but (22a) and (22c) are presumably not derivationally related.

This suggests that the gap in (22a), with or without the d-word, is not left behind by movement of the VP *boeken lezen*. Therefore, the gap must be created by moving something else. When the d-word is present in (22a), i.e. in the contrastive dislocation configuration, the d-word is the obvious candidate for creating the gap by moving to the specifier position of CP. As (22d) shows, the d-word can be replaced in the position of the gap without problems. The null hypothesis, then, is that the same movement operation takes place when the d-word is not overtly present.

A third argument supporting the reduction of topicalization to contrastive dislocation is provided by the following paradigm.

³ In some dialects, e.g. Embanish, modal *doen* 'do' can appear as a matrix verb. In those dialects, however, (22b) would still not be a correct construction, as the combination of the negative element *niet* 'not' and a bare plural noun phrase always yields a noun phrase with the determiner *geen* 'no', as in (22c).

- (23) a. *?Dat/of Jan LCB gelezen heeft (dat) vraag ik me af*
 that/if John LCB read has that ask I me off
 "I wonder whether John has read LCB."
 b. *Ik vraag me af "dat/of Jan LCB gelezen heeft"*
 I wonder that/if John LCB read has
 c. *Ik vraag me dat af*
 I ask me that off
 "I wonder about that."

Verbs like *zich afvragen* 'wonder' take as their complement a noun phrase (23c) or an embedded interrogative (23b). A CP introduced by *dat* 'that' is ungrammatical in the complement of *zich afvragen*, but is (nearly) grammatical in the topic position (23a). For the interpretation of (23a), the presence of the d-word *dat* is completely irrelevant. Importantly, the topic CP *dat Jan het boek gelezen heeft* in (23a) does not have a presuppositional reading. It is not necessarily the case, in (23a), that John actually read LCB, and that I wonder about something that actually took place; I wonder *whether* it took place.

Again, this incompatibility of the topicalized construction and the non-topicalized construction can only be explained if the topic is base generated outside the CP, and the gap is related to a, possibly empty, d-word.

A similar argument can be construed on the basis of the following paradigm, pointed out to me by Marcel den Dikken:

- (24) a. *Marie (te) kussen (dat) zou ik nooit durven proberen*
 Mary to kiss that would I never dare try
 "I would never dare to try to kiss Mary."
 b. *Ik zou nooit durven proberen Marie "(te) kussen*
 I would never dare try Mary to kiss
 "I would never dare try to kiss Mary."
 c. *Ik zou dat nooit durven proberen*
 I would that never dare try
 "I would never dare to try that."

Proberen 'try' selects either an infinitival complement with *te* (24b) or a noun phrase complement (24c). In the fronted infinitival construction in (24a), *te* is optional. As (24b) shows, reconstruction of the fronted infinitival construction without *te* is impossible. Hence, it must be that (24a) is derived from (24c) by topicalization of a possibly empty d-word, and that the infinitival construction in (24a), with or without *te*, is base-generated in a left-peripheral position.

For these reasons, I assume that topicalization reduces to contrastive dislocation. Hence, I will refer to both constructions indiscriminately as *topicalization*.

I will assume that topicalization in English also has a contrastive dislocation structure, as envisaged in Chomsky (1977), but I will leave this as a subject for further research.

d. Towards a Split CP

We have seen that topicalization is characterized by movement of a possibly empty d-element to the front of the sentence. This d-element triggers subject verb inversion in Dutch, but not in English. Wh-movement triggers subject verb inversion in both Dutch and English. Therefore, the movement of the d-element (*d-movement*) cannot be an instance of wh-movement (contra Weerman 1989:52).

If d-movement and wh-movement are not the same, we must distinguish between a feature triggering wh-movement and a feature triggering d-movement. Movement, then, takes place to eliminate the wh-feature or the d-feature. The d-feature is the [topic] feature mentioned in section 5.1.

If there are two different features involved in wh-movement and topicalization (d-movement), it is in the spirit of the Minimalist Program to locate these features in distinct functional heads. This means that the traditional CP must be split into a projection for wh-elements (WhP) and a projection for topics (TopP), where Wh hosts the [wh] feature, and Top the [d] feature (or [topic] feature).

In section 5.2.2, I will argue that various phenomena of Dutch syntax support such a split.

5.2.2 Evidence for the WhP-TopP Structure⁹

a. Double Complementizers

Dutch has two complementizers for tensed embedded clauses: *of* and *dat*.¹⁰ *Of* is used in embedded interrogatives, and *dat* in embedded affirmatives:

⁹ This section results from joint work with Eric Hoekstra. Many ideas expressed here are also found in Hoekstra (1992a) and Hoekstra and Zwart (1993a).

¹⁰ In addition, Dutch has the complementizer *als* for embedded conditionals. See De Rooij (1985a) for use of *als/dat* in nonconditional complement clauses.

- (25) a. Ik vraag of^adat Jan het gedaan heeft
I ask if^athat John it done has
"I'm asking whether John did it."
b. Ik vraag wat of^adat Jan gedaan heeft
I ask what if^athat John done has
"I'm asking what John did."
c. Ik beweër dat^a/of Jan het gedaan heeft
I claim that/if John it done has
"I claim that John did it."

The complementizer *of* can always be expanded to *of/dat*, but the complementizer *dat* cannot:

- (26) a. Ik vraag of^adat Jan het gedaan heeft
"I'm asking whether John did it."
b. Ik vraag wat of^adat Jan gedaan heeft
"I'm asking what John did."
c. * Ik beweër of^adat Jan het gedaan heeft
"I claim that John did it."

Hence, *of* and *dat* are not in complementary distribution. Rather, these facts suggest that *of* signals the presence of an additional CP layer on top of the CP headed by *dat*.

The nature of the additional CP layer introduced by *of* can be clearly established. *Of* only appears in the complement of verbs selecting an embedded interrogative. We may assume that *of* heads its own projection, and that this projection is the canonical structural realization of an interrogative argument.¹¹ Let us call this projection *of* Wh Phrase (WhP), following Müller and Sternefeld (1993), Hoekstra (1992a).¹²

We can now understand that some verbs (like *vragen* 'ask') require a complement headed by *of*, and others (like *beweeren* 'claim') do not allow a complement headed by *of*.¹³ For the latter class of verbs, we must assume that *dat* also heads its own projection, the canonical structural

¹¹ See Chomsky 1986a:86f and references cited there for the notion 'canonical structural realization'.

¹² This use of the term WhP is not to be confused with the use of this term in Culicover (1991), where WhP is an XP wh-element which moves to the specifier position of a Polarity Phrase, the head of which can be occupied by a wh-element or a Negation element. Terminology aside, our approach is largely compatible with the one put forward in Culicover 1991.

¹³ Some verbs, e.g. *weten* 'know', can have a complement headed by *of* as well as a complement headed by *dat*, and the interpretation of the complement varies accordingly, like in English *I know that he did it* versus *I know whether he did it* (or *not*).

realization of embedded assertions. Let us call this projection 'Topic Phrase' (TopP), again following Hoekstra (1992a).¹⁴

As (26a,b) show, the TopP appears in the complement of the WhP. (25a,b) show that when the embedded clause is a WhP, the TopP may be absent, or may have an empty head (an issue I will not try to resolve here).

Hoekstra (1992a) presents an empirical argument supporting the existence of two independent complementizers in Dutch, each heading its own projection. This argument is based on coordination.

If *ofdat* in (26a,b) were a complex complementizer, heading an undivided CP, we would not expect this complementizer to be split up under coordination. Hoekstra shows that complex complementizers like *omdat* 'because' (literally 'for-that') behave as predicted:

- (27) a. * Dat is grappig omdat Hardy dik is en dat Laurel dun is
That is funny because Hardy fat is and that Laurel skinny is
b. *omdat* Hardy dik is en *omdat* Laurel dun is
because Hardy fat is and because Laurel skinny is
"That's funny, because Hardy is fat and (because) Laurel is skinny."

However, *ofdat* can be split under coordination:

- (28) Ik vraag ofdat Hardy dik is en ofdat Laurel dun is
I ask if that Hardy fat is and that Laurel skinny is
"I'm asking whether Hardy is fat and Laurel skinny."

Hoekstra argues that in (28) two WhPs are coordinated when the second clause is introduced by *ofdat*. Likewise, when the second clause is introduced by *dat* it must be the case that two CPs are coordinated. This shows that *of* and *dat* head separate functional projections.

b. Long Distance Extraction

The distinction between WhP and TopP is also needed to account for differences between long distance wh-movement and long distance topicalization (Hoekstra and Zwart 1992, 1993a).

First, consider the following contrast:

¹⁴ The reason for choosing this term will become apparent in subsection b of this section.

- (29) a. Ik denk dat*of(dat) Jan Marie gekust heeft
I think that/if(that) John Mary kissed has
"I think that John kissed Mary."
b. Wie denk je dat/of(dat) Jan gekust heeft
who think you that/if(that) John kissed has
"Who do you think that John kissed?"

Of and *ofdat* are out in (29a). This is understandable, since *dereken* 'think' does not take an interrogative argument. However, in (29b) *of* and *ofdat* are possible.¹⁵ Apparently, this is related to the process of wh-movement out of the embedded clause.

In the traditional approach to movement, involving a requirement that steps be as short as possible, long distance movement takes place in a successive cyclic manner (Chomsky 1973). In this approach, wh-elements must first move to an intermediate landing site, and then move on to the next cycle. Assuming this analysis, the fact that the wh-complementizer *of* becomes available in (29b) suggests that the intermediate landing site must be the specifier position of a WhP.

Notice that this traditional approach yields a problem if we assume that elements that have their features checked can no longer move on (section 1.2.3). If a wh-element moves to the specifier position of a WhP (or CP, for that matter), it can only do so if its morphological features are checked as a result of this particular movement step. If so, further movement of the wh-element is not allowed, since its wh-features are already checked, and no trigger for movement exists anymore.

This supports the view on long distance movement explored in section 1.3.1. According to this view, the shortest steps requirement does not exist. Hence, wh-elements are allowed to move as far as is necessary. However, the structure resulting from the movement must also be interpretable. In particular, it must be possible to link the trace to its antecedent, the moved wh-element. I assumed that this is where the chain formation process comes in. Since the links connecting the trace and its antecedent must be local, intermediate empty wh-elements are needed in order to make a felicitous interpretation possible. For this reason, an empty wh-element must be generated in each cycle, by way of generalized transformations. This empty element will serve as the link between the trace and its antecedent in long distance movement constructions.

On this analysis, the fact that *of* becomes available in (29b) suggests that the intermediate element must be of a particular type. This is

¹⁵ There is a distinct preference for *ofdat* to *of*, though.

explained if we assume that a chain must be internally consistent (cf. Browning 1987:231, Müller and Sternefeld 1993):¹⁵

- (30) *Uniformity Condition on Chains*
In a chain CH (cf. (29)), $\lambda_{i,1}$, where d has feature ϕ , every c^i , $\lambda_{i,2}$, must have ϕ

According to (30), the intermediate empty element in a long distance wh-movement construction must be a wh-element. Hence, this element must be generated in the specifier position of a WhP. This is explained if the Wh in the embedded clause has strong N-features which must be checked by generating a wh-element in its specifier position.

The traditional analysis and the Form Chain analysis both lead to the same conclusion: the intermediate element in long distance wh-movement constructions must occupy the specifier position of a WhP. This yields the following structure of (29b):¹⁷

- (29b) $[_{WhP} \text{Wie}_i \dots [_{WhP} \phi_i \text{of}] [_{whP} \dots (\text{dat}) \dots t_i]]]$

In (29b), *of* is apparently optionally present, even though WhP must always be present in order to host the empty intermediate wh-element. The optionality of *of* is also apparent when the specifier position of WhP is occupied by an overt wh-expression, as in (31)(cf. (25b)):

- (31) Ik vraag wat (of) Jan gedaan heeft
I ask what if John done has
'I'm asking what John did.'

In this analysis, the specifier position of the WhP is the designated position for all wh-elements: empty operators (25a), wh-phrases (25b), and empty intermediate wh-elements (29b).

Consider now long distance topicalization with *derkennen*. Here, introduction of *of* is never possible:

¹⁵ The uniformity condition cannot apply to chains resulting from independent functional head movement, since we assumed that the features of functional heads are represented in as few positions in the chain as possible. I take the uniformity condition to be a condition on interpretation, not on representation.

¹⁷ (29b) does not express the fact that either *of* or *dat* must be present. If neither is present, verb movement takes place, yielding *Wie dènk je heeft Jan gekust* 'who think you has John kissed' (cf. the *er-lette rede* construction in II.1.2.1).

- (32) Marie (die) denk ik dat*of(dat) Jan gekust heeft
Mary that think I that/if(that) John kissed has
'Mary, I think John kissed.'

Topicalization, we concluded in section 5.2.1, involves base generation of a topic and fronting of a d-word. Assuming that long distance movement of this d-word, like wh-movement, proceeds in the same way as discussed above for long distance wh-movement (keeping the results of Chomsky 1977), there must be an intermediate empty d-word somewhere in the CP system of the embedded clause.

The fact that *of/dat* in this case is impossible indicates that the intermediate landing site cannot be the specifier position of WhP. Thus, we must assume that *dat* makes a different kind of specifier position available, in accordance with the Uniformity Condition on chains (30). This leads to the following analysis of (32):

- (32) $[_{whP} \text{Marie} [_{whP} (\text{dat}) \dots [_{whP} \phi_i \text{dat}]_{whP} \dots t_i]]]$

In (32), the d-word moves to the specifier position of the matrix TopP, and is linked with its trace through the intermediate empty element in the specifier position of the embedded TopP. This intermediate empty element, I assume, is generated in the embedded TopP in order to check the N-features of Top.

We may now consider the specifier position of TopP as the designated position for the d-words involved in topicalization, and for the empty elements in chains headed by a d-word. Hence, the term Topic Phrase for the maximal projection of the complementizer *dat*.¹⁸

We are now in a position to understand the differences between topicalization and wh-movement described in section 5.2.1. The two processes involve different kinds of movement (d-movement and wh-movement). These two movement processes target different positions and employ different intermediate positions, as the complementizer selection facts show.

c. Parametric variation

If topicalization and wh-movement target different positions, different features must be involved. Recall that parametric variation is expressed in terms of the strength of the morphological features represented in functional heads. Therefore, if topicalization and wh-movement involve different features, we expect that the features involved in topicalization can change from weak to strong independently of the specification of the

¹⁸ 'D-word Phrase' might be more appropriate, but 'DP' is reserved for the Determiner Phrase (Abney 1987).

features involved in wh-movement, and *vice versa*. In other words, we expect synchronic and diachronic variation in topicalization and wh-movement to be independent.

This prediction is borne out by the facts. In present day Standard Dutch, both topicalization and wh-movement involve subject-verb inversion. However, in many languages subject-verb inversion takes place in wh-movement constructions only. English is a case in point.¹⁹

- (33) a. Who are you?
b. * Who you are?

- (34) a. Pan you are
b. * Pan are you

This can be accounted for if there are two different functional heads involved in topicalization and wh-movement, each with an independent parameter setting triggering or prohibiting verb movement.

Diachronic data point in the same direction. In older stages of Dutch and German, wh-movement consistently triggers inversion, whereas topicalization does not do so consistently. Thus, we find examples like (35) in Middle Dutch (Van der Horst 1981:40):

- (35) a. Also Joseph reet Maria ghinc
when Joseph rode Mary went
"When Joseph was riding, Mary would walk."
b. Doen Eleqast quam in des conincs sale hi seide...
When Eleqast came into the king's hall he said

On the other hand, wh-movement always triggers inversion in main clauses.

A similar discrepancy between topicalizations and wh-constructions is found in Old English (Van Kemenade 1987:196f, Tomaselli 1990). Here, clitics may intervene between a topic and the finite verb, but not between a wh-element and the finite verb.²⁰ This leads Tomaselli (1990) to

¹⁹ Constructions like *So in love with you am I* appear to involve both topicalization and subject-verb inversion. However, I will follow Culicover 1991 in assuming that this type of construction involves movement to the specifier position of a functional projection situated between the CP system and the Agr-system (Culicover's *Polarity Phrase*). Culicover shows that movement to this position is quite different from topicalization. I do not follow his conclusion that topicalization does not involve movement to a specifier position.

²⁰ Full noun phrase subjects, unlike clitics, do not appear between the topic and the verb. This suggests that some inversion process is going on in topicalizations in Old English, but that it differs from the inversion in wh-constructions in not skipping the clitic. Van Kemenade (1987:198) reports that the difference in behavior between subject clitics and full

(continued...)

conjecture that verb movement in cases of wh-movement is triggered by something "stronger" than in cases of topicalization. This suggests that different features, hence different heads, are involved in the two cases.

Finally, the same parametric variation occurs synchronically among dialects of Dutch, in particular in French Flemish and West Flemish dialects (Vercoullie 1985, Vanacker 1968, Hoekstra 1992a). Again, topicalization does not necessarily trigger inversion, but wh-movement does.²¹ Thus, constructions like the following are found:

- (36) a. Bijgevolg er kwamen geene inschrijvingen West Flemish
as a result there came no subscriptions
"As a result, no subscriptions came in."
b. Eteke vizeen me ziemi fele gimeer ultern French Flemish
pale calves we see-not many anymore here
"We don't see many pale calves around here anymore."

Wh-constructions without subject-verb inversion are absent in these dialects, just like in Standard Dutch.

These facts show that different features are involved in topicalization and wh-movement. Accordingly, these features must be represented in different functional heads.

d. Island violations.

Müller and Sternefeld (1993) argue that long distance topicalization and long distance wh-movement employ different intermediate landing sites. The intermediate landing site for wh-movement is the specifier position of the embedded WhP, and the intermediate landing site for topicalization is the specifier of the embedded TopP.²²

Suppose the specifier position of the embedded WhP is occupied, creating a wh-island. Long distance wh-movement is now predicted to be ungrammatical (ranging from impossible, in the case of adjunct wh-movement, to marginal, in the case of object wh-movement, cf. Lasnik and Saito 1984, Chomsky 1986b, Cinque 1990). What about topicalization? Long distance topicalization has its own intermediate landing site, the

²¹ (...continued)

noun phrase subjects disappeared in the second half of the 14th century. Van Kemenade (1987:200) notes that object clitics may also intervene between the topic and the verb in Old English. I refer to her work for discussion of the facts and the issues involved.

²² Vercoullie (1985:47) remarks that the order Topic-Subject-Verb is the most common one in the West Flemish dialect he reports on.

²³ Müller and Sternefeld (1993) use 'CP' for 'WhP' and 'TP' for 'TopP'. In their analysis, the designated intermediate landing sites follow from a theory of improper movement. In the Form Chain approach, improper movement reduces to the uniformity condition on chain formation.

specifier position of TopP. We therefore expect topicalization out of a wh-island to have a different status than wh-movement out of a wh-island.

As Müller and Sternefeld (1993:494) show, certain facts of German appear to confirm this expectation. The following paradigm is quoted from Fanselow (1991:225):²²

- (37) a. Radios kann ich mich nicht erinnern wer repariert hat
radios can I me-REFL not recall who repaired has
"Radio's, I don't recall who repaired (them)."
b. * Was kannst du dich nicht erinnern wer repariert hat?
what can you you-REFL not recall who repaired has
"What don't you recall who repaired (them)?"

However, since Cinque (1990) has argued that object extraction facts are unreliable, we need to consider topicalization of adjuncts and prepositional objects as well. The following facts are from Dutch:

- (38) a. Morgen weet ik hoe laat ik kan
tomorrow know I how late I can
"I know what time tomorrow I'm available."
b. * Wanneer weet je hoe laat je kunt?
when know you how late you can
"When do you know what time you are available?"

In the intended reading of (38a), *morgen* 'tomorrow' belongs to the embedded clause, restricting the interpretation of the embedded wh-phrase *hoe laat* 'what time'. This shows that topicalization out of an embedded interrogative is possible. (38b) shows the familiar wh-island effect on adjunct wh-movement, again under the intended interpretation where *wanneer* 'when' belongs in the embedded clause.

Prepositional object movement shows the same asymmetry:

- (39) a. Daaraan weet ik hoe vaak Jan denkt
thereon know I how often John thinks
"I know how often John thinks of that."
b. * Waarvan weet je hoe vaak Jan denkt?
whereon know you how often John thinks
"Of what do you know how often John thinks?"

Again, the wh-island configuration appears not to block topicalization.

If we remove the wh-element in the embedded clauses in (38) and (39), the wh-movement cases improve considerably, but the status of the topicalization cases does not seem to be affected. This supports the idea

²² Fanselow (loc.cit.) remarks that others assign a question mark to sentences like (37a), and that (37b) becomes better as an echo question.

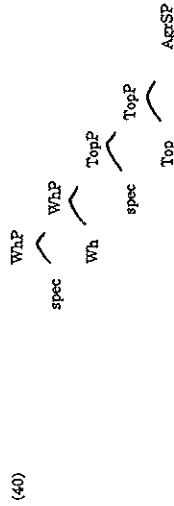
that long distance topicalization makes use of a different intermediate position for chain formation than does long distance wh-movement.²³

e. Conclusion

In this section I have discussed several phenomena of Dutch syntax which show that different features are involved in wh-movement and topicalization. The minimalist assumption that different features are represented in different functional heads accounts for many properties of these phenomena, including the existence of double complementizers, the distribution of the complementizers in long distance extraction constructions, the parametric variation that exists, both diachronically and synchronically, and the absence of wh-island effects in long distance topicalization. In view of this, it seems appropriate to conclude that topics and wh-elements are licensed in separate functional projections.

5.2.3 Conclusion

The general considerations and empirical observations discussed in this section support the structure of the CP-system proposed in (1), repeated here:



In (40), the spec position of WhP is the designated position for checking the N-features of Wh, associated with the [wh] features on wh-elements. The spec position of TopP is the designated position for checking the N-features of Top, associated with the [topic] feature on the empty

²³ Many questions remain, however. First, the classical wh-island effect on topicalization (Chomsky 1977:91, this book, *I wonder who likes*) is now an anomaly. Second, Müller and Sternefeld (1993) argue that adjunct topicalization out of a wh-island in German is ungrammatical, contrary to what we found for Dutch. Other facts from German however, involving indirect object topicalization out of a wh-island, are compatible with the Dutch facts. Also, some speakers of Dutch consider (38a) and (39a) less than perfect, although the relative judgments are clear. I will leave the explanation of the absolute judgments a subject for further study.

resumptive d-word. Topic phrases are adjoined to the TopP Segment (which, for independent reasons, is impossible if the CP-system is a full WhP). The subject is licensed outside of the CP-system, in the specifier position of AgrSP.

This analysis argues against the traditional approach to Dutch syntax, in which all verb second phenomena are subsumed under movement to C. This analysis now turns out to be insufficient even for wh-movement and topicalization, since these movement processes are seen to target different positions.

The analysis further supports the main point argued for in this chapter, namely that the functional projections in Dutch are all head initial.

In the final subsection, I will propose a minimalist analysis of verb movement to the head positions of Top and Wh.

5.3 A Minimalist Account of Topicalization and Wh-Movement

This section contains an analysis of topicalization and wh-movement in minimalist terms. The distinction between L-related projections and nonL-related projections, introduced by Chomsky in class lectures (see Mahajan 1990:10, Chomsky and Lasnik 1991:37), is crucial in understanding the properties of these constructions. This leads to the conclusion that Wh and Top, being nonL-related, do not have a V-feature that must be checked against features of the verb. Section 5.3.1 briefly summarizes the analysis of nonL-related XP-movement (i.e., topicalization and wh-movement) that has been developed in section 5.2. NonL-related XP-movement and L-related XP-movement differ crucially in that the former, but not the latter, may be unbounded (assuming the Form Chain approach to unbounded movement). In section 5.3.2, head movement of the verb to Top and Wh is analyzed. Since this verb movement cannot be triggered by the presence of a V-feature in Top and Wh, the V-feature triggering verb movement must reside in a functional head which has undergone independent functional head movement to Wh or Top. Finally, in section 5.3.3, the properties of embedded verb movement constructions in Dutch are briefly discussed.

5.3.1 NonL-Related XP-Movement

Among the many phrasal positions in a syntactic tree structure, a natural distinction can be made between positions in which arguments are generated and all other positions. The former are called *θ-positions* in the Government and Binding framework (Chomsky 1981). In that framework,

it was assumed that the subject of a clause is generated in the specifier position of IP. It was supposed to receive its θ -role compositionally, from VP. However, the specifier position of IP could not generally be characterized as a θ -position, in view of the fact that unaccusative verbs do not assign an external θ -role. Nevertheless, it seemed appropriate to group this structural subject position together with the structural object position, the sister of V. For this reason, the specifier of IP was defined as a *potential θ -position*, and, as potential θ -positions, the structural subject and object position were grouped together as *A'-positions*. The residual XP positions were called *A'-positions*.

In the Government and Binding framework, the only A-position in the functional domain was the specifier position of IP. However, as the number of functional projections increased, so did the number of A-positions in the functional domain. For instance, Vanden Wyngaerd (1989a) and Mahajan (1990) clearly showed that the specifier position of AgrOP has the properties of A-positions. But this position could not be defined as a potential θ -position. In addition, many have argued that the specifier position of AgrSP or TP should not be regarded as a potential θ -position either, assuming that the subject θ -role is assigned to the specifier position of VP, or to a position adjoined to VP (Rigter and Beukema 1985, Kitagawa 1986, Sportiche 1988, Koopman and Sportiche 1991). These developments undermine the A/A' distinction, and lead to a distinction between θ -positions (in the lexical domain) and non θ -positions (in the functional domain).

Nonetheless, there are clear differences among two types of non θ -positions. In the Government and Binding framework, these two types are most clearly represented by the specifier of IP on the one hand, and the specifier of CP on the other.

Intuitively, the two sets of non θ -positions can be distinguished in the following way. In every clause, whenever there is a verb, there must be at least one argument. For the derivation of a clause to be convergent, the arguments of the verb have to be licensed. A licensing position in the functional domain for each argument of the verb is therefore an essential part of every clause. I will call the set of licensing positions the existence of which derives from the very presence of a lexical head *L-related*, following Chomsky and Lasnik (1991:37). The specifier positions in the IP system (AgrSP, AgrOP, TP) are L-related positions. The specifier positions in the CP system have a different status. Clauses can very well receive a convergent derivation without the presence of a TopP or WhP. It is a particular feature of the clause as a whole, rather than a property of the lexical head of the clause (the verb) that requires the presence of these functional projections. I will therefore call the positions in the CP system *nonL-related* (again following Chomsky and Lasnik 1991).

The distinction between L-related positions and nonL-related positions captures the older distinction between A-positions and A'-positions.¹ Notice that it would be insufficient to redefine the set of A-positions in terms of agreement with a functional head, since an element in the specifier position of WhP or TopP is in agreement with Wh or Top, just like an element in the specifier position of AgrSP is in agreement with AgrS (cf. Rizzi 1990b).

Much of the structure of the functional domain follows from the distinction between L-related features and nonL-related features. The former are essential, the latter additional. The former are related to properties of the verb, the latter to properties of the clause as a whole. Assuming that the essential features are checked before the additional ones, it follows that L-related features must be checked before nonL-related features. Hence, the CP system must be situated outside the IP system.

It also follows that movement from a nonL-related position to an L-related position is impossible. All L-related features are already checked before movement to a nonL-related position takes place. Hence, movement back to an L-related position is never triggered, hence not allowed. This covers most of the 'improper movement' phenomena discussed in the literature.

In the previous sections, all checking operations took place in L-related positions. In this section, we have to focus on checking operations taking place in nonL-related positions. NonL-related checking operations differ in certain important respects from L-related checking operations, a crucial difference being the unboundedness of nonL-related XP-movement.

The unboundedness of nonL-related XP-movement has been discussed in section 5.2. I argued there that long distance wh-movement and long distance topicalization involves movement of a wh-element or topic (actually, a d-word) to the specifier position of the matrix clause in one step. This derivation violates the shortest steps requirement of economy of derivation. However, I have argued in section I.3.1 that the shortest steps requirement is a superfluous element in the Minimalist Program. Movement in one swoop does satisfy the fewest steps requirement of economy of representation (cf. Chomsky 1992:21).

I assumed that traces are interpreted by virtue of the existence of a chain linking the trace with its antecedent. The links of this chain must be local (cf. Koster 1987). If the links are not local, as happens in wh-

¹ The existence of θ -positions also derives directly from the presence of a verb and from the properties of the verb involved. Therefore, we can take the distinction between L-related positions and nonL-related positions to be basic, and divide the set of L-related positions into θ -positions and non θ -positions.

island configurations, the interpretation of the construction will be less felicitous in various degrees. Crucially, however, the derivation will converge, because no economy principles are violated. This explains the marginal character of many wh-island violations.²

A felicitous interpretation is achieved when an intermediate empty element is generated that can serve as a link in the chain between the trace and its antecedent. The uniformity condition on chains requires that a wh-antecedent must be linked with its trace through an empty wh-element. Likewise, long distance topicalization requires the presence of an intermediate θ -element. These intermediate elements are introduced in the following way.

The derivation of a long distance wh-construction consists in a series of the generalized transformations, as always (see section I.2.1). The generalized transformations build up a structure by combining phrase markers: a head with a complement, creating a Projection, and a Projection with a specifier, creating a Segment. Suppose the successive application of generalized transformations yields an AgrSP. At this point, a possible continuation would be to combine AgrSP with a nonL-related functional head, say Wh. Assuming Wh in the language under consideration to have strong N-features, a wh-element has to be generated in the specifier position of Wh in order to check and eliminate the N-features. At this point, two options are available. Either the wh-element can be introduced in the specifier position of Wh by a singular operation, i.e., by moving a wh-element out of AgrSP. Alternatively, a wh-element can be introduced by a binary operation, by generating an entirely new wh-phrase marker in the specifier position of Wh. Assuming the N-features of Wh to be strong, one of these options has to be chosen, or else the derivation will crash at the PF interface.

I have proposed that long distance wh-movement typically instantiates the second option. An empty wh-element is generated in the specifier position of the embedded WhP. The lexical wh-element tucked away in AgrSP moves to the specifier position of the matrix WhP at a later stage of the derivation through a singular operation. This movement is nonlocal, as argued above. The empty element in the specifier position of the embedded WhP then functions as an intermediate link in the chain, which is formed to combine the trace with its antecedent.

The other option, however, is also instantiated, namely in short distance wh-movement, but also in so-called partial wh-movement constructions (see McDaniel 1989). In these constructions, the lexical wh-element appears in the specifier position of the embedded WhP. The

² On the differences between 'strong' and 'weak' islands, and the status of extraction out of these islands, see Cinque (1990).

specifier position of the matrix WhP is occupied by a quantificational wh-element, like German *was* (cf. Huybregts 1992):

- (1) Was glaubst du mit wem ich zeredet habe German
 what believe you with whom I talked have
 'Who do you think I talked to?'

The derivation of this construction differs minimally from the derivation of a long distance wh-movement construction. In partial wh-movement constructions, when the embedded clause is expanded up to the Wh-level, the N-feature of Wh is checked with the lexical wh-element instead of with an empty wh-element. As a result, the N-feature of the matrix Wh can only be eliminated by inserting an additional wh-element, which appears not to have been extracted from within the clause.³

In short, the Form Chain approach consists of a combination of standard structure building procedures and long distance movement, in violation of the shortest steps requirement, but complying with the fewest steps requirement of economy derivation.

This approach, however, does raise the question why L-related XP-movement never appears to violate the shortest steps requirement. In other words, why is raising to the specifier position of an Agreement Phrase never unbounded?

I argued in section 1.3.1 that the impossibility of unbounded L-related XP-movement (so-called superraising) follows from the feature checking requirements of economy of representation. Thus, (2) is excluded because *John* cannot check the features of both the embedded AgrS and the matrix AgrS:

- (2) * John seems is likely to win

Successive raising is excluded for the same reason that excludes successive wh-movement. If *John* moves to the specifier position of the embedded AgrS, its features will be checked there and then, and further movement of *John* is excluded. Hence, the N-features of the matrix AgrS will remain unchecked and the derivation will crash.

The question arises, however, why (2) cannot be salvaged by introducing an empty element in the specifier position of the embedded AgrS, followed by movement of *John* to the specifier position of the matrix AgrS in one swoop. This derivation must be excluded.

I suggest the following solution to this problem. Notice that the empty element required to appear in the specifier position of the embedded

³ It is unclear to me why this additional wh-element has to be overt in German.

AgrSP in the derivation of (2) is of a well known type. It is an empty element with person/number agreement features. The only element in the inventory of empty categories that carries these agreement features is *pro*. (2), then, can be excluded if the following generalization holds:

- (3) The intermediate empty element introduced by the operation Form Chain can not be *pro*

(3) can be derived if *pro* needs a θ -role. In that case, (2) would reduce to (4), a construction with two noun phrases, one of which of necessity lacks a θ -role:

- (4) * John seems he is likely to win

That *pro* needs a θ -role is obvious from superraising constructions in *pro*-drop languages. In these languages, the construction in (4) also presents a superraising violation. An example is given in (5a), derived from (5b):

- (5) a. *Gianni sembra che è intelligente Italian
 John seems that is intelligent
 'John seems that is intelligent'
 b. [e sembra [che [e è [sc [Gianni] [intelligente]]]]]

In the structure (5b), only one θ -role is available: the subject θ -role assigned by the Small Clause predicate *intelligente*. Hence, a *pro* subject in the embedded clause is without a θ -role. This makes (5a) ungrammatical on a par with the English example (4).⁴

This suggests that (4) and (5a) are ungrammatical because they are uninterpretable, not because economy of derivation is violated.

If the analysis of superraising presented here is correct, the Form Chain operation may be applicable in cases of L-related XP-movement out of nontensed clauses, as in (6) and (7):

- (6) John seems to be likely to win

⁴ I assume that *pro* in semi-prodrop constructions like (1) is not an expletive, and adopt Bennis' (1986) analysis of expletives as internal arguments of a raising verb (cf. section 1.3.1).

- (7) dat heb/pro duidelijk in dat-
 that is/pro clear in that
 'that it is clear that...'

- (7) Giannì sembra essere intelligente Italian
 John seems be-INF intelligent
 "John seems to be intelligent."

In these constructions, the empty element that is introduced during operation *Form Chain* lacks agreement features. Therefore, it cannot be *pro*, but must be a featureless empty element.

This, however, raises the question whether such an element really exists in (6) and (7). Recall that in operation *Form Chain* elements are introduced in the specifier of a functional projection in order to eliminate the N-feature of the head of that functional projection. Therefore, *Form Chain* is by definition unable to introduce featureless elements.

One could suggest that in this case, *Form Chain* introduces an empty element not for feature checking purposes, but to facilitate interpretation. The empty element thus introduced may serve as the link between the fronted lexical noun phrase and its trace. However, this would result in a non-uniform chain, with different features on the intermediate element and the head. Also, it is not clear that the locality condition on chain links forces the presence of an intermediate empty element in the subject position of a nonfinite embedded clause. One possibility is that raising constructions like the ones in (6) and (7) lack a CP (or a CP level, i.e. TopP and WhP). If Chomsky and Lasnik (1991) are correct in assuming that only nonL-related heads turn their sisters into barriers, phrases lacking a CP level will never constitute a barrier. As a result, *John/Giannì* and its trace in (6)/(7) are in one local domain, and interpretation of the fronted element can proceed without using intermediate empty elements.⁶

The hypothesis that embedded clauses in raising constructions lack the CP level is supported by the fact that the infinitival complementizer *om* is always absent in raising constructions in Dutch:

- (8) a. Jan schijnt (*om) intelligent te zijn Dutch
 John seems COMP intelligent to be
 "John seems to be intelligent."
 b. Jan wordt geacht (*om) intelligent te zijn
 John is considered COMP intelligent to be
 "John is considered to be intelligent."

(9) contrasts with control constructions as in (9), in which the infinitival complementizer is optional (Koster 1987, Ch. 3; Rutten 1991):

⁶ As Marcel den Dikken points out to me, the distribution of floating quantifiers in raising constructions indicates the presence of intermediate NP-traces on the analysis of Sportiche (1988, esp. fn. 17 on p. 436).

- (9) Jan probeert (om) intelligent te zijn
 John tries COMP intelligent to be
 "John tries to be intelligent."

The contrast between (8) and (9) suggests that raising complements are not CPs. If so, they lack a nonL-related functional head, and, on Chomsky and Lasnik's (1991) proposals, do not contain a barrier. As a result, long distance raising in these cases will still be local, and the insertion of an intermediate element is not required by conditions on chain links.

If this is correct, *Form Chain* never applies to nonL-related XP-movement. If raising takes place out of a finite clause, the intermediate element must be *pro* and needs an independent θ-role. If raising takes place out of a nonfinite clause, the embedded clause does not constitute a local domain for chain formation.

5.3.2 NonL-Related Verb Movement

As is illustrated in section II.1.3, the verb always follows the first constituent in topicalizations and wh-constructions in Dutch. In previous analyses, this was described as verb movement to C. In the split CP analysis advanced here, we must assume that the verb moves to Wh (in wh-constructions) or Top (in topicalizations).

The question arises how this obligatory verb movement to Wh/Top can be accounted for in minimalist terms. An equally important question is whether the absence of verb movement in the same type of constructions in, for instance, English and French can be accounted for in the same terms.

The easiest way to describe the verb movement to Wh/Top in Dutch would be to assume that a strong V-feature is represented in Wh and Top which must be eliminated by checking it with the corresponding features of the verb. The difference between Dutch on the one hand and English and French on the other hand could then be accounted for by assuming that in English and French the relevant V-feature is weak.

However, since we have defined Wh and Top as nonL-related, this option is excluded. Being nonL-related, Wh and Top by definition do not represent features of the verb. Also, the verb in Dutch does not show any features that could be related to a particular instantiation of Wh or Top. In other words, it is not clear that the verb and Wh/Top are related at all.⁶

⁶ In connection with this, note that verbless questions can be generated productively, as in *Why not?*

A second way in which we could attempt to explain the obligatory verb movement in *wh*-constructions and topicalizations in Dutch would be to resort to the concept of conditional N-feature checking. This concept was introduced in section 1.3.2, and put to use in section 4.3 in order to explain the verb movement asymmetry in Dutch.

I argued that AgrS in Dutch is [-accessible]. As a result, the N-features of AgrS cannot be present on the AgrSP Projection, so that N-feature checking under sisterhood cannot proceed. I also argued that the [-accessibility] of AgrS in Dutch reduces to an ordering condition on N-feature checking, to the extent that the V-features of AgrS must be removed before the N-feature of AgrS can be passed on to the AgrSP Projection. AgrS-to-C movement and verb movement to AgrS both serve to remove the V-feature from the AgrS position.

We could assume now that in Dutch, the N-features of *Wh* and Top likewise can only be checked if *Wh* and Top are made [+accessible] first. We might conjecture that this conditional N-feature checking is a defining characteristic of Dutch syntax, distinguishing it from the syntax of English and French.

However, this 'generalized conditional N-feature checking' approach to verb movement to C can only work if there are V-features represented in C. In the case of subject initial main clauses, movement of the verb to AgrS does not violate Greed, since the verb, in moving to AgrS, eliminates the (weak) V-feature of AgrS. Thus, the operation merely violates Procrastination, which is allowed. But in the case of topicalization or *wh*-movement, movement of the verb to C in order to meet the condition on N-feature checking would not involve elimination of a V-feature, since no V-features are represented in *Wh* or Top. Hence, verb movement to C would violate Greed, which is not allowed.

As a first step in solving this problem, I suggest that the definition of accessibility (38) in section 4.4, repeated as (10) be understood as in (11):

(10) α is [+accessible] if (and only if) the V-features of α have been removed

(11) ϕ is a feature of α if (i) ϕ is present on β , and
(ii) α does not exclude β

Adjunction of a head β to a head α results in a representation in which α does not exclude β :

(12)
$$\begin{array}{c} \alpha \\ \wedge \\ \beta \quad \alpha \end{array}$$

According to (11), the V-feature of β in (12) is also a V-feature of α . Consequently if a functional head β containing a V-feature adjoins to a

functional head α without a V-feature, the V-feature of β will count as a V-feature of α for the definition of accessibility in (10).

Consider now the consequence of AgrS-to-C movement (where C may be Top or *Wh*). Since C lacks a V-feature, C is [+accessible] by definition. However, as a result of AgrS-to-C movement, C acquires a V-feature. Under the relevant parameter setting, it follows from (10) that this V-feature that C has acquired must be removed before the N-feature of C can be checked. As argued in section 4.3, adjunction of the verb to AgrS in C eliminates the V-feature of AgrS. This verb movement then, removes the V-feature of C, so that the N-feature of C can be passed on to the CP Projection and N-feature checking under sisterhood can proceed.

Thus, the obligatory verb movement character in topicalizations and *wh*-movement constructions in Dutch follows from the independently established AgrS-to-C movement, in conjunction with the mechanisms and definitions that have been proposed in connection with conditional N-feature checking.⁷

This analysis generates one problem which I have not been able to solve in a satisfactory way. Recall that AgrS-to-C movement takes place not only in inversion constructions, but in embedded clauses containing a lexical complementizer as well.⁸ As a result, the V-feature of AgrS becomes a V-feature of C in embedded clauses. The definition of accessibility in (10) now requires that this V-feature be eliminated as a condition for checking off the N-features of C. This leads to the prediction that the verb in embedded clauses in Dutch adjoins to the complementizer, contrary to fact:

⁷ If this analysis is correct, the obligatory verb movement to *Wh* in *wh*-constructions in English suggests that there is independent functional head movement to *Wh* in English as well (cf. Stowell 1981: chapter 1, Pesetsky 1982:272f, 459ff). If *Wh* is specified as [-accessible] in English, verb movement is needed to activate the N-feature of *Wh*, and is allowed because it checks the V-feature of the functional head that has moved to *Wh*. The absence of verb movement to Top in topicalizations in English could then be accounted for by assuming that Top in English is [+accessible], so that no overt verb movement is needed to make N-feature checking in TopP possible. Topicalization and *wh*-movement in French never appear to involve overt verb movement to Top and *Wh*, respectively. I assume that French Complex Inversion (*Quand Jean est-il venu?* 'when John is he arrived?') does not involve verb movement to *Wh*, but to a lower functional head (cf. De Wind (in preparation) for discussion). The absence of verb movement to Top/*Wh* is accounted for if Top and *Wh* are specified as [-accessible], or, alternatively, if no independent functional head movement to Top/*Wh* takes place (so that no V-feature will end up in the CP-system). Needless to say that this vast area of research has to await further study.

⁸ I assume here that embedded interrogatives in Dutch (presumably universally) contain a lexical complementizer, even when the relevant complementizer (*of*) is not overtly present at the PF interface.

- (13) * *Ik denk komst-dat Jan vandaag*
 I think comes that John today
 'I think that John comes today.'

A way out would be to propose that functional heads containing a lexical morpheme (such as a complementizer) are [+accessible] by definition.⁹

I will leave it to further research to investigate whether there is any substance to this proposal.

5.3.3 *Embedded Verb Second Configurations*

a. *Embedded Verb Movement in Dutch*

A final question that has to be addressed concerns the status of embedded verb second configurations in Dutch (cf. section II.1.2.1). Recall from section 5.1.2.c that topics in Dutch are not allowed to precede the complementizer:

- (14) * *Piet zei dat boek dat hij gelezen had*
 Pete said that book that he read had
 'Pete said that he had read THAT BOOK.'

This we explained by assuming that topics are base generated in a position adjoined to TopP. The ungrammaticality of (14) then follows if we assume that embedded TopPs are arguments, and that adjunction to arguments is excluded (following Chomsky 1986b).

We also noted that embedded topicalization to the right of the complementizer is possible, yielding a construction which is frequently used in spoken Dutch, but would be judged as an anacolouthon in written Dutch:

- (15) *Piet zei dat dat boek had hij gelezen*
 Pete said that that book had he read
 'Pete said that that book, he had read.'

Spoken Dutch also has embedded subject initial verb second constructions, having the same status as embedded topicalizations of the type in (15):

- (16) *Piet zei dat hij kende dat boek niet*
 Pete said that he knew that book not
 'Pete said that he didn't know that book.'

⁹ One way to ensure this result would be to say that the definition in (10) applies to *empty* functional heads only.

I conjectured that in these embedded verb movement constructions, AgrS-to-C movement could not reach the position occupied by the complementizer *dat* (now identified as Top). This would have the effect that the clause following *dat* counts an independent main clause, showing verb movement to AgrS (16) and embedded topicalization (15).¹⁰

In this section I will consider the distribution and analysis of these embedded verb movement constructions in Dutch in more detail. First I will study the distribution of embedded verb movement constructions. It turns out that they occur in exactly those contexts in which English, Frisian, and Mainland Scandinavian allow embedded root phenomena (Hooper and Thompson 1973, De Haan and Weerman 1986, Vikner 1991a, Iatridou and Kroch 1992). After that I will sketch a minimalist account of the phenomenon, based on the proposals made for verb movement in the above.

b. *The Distribution of Embedded Verb Movement*

Embedded verb movement in Frisian and Mainland Scandinavian has certain well known properties, which distinguish it from embedded verb movement in Icelandic and Yiddish. These properties can be listed as follows:

1. In subject initial embedded verb movement constructions, the subject cannot be a clitic (De Haan and Weerman 1986:65):

- (17) a. *Fyr sei dat hy/er my sjoen hie* Frisian
 Pete said that he/SCL me seen had
 'Pete said that he saw me.'
 b. *Fyr sei dat hy/er hie my sjoen*
 Pete said that he/SCL had me seen
 'Pete said that he saw me.'

2. Embedded verb movement is excluded in the complement of 'negative' verbs like *regret*, *doubt*, and negated verbs (De Haan and Weerman 1986, Iatridou and Kroch 1992 and references cited there; cf. Hooper and Thompson 1973):

¹⁰ Embedded wh-constructions in the complement of *dat* are impossible. This follows if embedded wh-clauses must be selected. In minimalist terms, a wh-clause in the complement of Top would not receive the required interpretation.

- (18) a. *Pyt betreure/betwivelet/leau net dat hy mie sjoen hie*
Pete regrets/doubts/believes not that he me seen had
"Pete regrets/doubts/does not believe that he saw me."
 b. * *Pyt betreure/betwivelet/leau net dat hy mie sjoen*
Pete regrets/doubts/believes not that he had me seen
3. Embedded verb movement is excluded in irrealis complements (De Haan and Weerman 1986:94):

- (19) a. *Pyt woe sizze dat hy mie sjoen hie*
Pete wanted say that he me seen had
"Pete wanted to say that he saw me."
 b. * *Pyt woe sizze dat hy mie sjoen*
Pete wanted say that he had me seen

4. Embedded verb movement is excluded in adjunct clauses (Iatridou and Kroch 1992, citing De Haan, p.c.):

- (20) a. *Ik sil fuertgean, at jo dizze film net sjoen wolle*
I will leave if you this movie not see want
"I will leave if you don't want to see this movie."
 b. * *Ik sil fuertgean, at jo wolle dizze film net sjen*
I will leave if you want this film not see

5. Embedded verb movement is excluded in sentential subjects (Iatridou and Kroch 1992, citing De Haan, p.c.):

- (21) a. *Dat jo dizze film net sjen wolle is ferfelend*
that you this movie not see want is annoying
"That you don't want to see this movie is annoying."
 b. * *Dat jo wolle dizze film net sjen is ferfelend*
that you want this movie not see is annoying

6. Embedded verb movement constructions are islands for extraction (De Haan and Weerman 1986:87, Vikner 1991a):¹¹

- (22) a. *Hvilken film sangde hun at Peter allerede havde set?* Danish
which movie said she that Pete already had seen
"Which movie did she say Pete had already seen?"
 b. * *Hvilken film sangde hun at Peter havde allerede set?*
which movie said she that Pete had already seen

¹¹ Recall that in Mainland Scandinavian languages like Danish, the embedded clause word order has the finite verb following sentence adverbials. In subject initial main clauses, the finite verb precedes adverbials, and in topicalizations the verb appears in the second constituent position.

In Yiddish and Icelandic, embedded verb movement is generally possible in the contexts listed above. This shows that there are two types of embedded verb movement phenomena (Vikner 1991a).¹² I will leave the Yiddish-Icelandic type out of the discussion (see Diesing 1990, Santorini 1989, Rognvaldsson and Thráinsson 1990, Vikner 1991a, Thráinsson 1992, Te Velde 1993).

Dutch is generally reported to lack the embedded verb movement construction of the Frisian-Mainland Scandinavian type. However, the colloquial Dutch embedded verb movement construction illustrated in (15-16) has exactly the same distribution as the standard Frisian-Mainland Scandinavian embedded verb movement construction:

1. No subject clitics:

- (23) a. *Jan zei dat hij kende dat boek niet* Coll.Dutch
John said that he knew that book not
"John said that he didn't know that book."
 b. * *Jan zei dat ie kende dat boek niet*
John said that SCL knew that book not

2. Not with inherently negative verbs and negated verbs:

- (24) a. *Jan betreure/betwivelet/dacht niet dat hij dat boek kende*
John regretted/doubted/did not think that he that book knew
"John regretted/doubted/did not think that he knew that book."
 b. * *Jan betreure/betwivelet/dacht niet dat hij kende dat boek*
John regretted/doubted/did not think that he knew that book
 c. * *Jan betreure/betwivelet/dacht niet dat dat boek kende hij*
John regretted/doubted/did not think that that book knew he

3. Not in irrealis complements:

- (25) a. *Jan had willen zeggen dat hij dat boek kende*
John had want say that he that book knew
"John would have said that he knew that book."
 b. * *Jan had willen zeggen dat hij kende dat boek*
John had want say that he knew that book
 c. * *Jan had willen zeggen dat dat boek kende hij*
John had want say that that book knew he

¹² The claim that Icelandic allows wh-extraction out of embedded topicalizations appears to be too strong (cf. Vikner 1991a, section 2.3.2.7, and Iatridou and Kroch 1992:10). See also Thráinsson 1992 for some modifications of the observation that Icelandic has generalized embedded topicalization.

4. Not in adjunct clauses:

- (26) a. *Wijven helpt niet als je maagpijn hebt*
 rubbing helps not if you stomach ache have
 "rubbing doesn't help if you have a stomach ache."
 b. * *Wijven helpt niet als je hebt maagpijn*
 rubbing helps not if you have stomach ache
 c. * *Wijven helpt niet als maagpijn heb je*
 rubbing helps not if stomach ache have you

5. Not in sentential subjects:

- (27) a. *Dat Jan dat boek kent is verrassend*
 that John that book knows is surprising
 "That John knows that book is surprising."
 b. * *Dat Jan kent dat boek is verrassend*
 that John knows that book is surprising
 c. * *Dat dat boek kent Jan is verrassend*
 that that book knows John is surprising

6. No extraction.¹²

- (28) a. *Welke film zei je dat Jan al gezien had?*
 which movie said you that John already seen had
 "Which movie did you say John saw?"
 b. * *Welke film zei je dat Jan had al gezien?*
 which movie said you that John had already seen
 c. * *Welke film zei je dat op video had Jan gezien?*
 which movie said you that on video had John seen

It thus appears to be the case that the Colloquial Dutch embedded verb movement construction has exactly the same properties as the embedded verb movement construction in standard Frisian and Mainland Scandinavian. This indicates that the colloquial construction in (15-16) is not a mere idiosyncrasy of sloppy speech, but an instantiation of a widespread phenomenon of Germanic syntax, which, for some reason, was not admitted in the standard register of Dutch.

c. The Syntax of Embedded Verb Movement

The split CP hypothesis argued for in this book might seem to provide a suitable framework for analyzing recursive CP constructions. However, this is only apparently the case. In the split CP hypothesis, the top layer

¹² Note that long distance wh-movement of arguments out of embedded verb second constructions is much worse than similar movement out of wh-islands, suggesting that in such cases a sentence boundary is crossed.

of the CP system has Wh-features, and the second layer has topic features. One of the properties of recursive CP constructions appears to be that only featureless CPs may iterate (Iatridou and Kroch 1992). Recursive WhPs are not found in Frisian, Mainland Scandinavian, or Dutch.

Thus, CP-recursion (if it exists) takes place at the TopP level only. Iatridou and Kroch (1992) demonstrate that only those TopPs (CPs in their terminology) can iterate which lack features. Assuming that complement clauses of negative or negated verbs contain certain features that satisfy the selectional requirements of the matrix verb, the TopPs of these complement clauses are not featureless and hence cannot iterate. The same goes for Irrealis complements.¹⁴

Let us assume that this generalization is correct. It follows that WhPs cannot iterate, because they are inherently contentful. Let us take one further step, and assume that TopP can iterate if and only if Top is also featureless. In minimalist terms, this means that Top has neither an N-feature nor a V-feature.

If the Top of the recursive TopP lacks an N-feature, we predict that long distance topicalization is impossible out of recursive TopP clauses. Recall that long distance topicalization involves insertion of an empty element in the specifier position of TopP, in order to eliminate the N-feature of Top. This empty element later on functions as the intermediate trace in the chain linking the topic (better: the d-word) to its trace. In the absence of an N-feature, this intermediate element cannot be introduced. Consequently, long distance topicalization out of recursive TopP constructions should be bad.

This prediction is borne out:

- (29) a. *Die film zei Piet dat hij op video gezien had*
 that film said Pete that he on video seen had
 "That film Pete said that he had seen on video."
 b. * *Die film zei Piet dat op video had hij gezien*
 that film said Pete that on video had he seen

Thus, the assumption that the head of a recursive TopP has no features has favorable consequences.

Secondly, we predict that verb movement to a featureless Top is never triggered. This follows from our assumption that verb movement to Top

¹⁴ Iatridou and Kroch (1992) suggest that iterating CPs must be semantically empty because the top CP is deleted at LF. One might argue that CPs that allow recursion are also subject to selection restrictions and hence are not semantically empty. Iatridou and Kroch propose that in that case, one could state that CP recursion is only possible when the content of the top CP is recoverable from the features of the second CP.

takes place only in order to make checking of the N-feature of Top possible. But since Top in embedded verb second constructions lacks features, the need to check N-features will never occur.

The hypothesis that Top in embedded verb second configurations is radically featureless also explains the verb movement in the embedded clause of these constructions.

First we have to make it clear that the discussion of CP-recursion is generally cast in the wrong terms. As (16) and many other examples in this section bear out, not all embedded verb movement constructions involve the CP-level. In particular, the b-examples in (24)-(28) display subject initial 'verb second' clauses in the complement of the complementizer *dat*. There is no indication that these clauses are expanded beyond the AgrSP level. To our ear, colloquial Dutch subject initial embedded verb second clauses can have a weak pronoun as the subject.¹⁵

- (30) a. Jan zei dat het regent pijpenstelen Coll.Dutch
John said that it rains pipe stems
"John said that it is raining cats and dogs."
b. Jan zei dat je leeft maar één keer
John said that you live but one time
"John said you only live once."

Since weak pronouns cannot appear in the specifier position of TopP, the sister of the complementizer *dat* in (30) must be an AgrSP.

Thus, not all embedded verb second constructions involve recursion. What seems to be the correct generalization is that in embedded verb second constructions Top does not participate in whatever syntactic operations link it to its complement. As a result, the complement of Top may be a neutral subject initial clause, as in (30) and the b-examples of (24)-(28), or a topicalization construction, as in the c-examples of (24)-(28).

If Top does not participate in syntactic operations linking it with its complement, AgrS-to-Top cannot take place either. This can also be made to follow from the assumption that Top is radically featureless, if we follow up on the analysis of AgrS-to-C developed in section 3.3.3. There, I proposed that C contains a *duplicate* feature which must be non-distinct from the agreement feature of AgrS for AgrS-to-C movement to be

¹⁵ Unless the weak subject pronoun is 3SG masculine *ie*, which is always enclitic (see note 27 in section II.1.5). The weak pronouns in (30) cannot be pronounced as enclitic on the complementizer *dat*.

successful. We may now assume that in the absence of the duplicate feature, AgrS-to-Top cannot take place.¹⁶

The absence of AgrS-to-Top movement in embedded subject initial verb second constructions is obvious from the fact that complementizer agreement is impossible in these constructions (facts repeated from section 4.1.2.a):

- (31) a. Heit sei datst do soks net leauwe moast Fasion
dad said that-2SG you such not believe must-2SG
"Dad said that you should not believe such things."
b. Heit sei datst do moast soks net leauwe
dad said that-2SG you must-2SG such not believe
"Dad said that you should not believe such things."

As a result of the absence of AgrS-to-Top movement, overt verb movement to AgrS is necessary in order to make the N-feature of AgrS accessible for feature checking. Likewise, when the featureless Top has a TopP as its complement, the head of this second TopP becomes the target of AgrS-to-Top movement, followed by verb movement to Top, in order to make the N-feature of TopP accessible.

The hypothesis that Top in embedded verb movement constructions is radically featureless therefore explains both the distribution of embedded verb movement, on the analysis of Iatridou and Kroch (1992), and the restrictions on functional head movement in these constructions. These restrictions have the effect that embedded verb movement cannot take place in the complement of WHPs, and at the same time make embedded verb movement in the complement of the featureless Top necessary, in agreement with the analysis of verb movement proposed above.

5.4 Conclusion

In this section I have argued that subject placement, topicalization, and wh-movement involve three different functional projections: AgrSP, TopP, and WHP. All these projections are head initial, supporting the general claim of this chapter.

I have argued that the N-features of AgrS, Top, and Wh are strong in Dutch. I have also argued that these N-features can only be checked after the V-features of the respective functional heads have been removed. This explains the curious circumstance that verb movement to the functional

¹⁶ Recall that I assumed that dialects without overt complementizer agreement, such as Standard Dutch, have an unmarked [*Q*agr] duplicate feature in C, which is nondistinct from the features of AgrS by definition.

heads in main clauses in Dutch is overt, even though the absence of verb movement in embedded clauses suggests that the relevant V-features are weak.

The analysis entails that verb movement in main clauses in Dutch targets different functional heads in each type of construction. However, the mechanism explaining the verb movement is by and large the same in each case.

6 Summary and Conclusions

In this chapter I have argued that the following hypothesis is correct:

The functional projections in Dutch are head initial

The evidence supporting this hypothesis is the following:

1. Clitics in Dutch occupy functional head positions to the left of the VP.
2. Complementizer agreement phenomena in Dutch dialects indicate that Dutch dialects have an independent AgrS position; the verbal morphology in double agreement dialects shows that the verb is not in C in subject initial main clauses; hence, the functional projection hosting the verb in subject initial main clauses must be head initial.
3. It follows from a restricted theory of feature checking that the subject can only be licensed in the specifier position of AgrS; hence, the verb must be in AgrS in subject initial main clauses in Dutch, and AgrS must be head initial.
4. Verb second phenomena in inversion constructions involve verb movement to Wh or Top; hence, WhP and TopP in Dutch must be head initial.

I also argued that evidence in support of functional positions to the right of VP in Dutch is nonexistent.

In the course of this chapter an analysis of verb movement in Dutch has evolved. This analysis is based on a minimalist theory of feature checking, which incorporates the following generalization:

Licensing relations are sisterhood relations

Accepting this generalization, N-feature checking must be a matching operation between an XP in the specifier position of a functional head α and the Projection of α . I argued that in Dutch the Projection of α has access to the N-features of α if and only if the V-features of α have been removed first. Thus, the *crd* only if extension of the definition of accessibility applies to Dutch:

α is [+accessible] if (and only if) the V-features of α have been removed

It follows from economy of representation that movement of a functional head α to β removes the V-feature of α from the original position of β . Similarly, verb movement to α removes the V-feature of α through feature checking. Hence, movement of α and adjunction to α both have the effect that the V-features of α are removed. This explains the observation that AgrS-to-C movement and verb movement to AgrS in Dutch both serve as a precondition for checking the N-features of AgrS.

This analysis can be extended to verb movement to Top and Wh. Top and Wh lack V-features, but acquire a V-feature as a result of AgrS-to-C movement (where C = Top, Wh). Assuming the N-features of Top and Wh to be strong in Dutch, the accessibility parameter again requires that the V-features of Top and Wh are eliminated before the N-features can be checked. Verb movement to C is the only available option to accomplish this. This movement does not violate Greed, since the AgrS-to-C movement makes the V-feature of AgrS end up in C, by economy of representation.

The absence of overt verb movement to AgrS in embedded clauses follows from economy of derivation, on the assumption that the V-feature of AgrS is weak. At the same time, this assumption makes verb movement to AgrS as a last resort possible, in violation of Procrastination. Embedded verb movement to AgrS in colloquial Dutch is explained if in these constructions AgrS-to-C movement does not take place. The absence of verb movement to Top and Wh in embedded clauses follows from the assumption that functional heads containing a lexical element (in this case, a complementizer) are always [+accessible].

This analysis, then, remains well within the narrow range of possibilities allowed in the minimalist approach. In fact, it crucially relies on a number of extensions to the minimalist approach, discussed in section 1.3, which were introduced independently, for no other purpose than to make the minimalist approach even more restrictive.

In the next chapter, the consequences of one of these minimalist extensions, the absence of a directionality parameter, will be tested in the domain of the syntax of the lexical projections in Dutch.

IV

DUTCH AS AN SVO LANGUAGE:
THE POSITION OF THE LEXICAL HEADS

1 The Functional Domain and the Lexical Domain

In the previous chapter, discussion of the phenomena of Dutch syntax has been limited to the domain of the functional categories. An important result of this discussion has been that all functional projections in Dutch are head initial.

In most generative analyses of Dutch syntax, it is assumed either that Dutch has a very limited set of functional projections, or that in Dutch the functional projections other than C are located to the right of the VP. Neither assumption appears to be supported when the phenomena of Dutch syntax are analyzed from a minimalist perspective (or from any other perspective).

As far as the lexical domain is concerned, we have seen in chapter II that it is generally accepted, both in traditional (cf. Scaglione 1981) and in generative grammar (Koster 1975), that the VP in Dutch and German is head final. Many researchers who did accept the existence of a separate INFL in Dutch and German mostly tacitly assumed that there exists a typological connection between the head final status of the VP and the head final status of the IP.

As I argued above, this connection was based on the incorrect assumption that inflected verbs always have to move to INFL overtly. Since the inflected verb appears in sentence final position in Dutch (or, more correctly, in a position to the right of the noun phrase object), it was concluded that IP in Dutch must be head final.

In the minimalist approach, the principle of Procrastination dictates that in the default case (i.e. when no strong V-features are present in the functional heads), the verb should stay in its basic position. In accordance with this, I assumed that Dutch AgrS (NFL) has a weak V-feature, which in principle precludes overt verb movement. Consequently, the verb can be assumed to occupy its basic position inside VP in embedded clauses. In main clauses, other considerations force overt verb movement, in spite of the absence of strong V-features in Dutch (see section III.4 and III.5). Inasmuch as this analysis is supported, the head initial status of the functional projections in Dutch is supported.

As a result, the typological connection between the status of the lexical projections and the status of the functional projections appears to break down in Dutch. I will assume, however, that this connection is real. Consequently, if the functional projections in Dutch are so clearly head initial, the lexical projections in Dutch must be head initial as well.

Obviously, this does not imply that the results of Koster (1975) are incorrect (see II.2.1). Koster's arguments support the hypothesis that in Dutch the word order of the embedded clause is more basic than the word order of the main clause. This result still stands in the minimalist approach advocated here, since I have assumed that the verb is in V in embedded clauses, and in AgrS or higher in main clauses.

However, I do wish to contend that the embedded clause word order (object-verb) does not reflect the most basic order of elements in the Dutch VP.

Two considerations immediately cast doubt on the standard analysis of Dutch as an SOV language (cf. sections II.3.4-5).

First, there are indications that the position of the noun phrase object in embedded clauses in Dutch is a derived position. Recall that the direct object may be separated from the verb by sentence adverbs:

- (1) -dat Jan Marie waarschijnlijk gekust heeft
 that John Mary probably kissed has
 "...that John probably kissed Mary."

Assuming that the first step in building up the VP consists in combining the verb with its direct object, non-adjacency of the object and the verb can only arise as a result of movement. Let us exclude the possibility that the verbs in (1) have been moved to the right, accepting the results of chapter III. Therefore, the direct object *Marie* must have been moved to the left. The minimalist approach dictates that this movement has a trigger and a designated target. The target must be a position in the functional domain, and the trigger must be an N-feature represented there, which must be eliminated in overt syntax. If so, the movement cannot be optional. Consequently, even if the adverb *waarschijnlijk*

'probably' in (1) is absent and the object and the verb are adjacent, we must assume that the object is in a derived position. If the object is always in a derived position, the fact that it invariably appears to the left of the verb in embedded clauses merely indicates that the licensing position of the object is to the left of the position of the verb in embedded clauses. Crucially, nothing can be concluded regarding the basic position of the direct object inside the VP. In other words, because of the scrambling phenomenon illustrated in (1), the position of the direct object is of no use if we wish to determine whether the Dutch VP is head final or head initial.

Second, recall that embedded clauses in Dutch invariably appear to the right of the verb:

- (2) -dat Piet denkt dat Jan Marie gekust heeft
 that Pete thinks that John Mary kissed has
 "...that Pete thinks that John kissed Mary."

As mentioned in section II.3.5, these embedded clauses are transparent for wh-extraction:

- (3) Wie zei je dat Piet dacht dat Jan gekust had?
 who said you that Pete thought that John kissed had
 "Who did you say Pete thought that John kissed ?"

Since extraposed clauses are islands for extraction (see section II.3.5), the embedded clause in (2) cannot have been extraposed. Hence it must be in its basic position. Consequently, the Dutch VP is head initial when it contains a clausal argument. Assuming a uniform process of structure building, we are led to suppose that noun phrase objects are also generated in a position to the immediate right of the verb.¹

Together, these considerations provide *prima facie* evidence in support of the hypothesis that Dutch is an SVO language. However, neither of them can be used as conclusive evidence. The argument based on scrambling is by definition inconclusive: it merely serves to shake the conviction that Dutch is an SOV language. The argument based on the position of clausal arguments is also unreliable: it may be the case that the verb(s) in (2) is/are in a derived position as well, having undergone just a short verb movement to the left. In that case, we are still not in a position to draw conclusions as to the basic order of elements in the VP in Dutch.

¹ This conclusion also follows from Pesetsky's (1992) proposal to derive categorial selection from semantic selection (cf. Chomsky 1986a), and from Baker's (1988) hypothesis of uniform θ -role assignment.

In the remainder of this chapter I will present more conclusive argumentation in support of the hypothesis that Dutch is an SVO language. To a certain extent, the material presented will also serve a more modest goal, namely to demonstrate that potential arguments in support of the traditional analysis cannot be accepted as such. These sections are nevertheless included, in order to create a proper understanding of the phenomena involved.

In section 2, the syntax of the VP is discussed. This section contains subsections on scrambling, on the distribution of Small Clause predicates, and on verb raising and extraposition. The first two subsections demonstrate that the fact that the verb in embedded clauses in Dutch invariably appears to the right of noun phrase objects and Small Clause predicates cannot be regarded as evidence for a head final structure of the VP in Dutch. I will argue that noun phrase objects and Small Clause predicates in overt syntax occupy designated licensing positions in the functional domain. The third section shows that the analysis of verb raising phenomena is much simplified if the VO-hypothesis is adopted.

In section 3, the structure of NP, AP, and PP is briefly discussed. I will argue that the overt syntax of the NP and AP does not allow us to draw conclusions as to the basic structure of these phrases, whereas the syntax of PPs can be described in a simple and elegant way on the assumption that the PP in Dutch is head initial.

If my attempts fall short of actually proving that Dutch is an SVO language, I hope that typological considerations will tip the scale in favor of the SVO hypothesis, on the assumption that the head initial character of the functional domain is also reflected in the structure of the lexical domain. These typological considerations are supported at the conceptual level by the extension of the minimalist program discussed in section 1.3.3, according to which directionality parameters cannot exist, and by the hypothesis of Kayne (1993), according to which structural hierarchy is universally mapped into linear precedence (see section 1.3.3).

2 The Structure of the VP

2.1 Introduction

Much of the structure of the VP, in any language, is determined by the properties of the structure building process of Generalized Transformations (section 1.2.1).

Let us assume that this process operates in a minimalist way, in the sense that it involves the smallest possible number of phrase markers in each step of the process.² In other words, let us assume that a generalized transformation cannot combine more than two phrase markers at the same time. It follows that syntactic tree structures are always binary branching (cf. Kayne 1984).³

A second assumption I will make here, is that a head must be combined with its complement *locally*. In other words, the first generalized transformation affecting the verb should combine the verb with its internal argument. I will assume that this condition follows from the principle of Full Interpretation (thus, a string in which the verb, or its trace, and the internal argument of the verb, or its trace, are not adjacent, does not yield the desired interpretation).⁴ This again follows from the hypothesis that syntactic licensing relations are universally sisterhood relations (1.3.2).

It follows from these two assumptions that a verb has at most one complement, and that the verb and its complement must be adjacent in the initial stage of the structure building process. The hypothesis that heads have but a single complement is advanced and extensively supported in E. Hoekstra (1991), later also in Mulder (1992).⁵

T. Hoekstra (1990) and Mulder (1992) in addition advance the important insight that the notion 'complement' should not be thought of as an element which is *thematically* linked to a head. Instead, Mulder argues, the complement of a verb should be thought of as a constituent affecting the *aspectual* interpretation of the action referred to by the verb. I refer to the works mentioned for argumentation of this point. One of its consequences, however, is important for the discussion of the structure of the VP.

As is well known since Jespersen (1933), and might have been well known since Rooda (1864), the verb *found* in (1) has a clausal internal argument *the cage empty* rather than a noun phrase internal argument

² Kayne (1993) derives this property of the structure building process from his Linear Correspondence Axiom (cf. section 1.3.3).

³ Cf. Chomsky 1992:33.

⁴ This condition excludes long distance θ -role assignment of the type needed in an analysis of scrambling in which internal arguments are base-generated in their overt syntax position (cf. Needleman 1990, Fanselow 1993).

⁵ Somewhat confusingly, the term *single complement hypothesis* was introduced in Larson (1989a). As Mulder (1992:61 note 9) perceptively remarks, Larson's hypothesis differs from the one entertained here in that Larson allows a verb to have two complements, the second of which it can only license after verb movement. The single complement hypothesis I have in mind allows a verb to have no more than one complement.

the cage. This is because what is found is not a cage, but the situation that the cage is empty.⁵

- (1) John found the cage empty

In generative grammar, the constituent *the cage empty* in (1) has been analyzed as a Small Clause, with *the cage* as subject and *empty* as predicate (Kayne 1984, Stowell 1983, T.Hoekstra 1984, many others). This analysis is in agreement with the single complement hypothesis.

As work by Kayne, Stowell, and T.Hoekstra, among others, has demonstrated, many more Small Clause constructions can be identified, some of which are less obvious than the type in (1). Some examples are resultative constructions (Hoekstra 1988)(2), particle constructions (Kayne 1984:X, Den Dikken 1992a)(3), double object constructions (Kayne 1984:134)(4), and constructions involving locational and positional verbs (Hoekstra and Mulder 1990)(5).

- | | | | | | |
|-----|----|--|--------|--------------|-------------|
| (2) | a. | Jan | verft | de deur rood | Dutch |
| | | John | paints | the door red | |
| | b. | Jan | gooit | zijn bord | aan stukken |
| | | John | throws | his plate | to pieces |
| (3) | a. | Jan | verft | de deur af | |
| | | John | paints | the door off | |
| | | "John finishes painting the door." | | | |
| | b. | Jan | legt | het boek | neer |
| | | John | puts | the book | down |
| (4) | a. | Jan | geeft | Mario | een boek |
| | | John | gives | Mary | a book |
| | b. | Jan | geeft | het boek | aan Mario |
| | | John | gives | the book | to Mary |
| (5) | a. | Er | staat | een paard | in de gang |
| | | there | stands | a horse | in the hall |
| | | "There is a horse standing in the hall." | | | |
| | b. | Jan | zet | zijn vader | mat |
| | | John | puts | his father | mate |
| | | "John checkmates his father." | | | |

⁵ Jaspersen (1983) calls the propositional internal argument in constructions of the type *John found the cage empty* 'necus'. Boeckx (1964) calls it 'complement van objectieve gesteldheid' (complement of objective state, cf. Van Driel 1988).

Some of these constructions will return in section 2.3.⁷ The important thing here is that they all involve a propositional internal argument.

However, if we wish to maintain that there has to be a thematic relation between the internal argument and the verb, some of the constructions in (1)-(5) could be problematic. For instance, it is not clear that in (2), the situation *de deur rood* 'the door red' is a thematic argument of the verb *verft* 'paints' in any obvious sense of the word 'thematic'. As far as thematic relations are understood, one might wish to maintain that in (2) *de deur* 'the door' stands in a thematic relation to the verb *verft*. This again could lead to a rejection of the Small Clause analysis altogether, as well as of the underlying minimalist principles of structure building (cf. Carrier and Randall 1992).⁸

Therefore, the minimalist approach to the structure of the lexical domain can only be maintained if we deny that thematic relations are crucial to the process of structure building (cf. Chomsky 1992:27f). The interpretation of thematic relations must then be considered as a function of the computational properties of the human mind, at work in the interpretative component of the grammar.⁹

The clausal complements in (1)-(5), however, do have a clear aspectual effect on the interpretation of the verb, as T.Hoekstra (1990) and Mulder (1992) show (see section 4.3.1.b). This effect can be described as 'measuring out the event' denoted by the verb (cf. Tenny 1987). The verb *verft* in (2) does not have aspectual properties by itself. Only when combined with another constituent does it denote an accomplishment (in fact, it yields a VP denoting an accomplishment). As Mulder (1992:51) shows, this 'other constituent' may be a Small Clause as well as a noun phrase: the effect of creating a VP denoting an accomplishment is the same in each case.

We may now assume that the first step in certain structure building processes is driven by the need to create an aspectually interpretable constituent. This yields the result that a verb and its complement are adjacent in the initial stage of the representation, without having to abandon the minimally attractive Small Clause analysis of multi-argument verbs and multi-predicate constructions.

⁷ The list of constructions given is not exhaustive, and I do not wish to contend that the various types represent clear cut categories.

⁸ The arguments against the Small Clause analysis advanced in Carrier and Randall (1992) are greatly weakened by the circumstance that the verbs used in their argumentation are typically complex verbs. See note 15 of section III.4.3.1.b.

⁹ This is how I understand Rut Sybesma's first thesis adjoined to Sybesma 1992: 'All interpretation is shadow interpretation.'

This will serve as background for the discussion in the following sections. In what follows, I will be looking at the distribution, in Dutch, of noun phrase arguments (2.2), Small Clause predicates (2.3) and clausal arguments (2.4), and try to determine the relevance of these phenomena for the question of the position of the head in the Dutch VP.

2.2 The Distribution of Noun Phrase Complements

2.2.1 Introduction

As discussed in section II.1.4, direct objects in Dutch do not have to be adjacent to the verb in embedded clauses:

- (1) --dat Jan Marie gisteren kuste
 that John Mary yesterday kissed
 "...that John kissed Mary yesterday."

According to our assumptions, the direct object *Marie* must be adjacent to the verb *kuste* 'kissed' in the initial stage of the derivation of (1). Excluding the possibility of verb movement to the right (based on the absence of functional heads to the right of the VP), the non-adjacency of the direct object and the verb in (1) must be the result of object movement.

As we have seen in II.4.3, non-adjacency of direct object and verb can be easily accounted for in the minimalist approach. According to minimalist assumptions, objects have to be licensed in the specifier position of a functional projection (Agr-OP). The non-adjacency in (1) can then be thought of as the result of overt movement of the object to the specifier position of Agr-OP, triggered by the presence of a strong N-feature in AgrO.

The word order in (1) is not marked in any way. This seems to weigh against an explanation of object movement in terms of pragmatic factors, such as the distribution of given and new information. Let us develop this point a bit further.

It is often argued that (1) is not in itself neutral, but only neutral when the direct object referent is already known in the discourse domain. If this is not the case, for instance when (1) serves as an answer to the question *Who did John kiss yesterday?*, (2) is preferred:

- (2) --dat Jan gisteren Marie kuste
 that John yesterday Mary kissed
 "...that John kissed MARY yesterday."

On the basis of this pattern, one could make the generalization that object movement is pragmatically governed, affecting noun phrases that refer to known elements only. (Alternatively, one could maintain that in (2) the adverb, presenting known information, is moved to the left.) From this perspective, scrambling would be a *defocusing* operation.

However, the relevant observations are only correct when (1) and (2) are thought of as pronounced with a 'neutral' sentence intonation. (1) can serve as a perfectly acceptable answer to the question *Who did John kiss yesterday?* if *Marie* receives the appropriate intonation (with *-re* receiving high pitch, and the parts following *Marie* pronounced with low pitch, cf. II.1.4). Likewise, the adverb *gisteren* can present new information, even in the position it occupies in (2), when its first syllable is high pitched. In other words, information packaging in Dutch is a function of intonation rather than of word order, except, possibly, when certain marked fronting operations are applied (such as topicalization and focus scrambling).

The hypothesis that the object movement in (1) is triggered by the presence of a strong N-feature in AgrO is supported by a number of observations, which will be discussed in section 2.2.2. I refer to this movement operation as *scrambling*.¹⁰ Notice that scrambling should not be confused with free word order. The order of arguments in neutral word order constructions in Dutch is fixed: subject - indirect object - direct object, as illustrated in (3).

- (3) a. --dat Jan de kinderen het boek gaf
 that John the children the book gave-3SG
 "...that John gave the children the book."
 b. ? ? --dat Jan het boek de kinderen gaf
 that John the book the children gave-3SG
 c. * --dat de kinderen Jan het boek gaf
 that de children John the book gave-3SG
 d. * --dat de kinderen het boek Jan gaf
 that de children the book John gave-3SG
 e. * --dat het boek Jan de kinderen gaf
 that the book John the children gave-3SG
 f. * --dat het boek de kinderen Jan gaf
 that the book the children John gave

The 'scrambling' aspect of word order in Dutch only applies to the relative order of arguments and adjuncts, as shown in (4) (cf. Koester 1974):

¹⁰ Reserving the term *object shift* for pronoun movement in Mainland Scandinavian languages, cf. Holmberg (1986).

- (4)
- | | | | | | | |
|----|------|-----------|--------------|---------------------|-----------------------|-----------|
| a. | -dat | gisteren | Jan | de kinderen | het boek | gaf |
| | | yesterday | John | the children | the book | gave |
| | | | that | yesterday John gave | the children the book | |
| b. | -dat | Jan | gisteren | de kinderen | het boek | gaf |
| | | John | yesterday | the children | the book | gave |
| | | | that | John yesterday | the children the book | |
| c. | -dat | Jan | de kinderen | gisteren | het boek | gaf |
| | | John | the children | yesterday | the book | gave |
| | | | that | Jan de kinderen | het boek gisteren | |
| d. | -dat | Jan | de kinderen | het boek | gisteren | gaf |
| | | John | the children | the book | yesterday | gave |
| | | | that | Jan de kinderen | het boek gisteren | |
| e. | -dat | Jan | de kinderen | het boek | gaf | gisteren |
| | | John | the children | the book | gave | yesterday |

The hypothesis of scrambling as object movement to the specifier of AgrOP immediately leads to three conclusions.

First, the coexistence of (1) and (2), as well as the complete pattern in (4), indicates that adverbs do not have a fixed position. I will assume that adverbs in principle can be adjoined to any maximal projection.¹¹

Second, the direct object must be assumed to occupy the specifier position of AgrOP, even if this cannot be demonstrated by the presence and position of an adverb (section II.4.3). Thus, not only in (1), but also in (2) and (5) must the direct object be assumed to have moved to a position in the functional domain.

- (5)
- | | | | | |
|----|------|--------|-----------------------|--------|
| a. | -dat | Jan | Marië | kuste |
| | | that | John Mary | kissed |
| | | | that John kissed Mary | |
| b. | Jan | kuste | Marië | |
| | John | kissed | Mary | |

This follows from the absence of optional movement in the minimalist program. If scrambling is triggered by the need to eliminate a strong N-feature in overt syntax, the absence of scrambling will inevitably lead to a crashing derivation.

Third, the word order in (1) indicates that movement to the specifier position of AgrOP can take place in the absence of verb movement to AgrO. Since the direct object and the verb in (1) are not adjacent, they cannot be in a specifier-head configuration. Therefore, if the direct object occupies the specifier position of AgrOP, the verb does not occupy AgrO.¹²

This third conclusion runs counter to Chomsky's (1992:25) conjecture that 'overt object-raising will be possible only with overt V-raising'. This

¹¹ Kayne (1983) considers adjunction to a maximal projection to be impossible, and assumes that adverbs move to the specifier position of a designated functional projection. See section I.3.3 for discussion.

¹² Recall that we have excluded the possibility that Dutch has head final functional projections. Hence, specifier-head configurations always yield linear adjacency.

conjecture is based on the idea that head movement increases the internal domain of the head (or, more exactly, that movement of a head α to β yields a chain with an internal domain including the specifier position of cP). This makes the specifier position associated with the target of the head movement (β) equidistant to the specifier position associated with the moved head (α), viewed from the perspective of the complement of the moved head (α). In other words, verb movement to AgrO makes the specifier position of VP and AgrOP equidistant from the object of V. As a result, movement of the direct object to the specifier position of AgrOP across the specifier position of the VP does not violate the shortest movement requirement.

Notice that we have already found independent reasons to reject this equidistance condition on movement. First, we found in section III.4.3 that the minimal domain of a head movement chain does not include the specifier position of the foot of the chain. Second, I hypothesized in section I.3.1 that the shortest steps requirement of economy of derivation is not a part of Universal Grammar. This hypothesis is supported by long distance head movement in clitic constructions (III.2.3) and in verb movement to the CP-system (III.4.3, III.5.3), and by long distance XP-movement in the Form Chain approach (III.5.3). Since the shortest steps requirement underlies the equidistance condition, the latter is not conceptually motivated. To this we can now add that the equidistance principle makes the wrong prediction for object movement in Dutch.¹³

This is a serious problem for Chomsky's conjecture, since precisely Dutch and German provide the most compelling empirical evidence for object movement to the specifier position of a functional projection. As such, object movement in Germanic is one of the highlights of the minimalist program. Chomsky's conjecture about the relation between verb movement and object movement now can only be maintained if (1) displays a second object movement in addition to the movement to AgrOP (or, alternatively, no movement to AgrOP at all).¹⁴ But then much of the empirical evidence for object movement to AgrOP would be lost to begin with. I therefore conclude that the minimalist approach to object

¹³ Chomsky (1992:25) notes that his prediction concerning the relation between verb movement and object movement to AgrOP "is apparently confirmed for the Germanic languages", referring to Vikner (1991a). However, Vikner (1991a, section 4.2.5) explicitly states that scrambling (object movement to AgrOP, in our analysis) does not require the verb to move. In this respect, scrambling differs from the Scandinavian pronoun movement studied in Holmberg (1996). The latter phenomenon, however, cannot be analyzed as movement to the specifier position of AgrOP, unless we assume that fall noun phrases in Scandinavian cannot and need not eliminate the strong N-features of AgrO.

¹⁴ Vanden Wyngaert 1989a:269, Mahajan 1990:56f.

movement is correct and applies to (1). Consequently, verb movement is not a precondition for object movement.¹⁵

Finally, the approach to object movement advocated here implies that there is a functional projection for the licensing of indirect objects as well, considering the fact that indirect objects precede direct objects (cf. (3)). This I will assume without further discussion.

As mentioned in section 1, the existence of object movement in Dutch makes it impossible to draw conclusions as to the basic ordering of verb and object in the VP in Dutch. However, one might argue that indefinite objects generally do not undergo scrambling (see, among others, De Hoop 1992). If so, the structure of the VP could be read off of embedded clauses involving indefinite objects. I will discuss this possibility in section 2.2.3, and dismiss it. First, however, I will discuss the evidence for scrambling as movement to the specifier position of AgrOP in section 2.2.2.

2.2.2 Scrambling as L-related XP-movement

a. Scrambling as movement to AgrOP

The idea that scrambling in Dutch consists of movement to the specifier position of a functional projection designed for object licensing was originally due to Vanden Wyngaerd (1989a).¹⁶ Vanden Wyngaerd shows that scrambling in Dutch has the properties of A-movement, and argues that A-movement should be defined as movement to a Case licensing position.

The relevant properties of scrambling here are 1. boundedness, 2. absence of weak cross-over effects, and 3. absence of reconstruction effects. These properties of scrambling, which are briefly illustrated below, were already well known by the time Vanden Wyngaerd developed his AgrOP hypothesis (see Bennis and Hoekstra 1984, Huybregts and Van Riemsdijk 1985, Holmberg 1986). What seems to have obscured a proper understanding of the phenomenon, however, is that scrambled objects were seen to license parasitic gaps, in marked contrast with other A-

¹⁵ This provides a fourth piece of evidence against the shortest steps requirement of economy of derivation. Apparently, objects are allowed to cross the specifier position of VP on their way to AgrOP.

¹⁶ Vanden Wyngaerd appears to have proposed AgrOP independently of Chomsky 1991 and Mahajan 1990. With respect to AgrOP as a separate category, reference is often made to Kayne (1987), but it is not clear that the agreement projection identified there should be equated with AgrOP.

moved noun phrases (cf. section II.2.3).¹⁷ I will return to this issue in section 2.2.2.b.

The boundedness of scrambling in Dutch is illustrated in (6):¹⁸

- (7) a. *dat Piet zei dat Jan Marie gisteren kuste*
 that Pete said that John Mary yesterday kissed had
 "that Pete said that John kissed Mary yesterday."
 b. **dat Piet Marie zei dat Jan gisteren kuste*
 that Pete Mary said that John yesterday kissed had

This contrasts with topicalization, which is unbounded, as discussed in section III.5.3.1:

- (8) *Marie (die) zei Piet dat Jan gisteren gekust had*
 Mary d-word said Pete that John yesterday kissed had
 "Mary, Pete said that John kissed yesterday."

Recall that raising to subject is bounded. This is illustrated here for Dutch:

- (9) **Jan schijnt dat e Marie gekust heeft*
 John seems that Mary kissed has
 "John seems to have kissed Mary."

I argued in section I.3.1 and III.5.3 that unbounded movement takes place by way of the process *Form Chain* (cf. Chomsky 1992:21), and that this process should be thought of as a combination of inserting intermediate empty elements first and moving the lexical constituent afterwards in a single step. The empty elements will then, in the interpretation process, be included in the chain linking the moved element with its trace. Long distance movement in this scenario proceeds stepwise and cyclical, as a part of the structure building process of generalized transformations.

Under these assumptions, the ungrammaticality of (9) follows if we assume that the empty element to be inserted in the process of long distance movement cannot have ϕ -features. This follows if an empty element with ϕ -features must also have an independent θ -role. In long distance raising constructions like (9), this is excluded, since only one

¹⁷ Hence Webehuys's (1989) analysis of scrambling in German as movement to a 'mixed' position (displaying both A-properties and A'-properties). For the same reason, Vanden Wyngaerd (1989a:269) adopts an additional object movement from the specifier position of AgrOP to an A'-position, cf. Mahajan 1990:56f. See Den Dikken & Muiders (1991) for discussion.

¹⁸ (7b) is not totally impossible in colloquial style. Cf. note 15 of section III.4.1.2.

θ-role is available for the subject *Jan* in the matrix clause and the empty element in the embedded clause indicated by *e*.

The ungrammaticality of (7b) can be accounted for in exactly the same way, on the assumption that scrambling is movement to the specifier position of Agr-OP. In that case, (7b) can be derived by applying *Form Chain* in the familiar way. Assume that in (7b) the direct object of the embedded verb, *Marije*, is moved to a licensing position in the matrix clause (i.e. to the specifier position of the matrix Agr-OP). This is parallel to the derivation of (9), in which the subject of the embedded clause is moved to the specifier position of the matrix Agr-OP. The embedded verb, *kuste*, has a φ-feature (the object agreement feature) which must be checked against the V-feature of the Agr-O in the embedded clause. When this Agr-O is created as part of the structure building process of generalized transformations, it comes with a strong N-feature (an automatic consequence of the hypothesis that scrambling is movement to Agr-OP). Consequently, the N-feature of the embedded Agr-O must be checked and eliminated in overt syntax. This can be done by inserting an empty element, in the same way that empty wh-elements are inserted in the specifier position of the embedded WhP in the derivation of long distance wh-movement constructions. However, since the thus inserted empty element has φ-features (otherwise it could not check the N-features of an Agreement head), it is an object *pro*, which, by our previous assumption, must have an independent θ-role. Thus, there are two elements, the displaced object *Marije* and the *pro* in the embedded Agr-OP, competing for the same θ-role. One of the two will end up without a θ-role, which will make (9) uninterpretable.

Thus, by analyzing scrambling as movement to the specifier position of Agr-OP, the property of boundedness follows from the familiar distinction between L-related and nonL-related XP-movement.

The other two properties of scrambling which link it to L-related XP-movement are well discussed in the literature and are illustrated only briefly here. First, scrambling of a direct object across an adjunct containing a pronoun which is coreferential with the direct object does not yield a weak crossover effect (10). In this respect, scrambling behaves like raising to subject position (11a) and unlike topicalization (11b).

- (10) Jan heeft Marie, [volgens haar, aanwijzingen] gekust
 John has Mary following her directions
 "John kissed Mary according to her directions."

- (11) a. Marie, werd [volgens haar, aanwijzingen] gekust
 was following her directions
 "Mary was kissed according to her directions."
 b. ? Marie, hebben [haar, minnaars] gekust
 have her lovers
 "Mary, her lovers kissed."

Second, scrambling creates a felicitous configuration for binding purposes (12), like raising to subject (13a), and unlike topicalization (13b):

- (12) a. Jan heeft de kinderen, aan elkaar, voorgesteld
 John has the children to each other presented
 "John introduced the children to one another."
 b. ? Jan heeft aan elkaar, de kinderen, voorgesteld
 John has to each other the children presented
- (13) a. De kinderen, werden aan elkaar, voorgesteld
 the children were to each other presented
 "The children were introduced to one another."
 b. Elkkaar, kenden de kinderen, *t*, niet
 each other knew the children *t* not
 "Each other, the children didn't know."

In (12a) and (13a), the overt syntax configuration reflects the c-command relation needed for binding of the anaphoric element *elkaar* 'each other' by *de kinderen* 'the children'. In (13b), *de kinderen* does not c-command the anaphoric element *elkaar*; apparently, the position of the trace of *elkaar*, indicated in (13b), is relevant for binding, not the overt syntax position of *elkaar*. The latter phenomenon is typical for nonL-related XP-movement.

b. Parasitic Gaps

The analysis of scrambling in Dutch as L-related movement faces one problem. As Bennis and Hoekstra (1984) demonstrate, scrambling in Dutch creates a configuration in which parasitic gaps can be licensed. This is illustrated in (14).

- (14) a. *-dat Jan [zonder e uit te lezen] het boek weglegde
 that John without out to read the book away put
 "...that John put the book away without finishing (it)."
 b. -dat Jan het boek [zonder e uit te lezen] *t* weglegde
 that John the book without out to read away put
 "...that John put the book away without finishing it."

Parasitic gaps can be interpreted only in the presence of another gap. This gap must be the trace of nonL-related XP-movement (A'-movement), and

must not c-command the parasitic gap (Chomsky 1982, cf. 1986b; Kayne 1984, many others); the fronted XP must c-command both gaps. This is illustrated for Dutch in (15):

- (15) a. *Wilk boek heeft Jan [zonder e uit te lezen] t weggeleegd?*
 which book has John without out to read away put
 "Which book did John put away without finishing?"
 b. *Dit boek heeft Jan [zonder e uit te lezen] t weggeleegd*
 this book has John without out to read away put
 "This book, John put away without finishing."

In the sentences in (15), the gap in the adjunct clause, indicated by *e*, is parasitic on the trace of the wh-movement/topicalization (indicated by *t* in (15)).¹⁹

In Bennis and Hoekstra's analysis of (14b), the gap in the adjunct clause is parasitic on the trace of the scrambling movement which puts the object *het boek* 'the book' in front of the adjunct clause. This trace is also indicated by a *t* in (14b). The analysis entails that scrambling, like topicalization and wh-movement, is A'-movement (nonL-related XP-movement).

This result is problematic for the generalizations made in the previous section, according to which scrambling in Dutch displays the properties of L-related movement. Vanden Wyngaerd (1989a) and Mahajan (1990) have attempted to reconcile the L-related character of scrambling with the nonL-related property of parasitic gap licensing, by postulating that scrambling contains two movements, one moving the object to the specifier position of AgrOP, and a second one moving the object to an adjunction position higher up. The trace *t* in (14b) would under this scenario indicate the specifier position of AgrOP, and the object *het boek* would be occupying the higher adjunction position when it precedes the adjunct clause.

This, however, is unattractive from a minimalist point of view, since it involves an optional movement which does not seem reducible to movement for feature checking purposes.

Another reason not to be completely satisfied with the Bennis and Hoekstra analysis is that it is impossible to provide a minimal pair demonstrating its correctness. (14) does not count as a minimal pair, because in (14a) the object *het boek* does not c-command the parasitic gap, which is a precondition for parasitic gap licensing. In other words, the

¹⁹ The position of this trace is independent of the head initial or head final status of the VP in Dutch, because the trace of nonL-related XP-movement is assumed to occupy the Licensing position of the object, not the position of the object in the initial stage of the derivation. This expresses Chomsky's (1981) generalization that variables are Case marked traces.

ungrammaticality of (14a) may be unrelated to the presence or absence of an object trace.

On the other hand, it would be unwise to reject Bennis and Hoekstra's analysis of parasitic gaps in Dutch, unless it can be shown that the parasitic gap construction in (14b) has decidedly different properties from the parasitic gap constructions in (15). In that case, it would not be clear that much is gained by analyzing (14b) along the same lines as standard parasitic gap phenomena, which are induced by nonL-related XP-movement.

It should be evident that I am hesitant to put forward the following observations, since they can serve only to weaken the existing analysis, without much promise of putting anything in its place. On the other hand, the phenomena themselves appear to be rather striking, and suggest that scrambling induced parasitic gaps in Dutch are still less than fully understood.

As a first observation, at least according to my ear, (14b), though grammatical, is less acceptable than (15a) or (15b). This is unexplained if scrambling in parasitic gap constructions involves nonL-related XP movement. In connection with this, several contexts can be given in which the two types of parasitic gap constructions diverge.

The clearest contrast between parasitic gaps in scrambling constructions and wh-constructions is obtained by turning the clause containing the parasitic gap into an island. It turns out that scrambling induced parasitic gaps are impossible in even slightly more complicated adjunct clauses, whereas wh-movement induced parasitic gaps display the normal scale of deterioration under added complexity (cf. Chomsky 1986b:55). Compare the adjunct clauses in (17), assuming them to appear in the context in (16), with the adjunct clauses in (19), assuming the context in (18):

- (16) *Wie heb je _____ opgebeld?*
 who have you _____ called
 "Who did you call _____?"

- (17) a. zonder te vermoeden dat wij e al uitgenodigd hadden
without to suspect that we PG already invited had
"without suspecting that we already invited (them)"
b. ? zonder je af te vragen of wij e al uitgenodigd hadden
without you off to ask whether we PG already invited had
"without wondering whether we already invited (them)"
c. ?? zonder te weten voor welk feest je e moest uitnodigen
without to know for which party you PG must-PAST invite
"without knowing for which party you had to invite (them)"
d. ?? zonder te weten van het plan dat we e zouden uitnodigen
without to know of the plan that we PG would invite
"without knowing about the plan that we were to invite (them)"
- (18) Jan heeft de burea _____ opgebeld
John has the neighbors _____ called
"John called the neighbors _____"

- (19) a. * zonder te vermoeden dat wij e al uitgenodigd hadden
without to suspect that we PG already invited had
"without suspecting that we already invited (them)"
b. * zonder zich af te vragen of wij e al uitgenodigd hadden
without SE off to ask whether we PG already invited had
"without wondering whether we already invited (them)"
c. * zonder te weten voor welk feest hij e moest uitnodigen
without to know for which party he PG must-PAST invite
"without knowing for which party you had to invite (them)"
d. * zonder te weten van het plan dat we e zouden uitnodigen
without to know of the plan that we PG would invite
"without knowing about the plan that we were to invite (them)"

The judgments in (17) are as expected under Chomsky's (1986b) analysis of parasitic gap constructions as involving empty operator movement in the adjunct clause. The judgments in (19), then, suggest that this empty operator movement does not take place in parasitic gap constructions with scrambling instead of wh-movement. Accepting Chomsky's analysis, this amounts to saying that they are not parasitic gap constructions, or at least parasitic gap constructions of a completely different kind. Second, consider the following parasitic gap construction involving, arguably, a complement clause (cf. Chomsky 1986b:62):

- (20) Wie heb je e overtuigd dat we e zouden bezoeken?
who have you t convince that we PG would visit
"Who did you convince t that we were going to visit (them)?"

This sentence is grammatical (note that *overtuiger* 'convince' must be understood transitively, as is its normal interpretation). Scrambling does not create the configuration that makes this parasitic gap construction possible:

- (21) * Ik heb Piet overtuigd dat we e zouden bezoeken
I have Pete convinced that we PG would visit
"I convinced Pete that we were to visit (him)."
- (21) is absolutely ungrammatical.

These observations indicate that parasitic gaps in scrambling constructions differ from parasitic gaps in wh-movement constructions in unexpected ways. Unfortunately, the observations presented here do not immediately suggest by what kind of mechanism constructions like (14b) receive a parasitic gap interpretation. The absence of the normal island effects in the adjunct clause in this construction, however, does suggest that the relevant mechanism is not the normal licensing mechanism for parasitic gaps.²⁰

In the light of these uncertainties, it does not seem wise to maintain at all cost that scrambling is or can be nonL-related XP-movement. I will therefore adopt the minimalist analysis of scrambling as movement to the specifier position of AgrOP, triggered by morphological licensing requirements.

2.2.3 The Distribution of Indefinite Objects

If scrambling in Dutch is movement to the specifier position of AgrOP, it cannot be optional. Hence, the pattern in (22) must be taken to indicate that sentence adverbs may be adjoined both higher and lower than AgrOP.

- (22) a. -dat Jan Marie gisteren gekust heeft
that John Mary yesterday kissed has
"that John kissed Mary yesterday."
b. -dat Jan gisteren Marie gekust heeft
that John yesterday Mary kissed has
"that John kissed Mary yesterday."

In (22), the object *Marie* is a definite noun phrase. With neutral sentence intonation, (22a) and (22b) differ only in that (22b) is more

²⁰ A promising hypothesis could be that scrambling induced parasitic gaps are really traces of across the board movement, as proposed by Huybregts and Van Riemsdijk (1988), whereas wh-induced parasitic gaps are real parasitic gaps. One problem that the across the board hypothesis faces is that localizing the 'parasitic' trace improves the construction, whereas such localization in across the board extraction leads to severe ungrammaticality. This, however, follows if we assume that wh-extraction out of coordinated constructions involves the presence of a second operator in the second conjunct. Localizing the trace would then lead to vacuous quantification. This problem does not arise in across the board scrambling, since scrambling does not create an operator-variable structure.

felicitous than (22a) when *Marie* presents new information. This is because the neutral sentence intonation of Dutch puts the immediate preverbal element in focus (cf. section II.1.4). Thus, (22b) is the preferred answer to the question *Who did John kiss yesterday?* However, as mentioned earlier in section 2.2.1, (22a) is a perfect answer to this question when *Marie* receives a marked intonation (with high pitch on *-rie*). Apparently, focus may shift to the left, independently of scrambling.

When the object of the verb is an indefinite noun phrase, its preferred position is to the right of sentence adverbials:

- (23) -dat Jan gisteren een meisje gekust heeft
 that John yesterday a girl kissed has
 "...that John kissed a girl yesterday."

The standard interpretation of this fact is that indefinite noun phrases do not undergo scrambling (cf. De Hoop 1992). If this were correct, *een meisje 'a girl'* in (23) would still be in its basic position. Still excluding verb movement to the right, we would have to conclude from (23) that the VP in Dutch is head final.

I will argue, however, that this conclusion is not warranted, because its premise, namely that indefinite noun phrases do not undergo scrambling, is false.

In the minimalist approach to scrambling underlying the analysis of (22), the assumption that (23) does not involve scrambling is questionable from the start. First, the approach dictates that object movement is required by the need to eliminate a strong N-feature of AgrO. If so, the derivation of (23) will not converge unless the indefinite object moves to the specifier position of AgrOP. Second, we know from the pattern in (22) that adverbs may be adjoined both higher and lower than the specifier position of AgrOP. If so, (23) does not conclusively show that scrambling is absent. It could also be that the adverb is preferably adjoined higher in case the specifier position of AgrOP is occupied by an indefinite noun phrase.

The latter conjecture is supported by a number of observations. If the order in (23) is the result of the adverb being *preferably* adjoined in a position c-commanding the indefinite object, there must be a reason for this preference. In other words, it must be the case that a reversal of the adverb-indefinite object order has some effect on the interpretation of the sentence. Thus, we expect (24) not to be ungrammatical, but just different from (23):

- (24) -dat Jan een meisje gisteren gekust heeft
 that John a girl yesterday kissed has
 "...that John kissed a girl yesterday."

This is exactly what we find. (24) is not ungrammatical, but *een meisje* has lost much of its indefinite character. The preferred interpretation of (24) is that there is a specific girl, whose identity is unknown, but whose existence is presupposed, and that John kissed that girl yesterday. The difference is rather subtle in (23)-(24), but becomes more apparent when the indefinite object is modified, as in (25):

- (25) a. -dat Jan gisteren een meisje uit zijn klas gekust heeft
 that John yesterday a girl from his class kissed has
 "...that John kissed a girl from his class yesterday."
 b. -dat Jan een meisje uit zijn klas gisteren gekust heeft
 that John a girl from his class yesterday kissed has
 "...that John kissed a girl from his class yesterday."

Een meisje uit zijn klas 'a girl from his class' is ambiguous; it can have the interpretation 'a specific girl from his class which I have in mind' or the interpretation 'some girl from his class'. Both interpretations are possible in (25a), but the former is much preferred in (25b).

Following De Hoop (1992), I will use the term 'strong reading' to refer to the special interpretation of indefinite noun phrases when they precede sentence adverbials. De Hoop (1992:50) distinguishes four types of strong readings. The type illustrated above is called 'referential'. The other strong readings are 'partitive', 'generic', and 'generic collective'. These will be illustrated shortly.

It should be noted here, however, that a weak (i.e. not strong) reading of the indefinite noun phrases in (24) and (25b) is not impossible. Thus, (24) and (25b) can in fact be used as answers to the question *Who did John kiss yesterday?* In this respect, the pairs (23)-(24) and (25a)-(25b) are comparable to the pair in (22). (23) and (25a), like (22b), have a word order in which the element presenting new information is in the position which is most likely to get focus in the unmarked sentence intonation. However, when pronounced with marked intonation, both *een meisje* in (24) and *een meisje uit zijn klas* in (25b) receive focus, just like *Marie* in (22a). With this intonation, (24) and (25b) present perfectly acceptable answers to the question *Who did John kiss yesterday?* In other words, the interpretation of indefinite noun phrases is not a matter of word order *per se*, but of intonation.

There is a difference to be noted between (22) on the one hand and (23)-(25) on the other hand, however. If we think of these sentences as being triggered by the question *When did John kiss Marie/a girl from his class?*, then in (22), (22a) is the preferred answer, going along with the neutral sentence intonation which puts *gisteren* 'yesterday' in focus, and (22b) is also possible when *gisteren* gets the marked intonation. In contrast, (24) and (25b) are rather awkward in this context. Instead, (23) and (25a) would be used, again with marked intonation of the adverb.

This observation leads to the following generalization:

(26) Indefinite noun phrases may not precede focused material

(26) must actually be sharpened to (27):

(27) An indefinite noun phrase which precedes focused material has a strong reading

Thus, (25b) is a correct answer to the question *When did John kiss a girl from his class?* when *a girl from his class* has a referential interpretation. The judgment is subtle, but is confirmed in constructions in which the indefinite noun phrase is the subject of a Small Clause. Here, the Small Clause predicate can receive focus intonation only if the indefinite Small Clause subject has a strong reading:

- (28) a. -dat Jan een meisje de tuin in stuunde
 that John a girl the garden in sent
 "...that John sent a girl into the garden."
 b. -dat Jan een meisje uit zijn klas de TUIN in stuunde
 that John a girl from his class the garden in sent
 "...that John sent a girl from his class into the garden."

In (28a), the Small Clause predicate *de tuin in* 'into the garden' cannot be focused (unless *een meisje 'a girl'* is understood as referential). In (28b), where the Small Clause predicate is focused, the Small Clause subject gets a referential interpretation.²¹

Now we have two generalizations concerning the distribution of indefinite objects with a weak interpretation. First, they can be non-adjacent to the verb only if they have the marked intonation signaling new information. Second, they cannot be followed by focused material. These two generalizations are compatible, since in Dutch an element with a marked intonation is followed by flat intonation material only.²² One could say that the marked intonation shifts to the left.

Let us now return to the question of how to account for the fact that adverbs must precede indefinite objects. This can now be easily explained given that adverbs, when intervening between the object and the verb, are in the natural focus position. This follows from the neutral pattern of sentence intonation in Dutch, which has the preverbal position as the

²¹ Many similar observations are found in De Hoop (1992, chapter 3). De Hoop introduces a *Principle of Contrastiveness* to express the observation that indefinite noun phrases cannot have a weak reading when preceding contrastive material.

²² Unless the element with a marked intonation is fronted, as in topicalization and focus scrambling.

unmarked focus position (see section II.1.4).²³ If so, indefinite objects that are separated from the verb by an adverb, will have to either assume a marked intonation (signaling that they represent new information) or receive a strong interpretation.

Consider how these generalizations hold up in other contexts. The following pair illustrates another type of strong reading, the generic reading:

- (29) a. -dat Jan vaak meisjes kust
 that John often girls kisses
 "...that John often kisses girls."
 b. -dat Jan meisjes vaak kust
 that John girls often kisses
 "...that John kisses girls often."

The normal interpretation of (29a) is that John has a habit of kissing girls, whereas (29b) means that, as far as girls are concerned, John kisses them a lot. (29b) illustrates the generic reading of *meisjes 'girls'*.²⁴

Under our analysis, *meisjes* in (29b) must have a strong reading, because it is separated from the verb by an element in the natural focus position, the adverb *vaak* 'often'. We predict, however, that *meisjes* in (29b) may have a weak reading, when it is appropriately stressed, so that *vaak kust* receives a completely flat intonation. This prediction is borne out, as can be seen in (30):

- (30) a. Het valt mij op dat Jan meisjes VAAK KUST
 het strikes me that John girls often kisses
 "It strikes me that John often KISSES girls."
 b. Het valt mij op dat Jan MEISJES vaak kust
 it strikes me that John girls often kisses
 "It strikes me that John often kisses GIRLS."

²³ As noted in section II.1.4, many other intonational patterns are possible. If the verb in an embedded clause is intransitive, it may carry the focus intonation itself (-dat Jan (vanzelf) DANST (that John often dances)). Also, certain adverbs, like modal *maar* 'just', resist focus intonation. Hence, the fact that indefinite objects preceding these adverbs receive a strong reading does not obviously follow from intonational considerations. I assume that the oddity of such a construction (for instance ?-dat Jan een boek maar pekt (that John a book just takes) vs. -dat Jan maar een boek pekt (that John just a book takes)) is that John settles for a book's results from the circumstance that *maar* cannot be in the natural focus position. If the focus shifts leftward from *maar* to *een boek*, so that *een boek* comes to represent new information, the sentence becomes more acceptable. These and other observations suggest that much more research is needed before the interaction of intonation and interpretation in Dutch is fully understood.

²⁴ In connection with this, (29b) also allows a reading where each kissing event involves a number of kisses. This reading is absent in (29a).

In (30a), *meisjes* has a generic reading. This is as expected, since it is followed by focused material. In (30b), however, *meisjes* has a weak interpretation. Here *vack kust* gets a completely flat intonation, and *meisjes* presents new information. The best paraphrase is 'it strikes me that what John often kisses is girls', and not 'it strikes me that as far as girls are concerned, John kisses them a lot'.

Similar observations can be made for the other strong readings of indefinite noun phrases may get. These are the partitive reading (31) and the generic collective reading (32):

- (31) a. ..dat Jan TWEE meisjes gisteren gekUST heeft
 that John two girls yesterday kissed has
 "...that John kissed two girls yesterday."
 b. ..dat Jan twee MEISJES gisteren gekUST heeft
 that John two girls yesterday kissed has
 "...that John kissed two girls yesterday."
- (32) a. ..dat Jan TWEE stemmen altijd door ELKAAR haalt
 that John two parts always mixes up
 "...that John always mixes up two parts."
 b. ..dat Jan twee STEMMEN altijd door elkaar haalt
 that John two parts always mixes up
 "...that John always mixes up two parts."

In (31a), *twee meisjes* gets the strong, partitive interpretation (i.e. 'two of the girls'). This makes sense, since in the natural sentence intonation, the verb *gekust* 'kissed' would be in focus, or otherwise the adverb would. In (31b), however, *gisteren gekust heeft* gets a completely flat intonation, and the sentence can be used as an answer to the question *Wie did John kiss yesterday?* John in (32) should be thought of as having trouble keeping two simultaneous parts in a musical piece apart. (32a) then means that as soon as the music becomes two-part, John gets confused. In other words, *twee stemmen* 'two parts' gets a generic collective reading. In (32b), under the indicated intonational pattern, this reading is absent, and *twee stemmen* gets a weak, existential interpretation.

This analysis shows that the interpretation of indefinite objects in Dutch can be explained in terms of the intonational patterns of the sentence. Apparently, the intonational pattern is related to positions in a linear order rather than to positions in a hierarchical structure. As can be seen in the examples above, it is irrelevant for the interpretation of the indefinite noun phrase which constituent following it is stressed. This can be an adverb, or a Small Clause predicate (as in (28b)), or the verb itself. In all these cases, the indefinite noun phrase will receive a strong interpretation. In other words, there is no reason to link the interpretation of an indefinite noun phrase to its structural position in the tree.

Therefore, we may safely assume that indefinite objects, like definite objects, move to the specifier position of AgrOP in overt syntax in Dutch. Hence, the structure of the VP in Dutch is not directly reflected in the order of the verb and the indefinite object in embedded clauses.

2.2.4 Conclusion

In this section I have argued that scrambling in Dutch can be analyzed as required by the minimalist approach, namely as obligatory movement of the object to the specifier position of AgrOP. This makes scrambling an L-related XP-movement, which explains its A-movement characteristics, including the bounded character of the movement. I also argued that parasitic gap constructions involving scrambling differ from parasitic gap constructions involving non-L-related XP-movement. This suggests that scrambling induced parasitic gaps are not really parasitic gaps, although the exact nature of these gaps has to be left as a topic for further research. I also argued that all objects in Dutch, whether definite or indefinite, move to the specifier of AgrOP in overt syntax. I have proposed that the interpretation of indefinite objects is a function of intonation rather than of syntactic position.

These considerations lead to the conclusion that the overt syntax position of direct objects with respect to the verb in embedded clauses in Dutch is irrelevant for the question whether the VP in Dutch is head final or head initial.

2.3 The Position of Embedded Predicates

2.3.1 Introduction

In section 2.2 we encountered the first potential problem for the hypothesis that Dutch is an SVO language. This problem, the distribution of indefinite objects, was removed by arguing that indefinite objects move to the specifier position of AgrOP, just like definite objects do.

A second potential problem for the SVO hypothesis is posed by the distribution of Small Clause predicates. These invariably precede the verb in embedded clauses. Moreover, the embedded verb and the Small Clause predicate are strictly adjacent in almost all constructions.¹ If Small Clause predicates occupy their basic position, we must conclude that the

¹ Only stranded prepositions may intervene between the Small Clause predicate and the embedded verb (cf. Koster 1993).

basic position of Small Clause complements is to the left of the verb. Still assuming that all types of complements start out from the same basic position, we would have to conclude that the VP in Dutch is head final.

I will argue that this problem can be removed in the same way as the first problem was. I will present arguments to support the hypothesis that Small Clause predicates are not in their basic position in Dutch. The arguments suggest that there exists a separate functional projection, the Predicate Phrase (PredP), which is designated for the licensing of embedded predicates. This functional projection is located between AgrOP and VP, and its head (Pred) must be thought of as having a strong N-feature in Dutch, triggering movement of the Small Clause predicate to the specifier position of PredP in overt syntax.

The upshot of this analysis is that the position of Small Clause predicates in Dutch provides no evidence for or against the head initial status of the Dutch VP.

In section 2.3.2, the relevant aspects of the syntax of Small Clauses in Dutch are discussed. In section 2.3.3, the arguments for the existence of the Predicate Phrase and for the overt predicate movement in Dutch will be presented.

2.3.2 The Syntax of Small Clauses

a. Adjacency effects

Small Clause predicates in Dutch always appear to the left of the verb in embedded clauses:

- (1) a. *-dat Jan de TV uit zet*
 that John the TV out puts
 "...that John turns off the TV."
 b. * *-dat Jan de TV zet uit*
 that John the TV puts out
- (2) a. *-dat Jan de deur rood verft*
 that John the door red paints
 "...that John paints the door red."
 b. * *-dat Jan de deur verft rood*
 that John the door paints red
- (3) a. *-dat Jan het boek op de tafel legt*
 that John the book on the table puts
 "...that John puts the book on the table."
 b. * *-dat Jan het boek legt op de tafel*
 that John the book puts on the table

- (4) a. *-dat Jan Marie intelligent vindt*
 that John Marie intelligent finds
 "...that John considers Mary intelligent."
 b. * *-dat Jan Marie vindt intelligent*
 that John Marie finds intelligent

The ungrammaticality of (3b) is significant, since PPs in Dutch may generally appear to the right of the verb in embedded clauses:

- (5) a. *-dat Jan zijn boek op de tafel vond*
 that John his book on the table found
 "...that John found his book on the table."
 b. *-dat Jan zijn boek vond op de tafel*
 that John his book found on the table
 "...that John found his book on the table."

The PPs in (5) are adjuncts, whereas the PP in (3) is predicative. Only the former may appear to the right of the verb in embedded clauses in Dutch.

The examples in (6) show that Small Clause predicates must appear to the *immediate* left of the verb in embedded questions.²

- (6) a. * *-dat Jan de TV uit steeds zet*
 that John the TV out all the time puts
 "...that John turns off the TV all the time."
 b. * *-dat Jan de deur rood weer verft*
 that John the door red again paints
 "...that John paints the door red again."
 c. * *-dat Jan het boek op de tafel weer legt*
 that John the book on the table again puts
 "...that John puts the book on the table again."
 b. * *-dat Jan Marie intelligent nog altijd vindt*
 that John Marie intelligent still finds
 "...that John still considers Mary intelligent."

Again, adjunct PPs differ from predicative PPs:

- (7) *-dat Jan zijn boek op de tafel weer vond*
 that John his book on the table again found
 "...that John found his book again on the table."

Small Clause predicates need not be left adjacent to the verb selecting the Small Clause. Left adjacency to the verbal cluster suffices:

² (6c) should not be confused with the complex particle construction *-dat Jan het boek op de tafel terug legt* 'that John puts the book back on the table'. In this construction, *terug* 'back' is the predicative element, and *op de tafel* is a non-predicate, which can appear to the right of the verb in embedded clauses. On stranded prepositions, see below.

- (8) a. *..dat Jan de TV uit heeft gezet*
 that John the TV out has put
 "...that John turned the TV off."
 b. *..dat Jan de deur rood wil verven*
 that John the door red wants paint
 "...that John wants to paint the door red."

The Small Clause predicates in (8) may also appear inside the verbal cluster, to the left of the verb selecting the Small Clause:³

- (9) a. *..dat Jan de TV heeft uit gezet*
 that John the TV has out put
 "...that John turned off the TV."
 b. *..dat Jan de deur heeft rood geverfd*
 that John the door has red painted
 "...that John painted the door red."

In Standard Dutch, phrasal predicates may only appear to the left of the verbal cluster as a whole, not inside the cluster:

- (10) a. *..dat Jan het boek op de tafel heeft gelegd*
 that John the book on the table has put
 "...that John put the book on the table."
 b. *..dat Jan Marie intelligent moet vinden*
 that John Mary intelligent must find
 "...that John has to consider Mary intelligent."
 (11) a. * *..dat Jan het boek heeft op de tafel gelegd*
 that John the book has on the table put
 b. * *..dat Jan Marie moet intelligent vinden*
 that John Mary must intelligent find

However, Hoeksema (1993) shows that this is a recent development, dating from the 19th century, and that this development is caused by stylistic rather than grammatical factors. The constructions in (11) are perfect in West Flemish. For this reason, I do not think that the contrast between (8-9) and (10-11) should be explained by assuming optional incorporation of the Small Clause predicate into the verb in (8-9).⁴

³ Inside the verbal cluster, the Small Clause predicate does not have to be to the immediate left of the verb selecting the Small Clause, witness examples like *dat Jan de TV heeft uit moeten zetten* 'that John the TV has out must put' (cf. Bennis 1992). In West Flemish, this is also possible with phrasal Small Clause predicates (Vanacker 1970:146, *Zase ons moester naar huis laten gaan* 'that they us must-PAST to house let go' 'that they had to let us go home').

⁴ For an analysis involving predicate incorporation, see Koster (1993).

The Small Clause predicate and the verb in embedded clauses can also be separated by a stranded preposition, but, crucially, not by adjunct PFs. This yields the following contrasts:⁵

- (12) a. * *..dat Jan de TV uit met de afstandsbediening zet*
 that John the TV out with the remote control puts
 b. ? *de afstandsbediening waar Jan de TV uit mee zet*
 the remote control where John the TV out with puts
 "the remote control which John turns the TV off with"
 (13) a. * *..dat Jan de deur rood met die kwast verft*
 that John the door red with that brush paints
 b. *de kwast waar Jan de deur rood mee verft*
 the brush where John the door red with paints
 "the brush with which John paints the door red"
 (14) a. * *..dat Jan het boek op de tafel met een zwiërig gebaar legt*
 that John the book on the table with an elegant gesture puts
 b. *het gebaar waar Jan het boek op de tafel mee legt*
 the gesture where John the book on the table with puts
 "the gesture with which John puts the book on the table"
 (15) a. * *..dat Jan Marie intelligent om die reden vindt*
 that John Mary intelligent for that reason finds
 b. *de reden waar Jan Marie intelligent om vindt*
 the reason where John Mary intelligent for finds
 "the reason for which John finds Mary intelligent"

In all these cases, the stranded preposition may also appear to the immediate left of the Small Clause predicate, but not to the right of the verb in embedded clauses:

- (16) a. *de afstandsbediening waar Jan de TV mee uit zet*
 the remote control where John the TV with out puts
 "the remote control with which John turns off the TV"
 b. * *de afstandsbediening waar Jan de TV uit mee zet*
 the remote control where John the TV out put with

(16a) is preferred over (16b). Also when the Small Clause predicate is not a particle, as in (13-15), the order with the stranded preposition preceding the predicate would generally be preferred over the one illustrated in (13-15)b.

⁵ The preposition *met* 'with' becomes *mee* when its complement is extracted.

In addition to the constructions illustrated here, Small Clause predicates may appear as fronted elements in topicalizations and locative inversion constructions. I will leave these out of consideration here.⁶

b. The Structure of Small Clauses

All I intend to do here is to make some basic assumptions concerning the structure of Small Clauses which will be relevant for the discussion in the next section.⁷

Traditionally, Small Clauses are thought of as complete subject-predicate configurations which lack independent inflectional features. I will adopt this traditional view, and assume that Small Clauses do not have their own functional projections.⁸

Another traditional viewpoint is that the subject and the predicate inside the Small Clause are sisters, and that the categorial status of the Small Clause is identical to the categorial status of the predicate of the Small Clause (cf. Stowell 1983).⁹ There are both conceptual and empirical arguments, however, to assume that Small Clauses have the conventional X-bar structure, consisting of a head, a specifier, and a complement.¹⁰ I will therefore adopt this position, leaving the categorial status of the Small Clause unspecified.

If Small Clauses do not have functional projections, the elements making up the Small Clause will have to be licensed in the functional domain of the verb selecting the Small Clause. I therefore assume that the subject of a Small Clause is licensed in the specifier position of the AgrOP associated with the verb selecting the Small Clause. This yields the familiar 'raising to object' effects that are also present in exceptional Case marking constructions (Vanden Wyngaerd 1989b). In both types of constructions in Dutch, the subject of the embedded clausal constituent has the distribution which is characteristic of direct objects:

⁶ I agree with Hoekstra and Mulder (1990) that locative inversion is movement to the structural subject position. For arguments that this construction is also present in Dutch, see Zwart (1991d, 1992a).

⁷ See Den Dikken (1992a) and Mulder (1992) for more thorough investigation of the issues involved.

⁸ I assume that the agreement between the Small Clause subject and the Small Clause predicate which is visible in Case marking languages (cf. Maling and Sprouse 1991) is not mediated by functional categories internal to the Small Clause. See Zwart 1992d.

⁹ This has sometimes led to the confusing use of the word 'head' to designate the (phrasal) predicate of the Small Clause.

¹⁰ See Kayne (1983) for conceptual arguments, and Den Dikken (1987) for empirical argumentation. Den Dikken (1992a) in addition presents arguments to show that the complement of a Small Clause head may itself be a Small Clause.

- (17) a. -dat ik Jan gisteren heb horen zingen
 that I John yesterday have hear sing
 "...that I yesterday heard John sing."
 b. -dat ik Jan gisteren do shoot in geduwd heb
 that I John yesterday the ditch in pushed have
 "...that I yesterday pushed John into the ditch."

In (17), the adverb *gisteren* 'yesterday' modifies the verb selecting the clausal complement, i.e. *horen* 'hear' in (17a) and *geduwd* 'pushed' in (17b). The subject of the clausal complement, *Jan*, in both cases, appears to the left of the adverb, indicating movement to the specifier position of the AgrOP in the functional domain of *horen* and *geduwd*, respectively.¹¹

Exceptional Case marking constructions are furthermore illustrative, because they show that not only the subject of a clausal complement can be moved to a licensing position in the higher clause, but also all other constituents of that complement. Thus, the direct object inside the exceptional Case marking complement also shows the distributional effects indicative of movement to the specifier position of AgrOP in the higher clause.¹²

- (18) -dat ik Jan dat lied gisteren heb horen zingen
 that I John that song yesterday have hear sing
 "...that I yesterday heard John sing that song."

Likewise, the verb of the exceptional Case marking complement, *zingen* 'sing' in (18), appears to be licensed through raising to *horen* 'hear'.¹³ Apparently, there are no licensing requirements on the exceptional Case marking complement as a whole: all its elements are licensed by moving to separate licensing positions.

I will assume that the same applies to Small Clauses. This means that the subject and the predicate of the Small Clause must be able to move separately.¹⁴ I will argue in the next section that the Small Clause

¹¹ It would be more correct to say that the AgrOP in question belongs to the domain of the auxiliary *heb* 'have', but that is irrelevant at this point.

¹² The only restriction here appears to be that the object of the embedded clause move to an AgrOP to the right of the AgrOP occupied by the subject of that clause.

¹³ See section 2.4. It is generally assumed that the phenomenon where a past participle is replaced by an infinitive verb form indicates that the infinitive verb is the target for raising of the verb in its complement. If we assume that adjunction invariably takes place to the left, this verb raising cannot be overt in Dutch.

¹⁴ Movement of the predicate of the Small Clause is already apparent in topicalization constructions and locative inversion constructions.

predicate moves to a designated licensing position in the functional domain of the verb selecting the Small Clause as its complement.¹⁵

2.3.3 Raising to *PrezP*

After these preliminaries, let us return to the question of the structure of the VP in Dutch. Since Small Clause predicates invariably appear to the left of the verb in embedded clauses, we must conclude that the VP in Dutch is head final, unless it can be argued that Small Clause predicates are not in their basic position.

Notice that if Small Clause predicates are not in their basic position but in a licensing position, we do not expect them to ever show up to the right of the verb in embedded clauses (assuming the verb is in V). This is because movement to a licensing position is obligatory, and licensing invariably takes place in a specifier-head configuration. Since specifiers are always assumed to be on the left, this would have the result that Small Clause predicates invariably appear to the left of the verb in embedded clauses in Dutch.

We therefore have to consider two questions. First, is it reasonable to posit a licensing position for Small Clause predicates in general? Second, is there any empirical evidence for the existence of overt raising of the Small Clause predicate to this licensing position in Dutch?

To answer the first question, consider the outlook of the grammar in the minimalist approach. In this approach, syntax consists of two parts:¹⁶ generation of elements in a head-complement or subject-predicate relation, and licensing of the same elements in a specifier-head configuration (actually, a specifier-Projection configuration, cf. 1.3.2). To achieve maximal generality, we would have to assume that all elements that are generated in the complement domain of a head must at some point be licensed in a specifier-head configuration. It is then an empirical matter to determine the nature of the relevant specifier-head configurations, and to determine at what point in the derivation movement to the relevant specifier positions takes place.

¹⁵ Don Dikken (1992a) argues that the particle appearing in Small Clause constructions is the head of the Small Clause. I must eschew a discussion of the many issues involved. I will assume that, if the particle is the head of the Small Clause, the sister of the Small Clause subject is defined as its predicate. This will ensure that the particle is included in the predicate raising out of the Small Clause. If somehow the particle is included in the complement of the (empty) head of the Small Clause, we can assume that only this complement moves.

¹⁶ These remarks abstract away from the question of generation and licensing of adjuncts.

As for the particular case of Small Clause predicates, it has long been felt that a special relation exists between these predicates and the verb selecting the Small Clause as its complement. Many phenomena suggest that the verb and the Small Clause predicate function as a complex predicate, with the subject of the Small Clause as its complement. For example, the verb and the Small Clause predicate can be nominalized together, with the subject of the Small Clause appearing in a prepositional phrase:

- (18) a. *het op de tafel leggen van een boek*
the on the table putting of a book
"the putting on the table of a book"
b. *het rood verven van de deur*
the red painting of the door
"the painting red of the door"

In this respect, the combination of the verb and the Small Clause predicate behaves exactly like a single verb:

- (19) a. *het lezen van een boek*
the reading of a book
b. *het verven van de deur*
the painting of the door

The complex predicate character of the verb-predicate combination, however, cannot be expressed in the initial stage of the derivation. This is because in the Small Clause analysis, which we assume throughout, the Small Clause predicate is generated first in combination with the Small Clause subject, and this subject-predicate combination is subsequently combined with the verb.

Therefore, the complex predicate character of the verb-predicate combination must arise in the course of the derivation. The hypothesis I would like to argue for here is that the Predicate Phrase, occupied at LF by the Small Clause predicate and the verb selecting the Small Clause, is the structural expression of the complex predicate character of the verb-predicate combination.

This implies that in (18) the Predicate Phrase is the input for the nominalization operation (thought of in terms of Abney 1987, with a nominal functional head turning a verbal projection into a nominal one, cf. Zwart and Hoekstra 1989).¹⁷ But this is nothing unusual, if we consider other nominalizations in Dutch. Consider for instance the following nominalizations of an exceptional Case marking construction:

¹⁷ In minimalist terms, this could be analyzed as a verbal projection (e.g. a VP, an AgrOP, etc.) being combined with a nominal functional head by generalized transformation.

- (20) a. het horen zingen door Marie van Hedjes
the hearing sing by Marie of songs
"hearing Mary sing songs"
b. het Hedjes horen zingen door Marie
the songs hearing sing by Marie
"hearing Mary sing songs"
c. het Marie Hedjes horen zingen
the Mary songs hearing sing
"hearing Mary sing songs"

In (20a) the verb selecting the exceptional Case marking complement *horen* 'hear' is nominalized together with the verb of the complement *zingen* 'sing'. The subject and the object of the complement clause appear in prepositional phrases. In (20b), the object of the complement clause is included in the nominalization. On our assumptions, this indicates that an Agr-OP is part of the verbal projection that is turned into a nominal projection at some higher point in the tree (à la Abney 1987). In (20c), finally, the subject of the complement clause is also included in the nominalization, indicating that a second Agr-OP is present in the verbal subpart of the nominalization structure. Hence, there is no reason why a Predicate Phrase should not be a possible input to the nominalization operation, yielding (18).

I conclude that the Predicate Phrase hypothesis is not conceptually unattractive. Crucial, however, is the second question: is overt movement to the Predicate Phrase (from now on, PredP) empirically supported in Dutch?

To answer this question, consider again the distribution of Small Clause predicates in Dutch. These invariably appear to the left of the verb in embedded clauses, almost always adjacent to it. The adjacency could in principle indicate that both are in their basic position, or in a specifier-head configuration. Consider now the single element that is allowed between the verb and the Small Clause predicate: a stranded preposition. Crucially, as the examples show, this is often the head of an adjunct PP, not an element of the Small Clause. Let us assume that it is generated as an adjunct to the VP (the maximal projection of the verb selecting the Small Clause).

Now if the verb and the Small Clause predicate are in their basic position, the stranded preposition could only intervene by lowering. On the other hand, if the verb and the Small Clause predicate are in a specifier-head configuration, the stranded preposition might intervene by raising from its position adjoined to the VP to the head of the PredP.

Lowering is a distinctly suspect operation in generative syntax. But lowering of a stranded preposition appears to be a pointless operation all in itself. Since the distribution of stranded prepositions is so limited, it is plausible that preposition stranding involves two operations: extraction of

a noun phrase out of a PP, and raising of the head of that PP. Since PPs are generally islands (Van Riemsdijk 1978), we may assume that this head movement is necessary to make extraction out of the PP possible. It is well known that movement of the head X of XP to a position Y commanding XP lifts barrierhood of XP (Chomsky 1986b:69). If adjunct PPs are adjoined to VP, they are also c-commanded by the head selecting VP.¹⁹ Movement of P to this head therefore has the desired effect of making PP transparent. Lowering P, on the other hand, would be of no avail.

The distribution of stranded prepositions therefore decides in favor of the PredP hypothesis. Hence, we must assume that the (near) adjacency of the Small Clause predicate and the verb selecting the Small Clause is due to the circumstance that the predicate and the verb are in a specifier-head configuration. We must also assume that stranded prepositions, when intervening between the Small Clause predicate and the verb in Pred, are adjoined to the verb in Pred.¹⁹

This analysis at the same time explains why stranded prepositions do not appear to the right of the verb in embedded clauses, and why full PPs do not appear between the Small Clause predicate and the verb. The latter fact follows from the impossibility of adjoining phrases to heads. The former is explained by the fact that PPs are islands: this makes it necessary in extraction constructions for the P to move to a head c-commanding the PP. This can only be a functional head, which are all on the left in Dutch, as we have seen.²⁰ When no extraction takes place, there is no need for the P to move to Pred, hence the adjunct PP may remain in postverbal position. This, then, yields the standard PP-over-V effects, with the PP appearing to the right of the verb in embedded clauses.²¹

¹⁹ All maximal projections dominating the head in question also dominate the PP adjoined to VP.

²⁰ As illustrated in section 2.3.2, the stranded preposition may also precede the Small Clause predicate. This follows if adjunct PPs are not necessarily adjoined to VP. If adjoined higher, the stranded preposition would have to move to a higher functional head in order to obtain the desired result of lifting barrierhood of the PP. Since adjunct PPs may appear to the left of the Small Clause predicate as well, this distribution of the stranded preposition is actually predicted. For a slightly different analysis, see Koester (1993).

²¹ This analysis must be supplemented by the assumption that adjunction of the stranded preposition is always left-adjunction. This is inevitable, if Kayne (1993) is correct.

²² It is not clear to me why PP-over-V is much more limited in Standard German. On PP extraposition from NP, see Zwart (1990c). I agree with Kayne (1993) that these constructions should be rethought, excluding the possibility of movement to the right. For some possibilities, see Kamm (1992).

Notice that on this analysis it is not necessary to assume that adjunct PPs are adjoined to the right of the VP (a possibility rejected by Kayne 1993). If they are adjoined to the left of the VP, they will end up to the right of the verb after verb movement to Pred has taken place.²²

Additional empirical evidence in support of movement of the Small Clause predicate to the specifier of PredP in Dutch is provided by phenomena involving agreement and extraction.

Agreement between the Small Clause predicate and the verb also presents evidence that the verb and the predicate have to be in a specifier-head configuration. This agreement phenomenon shows up when the Small Clause predicate is a noun phrase, as in (21):

- (21) a. Het zijn^{M/IS} kooplieden
it are-PL/IS-SG merchants
"They are merchants."
b. Het zouden^{M/ZOU} kooplieden kunnen zijn
it should-PL/SG merchants can be
"They could be merchants."

The Small Clause subject *het* 'it' normally triggers singular agreement on the verb, as (22) shows:

- (22) Het is^{M/ZIJN} gek
it is-SG/are-PL crazy
"It's crazy."

The existence of number agreement between the Small Clause predicate and the verb supports the idea that a licensing position for Small Clause predicates exists.

It is clear that *kooplieden* in (21) is a predicate. De Vries (1910:55) shows that predicative noun phrases take the non-agreeing resumptive d-word *dat* when they are topicalized, instead of the agreeing d-word *die*.

This can be illustrated by the following paradigm:

²² For this analysis to work, we have to assume that Pred contains a V-feature which is strong in Dutch. Moreover, for the PP-over-V analysis to apply generally (i.e. left adjunction of PPs with short verb movement to Pred), we would have to assume that PredP is always present, even if no embedded predicate exists. This suggests that PredP is not merely designed for licensing embedded predicates, but has a more general function. I will leave speculations on this topic aside.

- (23) a. De ouders maakten de oudste zoon de rijkste
the parents made the eldest son the richest: (one)
b. De oudste zoon, die^{M/DAT} maakte de ouders de rijkste
the eldest son, MASC/NTR made the parents the richest
"The eldest son, the parents made the richest one."
c. De rijkste, dat^{M/DIE} maakte de ouders de oudste zoon
the richest, NTR/MASC made the parents the eldest son
"The richest one, that's what the parents made the eldest son."

Given that it is not in the power of parents to change the relative age of their children, *de rijkste* 'the richest one' must be the Small Clause predicate in (23). As can be seen, the Small Clause predicate must be resumed by the neuter d-word *dat*, whereas the Small Clause subject must be resumed by the agreeing d-word *die*.

Applying this test to (21) shows that *kooplieden* 'merchants' is the Small Clause predicate.²³

- (24) Kooplieden, dat^{M/DIE} zijn het
merchants are it
"Merchants, that's what they are."

Kooplieden also has to be adjacent to the verb in embedded clauses:

- (25) -dat het kooplieden (*nog altijd) zijn
that it merchants still are
"...that they are still merchants."

Recall that indefinite objects in general may appear to the left of sentence adverbs:

- (26) -dat Jan kooplieden (nog altijd) haat
that John merchants still hates
"...that John still hates merchants."

(26) is grammatical, be it that *kooplieden* receives a strong, generic interpretation (unless *kooplieden* is focused by a special intonation). Hence, *kooplieden* in (25) is significantly less mobile than *kooplieden* in (26). This indicates again that *kooplieden* in (25) is the Small Clause predicate.

²³ *Kooplieden, die zijn het* 'merchants, these are it' is grammatical when *het* is interpreted as a predicate which receives its interpretation from the context (e.g. when *het* is understood as 'corrupt' or 'honest'). In that case, *kooplieden* must be analyzed as the subject of the Small Clause.

To see the evidence from extraction phenomena, consider what happens when the subject of the Small Clause is not a noun phrase but a clause. This occurs in constructions like the following:

- (27) *-dat Jan belangrijk vindt [dat hij zijn rijbewijs haalt]*
 that John important finds that he his driver's license gets
 "...that John considers it important that he gets his driver's license."

(27) has a variant in which *het* 'it' appears to the left of the predicate *belangrijk* 'important':

- (28) *-dat Jan het belangrijk vindt [dat hij zijn rijbewijs haalt]*
 that John it important finds that he his driver's license gets
 "...that John considers it important that he gets his driver's license."

Following Bennis (1986), I assume that sentences (27) and (28), which differ only in the presence or absence of *het*, receive significantly different analyses. When *het* is present, it must be regarded as the subject of a Small Clause; in that case, the postverbal clause is an adjunct clause. When *het* is absent, on the other hand, the postverbal clause itself is the subject of the Small Clause.

This analysis predicts that extraction out of the postverbal clause is only possible when *het* is absent (cf. Hoekstra 1983). This prediction is borne out in the pair (27)-(28):

- (29) a. *Wat denk je dat Jan belangrijk vindt [dat hij haalt]?*
 what think you that John important finds that he gets
 b. * *Wat denk je dat Jan het belangrijk vindt [dat hij haalt]?*
 what think you that John it important finds that he gets

The transparency of postverbal clauses argues against an extraposition analysis of these clauses. The facts suggest that the postverbal clause is in its basic position in (29a), but not in (29b).

The proposed analysis, involving raising to PredP, again brings a force movement to AgrOP. As a result, the clausal Small Clause subject must be assumed to stay in its place in (27) and (29a). Then, in the absence of movement of the Small Clause predicate to the specifier position of PredP, we would expect the Small Clause predicate to appear to the right of the clausal Small Clause subject, contrary to fact:

- (30) * *-dat Jan vindt [dat hij zijn rijbewijs haalt] belangrijk*
 that John finds that he his driver's license gets important

The ungrammaticality of (30) is explained by the obligatory movement of the Small Clause predicate to the specifier position of PredP.

It thus appears that there is sufficient empirical support for the existence of a Predicate Phrase, as well as for overt movement of the Small Clause predicate to the specifier position of this Predicate Phrase.

Returning now to the issue of the structure of the VP in Dutch, we can safely say that the position of Small Clause predicates in Dutch has no bearing on this issue. In other words, the position of Small Clause predicates in Dutch provides no evidence for the SOV status of Dutch, nor problems for its SYO status.

2.4 Verb Raising and 'Extraposition'

2.4.1 Introduction

The two preceding sections have served to dispel potential arguments in support of the hypothesis that the Dutch VP is head final. It was argued that indefinite objects move to the specifier position of AgrOP, and that Small Clause predicates move to the specifier position of PredP. Consequently, the fact that indefinite objects and Small Clause predicates invariably appear to the left of the verb in embedded clauses does not reveal the basic structure of the VP in Dutch.

Part of the analysis of the syntax of Small Clause predicates has been that the verb (in embedded clauses) moves up to the head of the PredP, thus explaining the strict adjacency of the predicate and the verb. This seems to make it almost impossible to gain reliable knowledge concerning the basic structure of the VP in Dutch.

In particular, the transparency of clausal complements becomes irrelevant for our concerns.¹ Consider the examples in (1):

- (1) a. *-dat Jan zei dat hij Marie gekust had*
 that John said that he Mary kissed had
 "...that John said that he had kissed Mary."
 b. *Wie denk je dat Jan zei dat hij gekust had?*
 who think you that John said that he kissed had
 "Who do you think John said he had kissed?"

The transparency of the clausal complement of *zei* 'said' is explained if the complement clause is L-marked by the verb. Since adjunct clauses are islands, we must assume that clauses can only be L-marked by the verb if the verb and the clause are in a sisterhood relation. Hence, we can

¹ Thanks to Teun Hoekstra and Anders Holmberg for pointing this out to me at an early stage of this research.

safely assume that the clause *dat hij gekust had* 'that he had kissed' is in its basic position. However, this does not allow us to conclude that the VP in Dutch is head initial. If the verb *zei* 'said' is not also in its basic position, nothing excludes a derivation in which the verb starts out from a position to the right of the complement clause. Since we have found evidence in the previous section that there is short verb movement to Pred in Dutch, (1) provides no empirical evidence either way.²

However, as I will show in section 2.4.2, (1) does in fact reflect the basic order of the VP in Dutch. (This becomes apparent when the single verb *zei* in (1) is replaced by a verb cluster. It can be demonstrated that in that case, the assumption that all VPs involved are head initial makes a simple and elegant derivation possible, whereas the assumption that all VPs are head final yields a derivation which lacks a consistent direction of adjunction.

This point will be further strengthened in section 2.4.3, on Verb Raising in Dutch, German, and dialects of the two languages. The analysis leads to the conclusion that the SVO hypothesis allows us to dispense with the operation of Verb Projection Raising.

2.4.2 Verb Clusters in Dutch

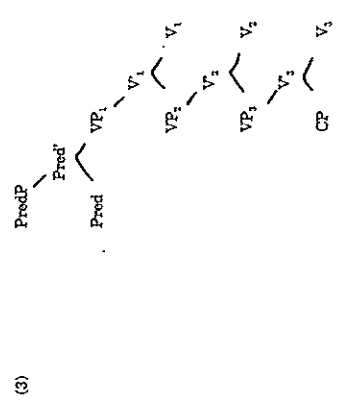
Let us return to (1a) and replace the single verb *zei* 'said' by a verb cluster like *verteld zal hebben* 'will have told':³

- (2) -dnt Jan verteld zal hebben dat hij Marie gekust heeft
that John told will have that he kissed Mary
"...that John will have told that he kissed Mary."

In the verbal cluster in (2), *verteld* 'told' is a past participle, *zal* 'will' is the inflected modal verb, and *hebben* 'have' is an infinitival auxiliary. The modal verb selects the infinitival auxiliary, and the auxiliary selects the past participle. The cluster thus can be characterized as 3-1-2, where the numbers reflect the hierarchical order of the verbs in the cluster.

Assuming that each verb heads its own VP, we must conclude that the embedded clause in (2) contains three hierarchically ordered VPs, the lowest of which contains the clausal complement *dat hij Marie gekust heeft* 'that he kissed Mary'.

Let us now assume that the three VPs in (2) are all head final, as illustrated in (3).



Consider how the word order in (2) can be derived from the underlying structure in (3). The verbal cluster as a whole will have to end up in Pred, in order to derive the fact that the cluster precedes the complement clause (CP). This can be done by adjoining V3 to VP3, followed by adjunction of the two-verb cluster to V1, followed by adjunction of the three-verb cluster to Pred.

On closer scrutiny, however, this derivation will fail to yield the correct order of verbs in the cluster, which is 3-1-2. This order cannot be derived when V3 is first adjoined to V2. We therefore have to first adjoin V2 to V1, followed by adjunction of V3 to the two-verb cluster, followed by adjunction of the three-verb cluster to Pred. Alternatively, the two-verb cluster could

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2 One could argue that the conclusions reached in section 2.3.3 concerning short verb movement to Pred do not carry over to (1), because there is no embedded predicate in (1). Consequently, the presence of a PredP in this construction would be contentious. If so, (1) would be admissible as empirical evidence supporting the SVO status of Dutch. There are several reasons to leave this a moot point, however. First, it could be that the PredP is not just there for checking the features of an embedded predicate, but also for checking a certain feature of the verb (cf. note 22 of section 2.3.3). In that case, we cannot exclude the possibility that the PredP is always present. Second, adjuncts may intervene between the embedded verb and its complement clause (for example, ...dat Jan gisteren zei tegen Pete dat hij zou komen [that John yesterday said to Pete that he would come], an observation Kean 1992:101 ascribes to Jack Hoeksema). This is explained under the short verb movement approach to PP-over-V phenomena taken in section 2.3.3; the adjuncts could be adjoined to the VP, and would be skipped by the verb on its way to Pred. The possibility of having adjuncts intervene is not restricted to those constructions in which there is a Small Clause predicate (hence, under the present assumptions, a PredP). Extractability appears to be decreasing in the relevant constructions, but judgments are difficult. In view of these potential arguments in favor of generalized short-verb movement, I will take the word order in (1) to be irrelevant. 3 This has no effect on the transparency of the complement clause.

Let us first consider the difference between (2) and (4) in a little more detail, in the light of the two analyses under comparison here.

What is striking about the paradigm is that the placement of the past participle appears to be optional. This is strange from a minimalist point of view. There is reason to believe, however, that those speakers of Standard Dutch who accept both (2) and (4) are to a certain extent bilingual (cf. Hoeksra 1992b). This bilingualism is probably not the result of language contact. As Stroop (1970:258) shows, the verb cluster in (4) is hardly ever used by dialect speakers. Among dialects, the order in (2) is the most popular one. A third order, 3-2-1 (*verleid hebben zal* 'told have will'), is dominant in dialects in the North, and a fourth order, 1-3-2 (*zal verleid hebben* 'will told have') is also attested, albeit with limited distribution.

The bilingualism I have in mind is the result of purism. It is also apparent in the less complicated pair in (6):

- (6) a. -dat Jan Marie gekust heeft
 that John Mary kissed has
 "...that John kissed Mary."
 b. -dat Jan Marie heeft gekust
 that John Mary has kissed
 "...that John kissed Mary."

(6a) and (6b) are both well represented among the dialects of Dutch. However, Stroop (1970:250), following up on earlier research by A. Pauwels, shows that the order in (6a) is overwhelmingly more prominent. Notice that in German, (6a) is the only order allowed:

- (7) a. -daß Johann Maria geküßt hat
 that John Mary kissed has
 "...that John kissed Mary."
 b. * -daß Johann Maria hat geküßt
 that John Mary has kissed

Stroop shows that the order in (6b) was favored by copy editors, teachers, and other purists, who, as Stroop conjectures, considered the widely used order of (6a) as a German infiltration.⁷ I presume that this language policy has led to a tendency to put the past participle at the end of the

⁷ Stroop (1970:252) quotes a 1960 style sheet from the quality newspaper *Allgemeine Handelsblatt*, where the order past participle-auxiliary was condemned as German and had to be avoided. See Haeseryn 1990:36f and references cited there for evidence that this puristic policy was still in existence in 1990.

verb sequence, even if this yields an order which does not appear to have a systematic counterpart in any Dutch dialect, such as the order in (4).⁸

This observation raises the question whether the order of the verbs in (4) and (6b) is due to a linearization rule, or whether the language user creates these orders by ignoring the morphological character of the past participle, thus treating it like an ordinary infinitive. Only in the latter case can the variation be described in structural terms.

When the verb cluster in Dutch contains a modal verb (V_1) and an infinitive (V_2), the order 1-2 is clearly favored in both written and spoken Dutch (Stroop 1970:254, 256):⁹

- (8) a. ? -dat Jan Marie kussen wil
 that John Mary kiss will
 "...that John wants to kiss Mary."
 b. -dat Jan Marie wil kussen
 that John Mary wants kiss
 "...that John wants to kiss Mary."

When the verb cluster contains more verbs, the 3-1-2 order with V_3 an infinitive is impossible (cf. Stroop 1970:256):

- (9) a. * -dat Jan Marie kussen zal willen
 that John Mary kiss will want
 "...that John will want to kiss Mary."
 b. -dat Jan Marie zal willen kussen
 that John Mary will want kiss
 "...that John will want to kiss Mary."

I suspect that the order 1-2 in (6b) and the order 1-2-3 in (4) are modeled on the comparable orders in (8b) and (9b) where the most deeply embedded verb is an infinitive. If so, a linearization rule is not needed to account for (4) and (6b). The orders result from treating the past participles as infinitives. In the OV-analysis, this leads to right-adjunction

⁸ The puristic tendency to avoid verb sequences ending with the inflected auxiliary is in all probability also responsible for the word order phenomena reported in Michels (1959), Verhulst (1961), and Sassen (1963). In the relevant constructions, Small Clause predicates with the morphological shape of a past participle or a *te*-infinitive optionally appear to the right of the inflected auxiliary (mostly a form of *zijn* 'be') in an embedded clause. Examples: *...die niet tegen overbrengen zijn bezwaard* (who not against earth quakes are proof, 'who are not earthquake-proof') next to *...bezwaard zijn*; *...waser niemand is te vertrouwen* (where none is to trust, 'where none is reliable') next to *...te vertrouwen is*. In both cases, the auxiliary-final order is the only grammatical one, but the other order is used quite frequently in written Dutch. Haeseryn (1990:33) notes that the predicate-final order is explicitly prescribed in a 1986 style manual of the newspaper *De Volkskrant*.

⁹ The 2-1 order is only prominent in the dialects of the North.

of the past participle to the next higher verb, in the VO-analysis, to absence of verb movement.

Consider next how this variation can be described in minimalist terms. The only variation which the minimalist program allows is expressed in terms of the strength of morphological features represented in functional heads. If the features are strong, overt movement to the relevant functional projection is obligatory, if they are weak, overt movement is excluded. This seems to be insufficient to describe the creation of clusters. Apparently, movement of one lexical head to another (*incorporation*) must be allowed as well, as in Baker (1988), and Chomsky (1992:23). Assuming incorporation to be a universal process, it must exist covertly in those languages which do not show it overtly. This suggests that, again, certain features are involved which can be either strong or weak. If so, incorporation can be described within the narrow margins of a minimalist theory of parametrization.

Crucially, what is *not* part of a minimalist theory of parametrization is directionality of adjunction (section 1.3.3). If complex patterns of parametric variation can be described by employing the strong/weak distinction only, this appears to be the desired analysis from the minimalist point of view.

In the VO-analysis, the contrast between (2) and (4) can be described in these minimalist terms. The adjunction in (2) is due to a feature triggering adjunction of the past participle to the highest verb. As (8) and (9) show, the trigger is somehow related to the morphological properties of past participles; infinitives are not affected by the same trigger. (4) can then be described by assuming that past participles in this type of construction are treated as infinitives, which again eliminates the trigger for movement.

In the OV-analysis, there must be a trigger for incorporation of the infinitives and for adjunction of the past participle to the highest verb. The derivation of (4) follows straightforwardly, on the assumption that past participles are treated as infinitives in these constructions. However, the derivation of (2) requires a specification of the direction of adjunction. As we have seen, this type of specification falls outside the bounds of the minimalist approach.

It is easy to see that the specification of the direction of adjunction in the OV-analysis is a parametric specification, and not a universal one. The dialects of Dutch spoken in the North of the country use a verb cluster of the 3-2-1 type (Stroop 1970:256), just like German:

- (10) a. -dat Jan Marie gekust hebben zal Northern Dutch type
 that John Mary kissed have will
 "that John will have kissed Mary."
 b. -daß Johann Maria geküßt haben wird German
 that John Mary kissed have will
 "that John will have kissed Mary."

The derivation of these clusters requires that V_2 be adjoined to the left of V_1 , and that V_3 be likewise left-adjoined, either to V_2 directly, or, in a later stage, to the two verb cluster V_2-V_1 in V_1 or in Pred.¹⁰ Hence, in the OV-analysis the direction of adjunction must be parametrized.¹¹

In the VO-analysis, no such parametrization is needed. On the assumption that incorporation is always left-adjunction, the difference between (10) and (2)/(4) is just a matter of overt vs. covert movement of the infinitival verbs involved.¹²

We may conclude that the VO-analysis is superior to the OV-analysis in its potential to explain the structure of verbal clusters in Dutch. Therefore, the order of the embedded verb and the complement clause in (1) must be taken to reflect the basic ordering of the verb and its complement in the VP.

This conclusion will be strengthened in the next section.

¹⁰ In principle, one could also assume, in the OV-analysis, that verb clusters of the 3-2-1 type involve no adjunction at all. However, this would leave unexplained the fact that a 3-2-1 verb order can never be broken up by intervening material.

¹¹ The Dutch dialects in question and German are standardly analyzed as SOV languages, like Standard Dutch.

¹² I have ignored the possibility that the past participle does not adjoin to a higher verb but raises to the specifier position of a PredP. Although this would strengthen the argumentation in support of the VO-hypothesis advanced in section 2.3, it would also make it harder to refute the OV-hypothesis on the basis of directionality of adjunction. The past participle could then be assumed to move to the PredP in (2), and adjoin to the right in (4), being treated as an infinitive, as we have assumed. This would yield right adjunction, but not an inconsistent direction of adjunction. However, the assumption that past participles move to the specifier position of a PredP leaves unexplained that stranded prepositional cannot intervene between the past participle and the higher verb.

(3) de bros waar is de deur rood (nee) gevoeld (nee) hekt
 the brush where you the door red with paused with have
 "the brush which you painted the door red with"

For this reason, I assumed that past participles move to a higher verb rather than to a specifier position.

2.4.3 The Many Faces of Verb Raising and Extrapolation

If the VP in Dutch is head initial, many aspects of the syntax of verb sequences in Dutch must be rethought.¹³ In the traditional SOV-analysis, when a verb selects an infinitival complement, two things can happen.¹⁴ Either the infinitival complement is extraposed and right-adjoined to a projection of the verb selecting it (V₁), or the verb inside the infinitival complement (V₂) is raised and right-adjoined to V₁. The former operation is called *extrapolation*, the latter *verb raising*. The relevant phenomena are illustrated in (11) and (12), respectively.

- (11) -dat Jan probeert Marie te kussen
 that John tries Mary to kiss
 "...that John tries to kiss Mary."

- (12) -dat Jan Marie wil kussen
 that John Mary wants kiss
 "...that John wants to kiss Mary."

Extrapolation and verb raising are not always easy to tell apart. The most reliable test is provided by the morphology of V₁ when it is itself selected by the auxiliary *hebben* 'have'. In that case, V₁ will be a past participle in extraposition constructions, and an infinitive in verb raising constructions:

- (13) Jan heeft geprobeerd/*proberen Marie te kussen
 John has tried/try Mary to kiss
 "John tried to kiss Mary."

- (14) Jan heeft Marie willen/*gewild kussen
 John has Mary want/wanted kiss
 "John wanted to kiss Mary."

Other tests like the position of the direct object of the infinitival verb or the presence of the preposition/infinitival marker *te* 'to' are not foolproof. As (15a) shows, extraposition of an infinitival complement is also possible when the direct object of the infinitival appears to the left of V₁ (Reuland 1982; see Den Besten, Rutten, Veenstra, and Veld 1988, who dubbed this construction the *third construction*). Likewise, (15b) shows that *te* may be present in verb raising constructions (cf. Rutten 1991):

¹³ See also Kaan (1992), Lattewitz (1993).

¹⁴ The tradition goes back to Evers (1975).

- (15) a. Jan heeft Marie geprobeerd te kussen
 John has Mary tried to kiss
 "John tried to kiss Mary."
 b. Jan heeft Marie proberen te kussen
 John has Mary try to kiss
 "John tried to kiss Mary."

(15a) is analyzed as a combination of extrapolation and scrambling, cf. Den Besten and Rutten (1989).

In addition to verb raising, extrapolation, and the third construction, a fourth type of construction has to be distinguished. This construction is analyzed as a subtype of verb raising, but in this case the complement of V₂ is raised along with V₂. The morphology of V₁ shows that verb raising is involved, not extrapolation:¹⁵

- (16) a. % -dat Jan altijd wil zijn vriendin kussen
 that John always wants his girlfriend kiss
 "...that John always wants to kiss his girlfriend."
 b. % Jan heeft willen/*gewild zijn vriendin kussen
 John has want/*wanted his girlfriend kiss
 "John wanted to kiss his girlfriend."

It is assumed that a projection of V₂ is adjoined to V₁, hence its name, *Verb Projection Raising* (cf. Den Besten and Edmondson 1983, Haegeman and Van Riemsdijk 1986, Koster 1987 chapter 5, Vanden Wyngaerd 1989c).

Verb Projection Raising constructions are not grammatical in present day Standard Dutch, but are quite common in earlier stages of Dutch and in present day Flemish dialects.¹⁶

If the VO-hypothesis is correct, the theoretical apparatus needed to derive these four construction types (extrapolation, verb raising, the third construction, and Verb Projection Raising) is completely superfluous. Notice that under the traditional OV-hypothesis each of these construction types can only be derived by resorting to suspect operations.

To derive the extrapolation construction in (11), a clausal constituent has to be moved to the right. There is neither a clear trigger, nor a clear

¹⁵ The % sign indicates that the status of the sentences shows dialectal variation. In present day Standard Dutch, Verb Projection Raising constructions are unacceptable, in West Flemish (and to a large extent in Standard Flemish), they are fine.

¹⁶ See Vanaecker (1970) for a detailed analysis of its distribution. On Verb Projection Raising in Standard Dutch, see Koelmanns (1965) and Hoeksema (1993).

target for this movement.¹⁷ In addition, the extraposition does not lead to opacity of the infinitival complement.¹⁸

- (17) *Wie heeft Jan geprobeerd om te kussen?*
 who has John tried COMP to kiss
 'Who did John try to kiss?'

The derivation of verb raising (12) involves adjunction to the right, a suspect operation if Kayne (1993) is correct, and something we found in the previous section to be not subject to parametrization. The derivation of the third construction (15a) is equally suspicious as the derivation of extraposition, since the former is a subtype of the latter. Finally, Verb Projection Raising (16) is a doubly suspect operation since it involves right-adjunction of a nonhead to a head (cf. Baltin 1982, Chomsky 1986b).¹⁹

¹⁷ Bennis and Hoekstra (1989) argue for a Tense-linking requirement governing the various movements in verb raising and extraposition constructions in Dutch (cf. also Rutten 1991). In Bennis and Hoekstra's analysis, all verbs in a construction have to be linked to the matrix tense. Tense linking takes place by creating a Tense-chain consisting of local links which connect a verb with Tense, or by composing Tense-chains under a condition of disrethood of arbitrary links of two Tense-chains. Bennis and Hoekstra argue that in Dutch, the V-position cannot be part of a Tense-chain. Hence, the verb has to move to T, the head of a head final TP. On the assumption that the V-position in Dutch is not part of a Tense-chain, the Tense-linking requirement explains extraposition of sentential complements. The Tense-chain in the embedded clause must be linked to the matrix Tense-chain by chain composition. Since the sister of the embedded clause, V, is not part of a Tense-chain, the embedded clause has to raise in order to make chain composition possible. Thus, the Tense-linking analysis is based on the assumption that the verb in embedded clauses moves to the right in Dutch, an assumption which we have found to be unsupported in this book. Dropping this assumption would amount to accepting that the V-position in Dutch is part of the Tense-chain and would remove the proposed trigger for extraposition.

¹⁸ The complementizer *om* is included in the infinitival complement to exclude the possibility that (17) is derived from a third construction extraposition. In that case, *wie* 'who' would be extracted from a position to the right of the past participle (Agr-OP in the matrix clause, presumably). The complementizer *om* is not allowed in the third construction type of extraposition, according to Den Besten and Rutten 1989:55.

¹⁹ The phenomena underlying Verb Projection Raising have led to a number of more or less complicated analyses. The classical analysis involves adjunction of a V' (Hoegemaa and Van Riemsdijk (1986) argue that adjunction does not suffice, and resort to an analysis involving multiple tree representations. Koster (1987) argues that the latter step is uncalled for, and proposes a linearization rule effecting inversion of possibly unlike projections of V. Vanden Wyngaert (1988c) argues that V or VP-movement is never involved, and presents arguments to assume that the phenomenon involves right-adjunction of an Agr-OP to a maximal projection. This is certainly the most attractive analysis of Verb Projection Raising based on the OV-hypothesis I have seen, incurring only the problem of movement and adjunction to the right.

If we adopt the hypothesis that the VP in Dutch is head initial, all these problems disappear. In extraposition constructions (11), the infinitival complement clause can be assumed to occupy its basic position, whereas V₁ can have undergone short movement to Pred. The analysis of the third construction (15a) differs minimally from the analysis of extraposition. We must assume that in ordinary extraposition constructions, the infinitival complement contains an Agr-OP, whereas this is not the case in the third construction. Instead, the object of V₂ must be licensed in the functional domain of V₁ (cf. Kaan 1992).²⁰

(18) *extraposition (=13)*

$\{_{VP} V_1 \{_{CP} \dots \{_{Agr-OP} object, \{_{VP} V_2 t, \dots \}} \}$

third construction (=15a)

$\{_{Agr-OP} object, \{_{VP} V_1 \{_{CP} \dots \{_{VP} V_2 t, \dots \}} \}$

In verb raising constructions, we may assume that all the verbs are in situ, procrastinating incorporation until LF. Finally, as already concluded in Kaan (1992), Verb Projection Raising, like extraposition, can be analyzed in terms of the distribution of Agr-OPs in the structure:

(19)

verb raising (=12)
 $\{_{Agr-OP} object, \{_{VP} V_1 \{_{VP} V_2 t, \dots \}} \}$

verb projection raising (=16a)

$\{_{VP} V_1 \{_{Agr-OP} object, \{_{VP} V_2 t, \dots \}} \}$

Thus, (16a) differs minimally from (12) in that in (16a) the projection of V₂ is expanded up to the Agr-OP level, creating a position for licensing the direct object of *kussen* 'kiss', whereas the infinitival complement in (12) does not contain an Agr-OP. As a result, the direct object of V₂ must be

²⁰ Details are left out from the representations in the text. The verbs are represented in their base position. The status of the embedded clause in the third construction is left open. The captions *extraposition*, *third construction*, *verb raising*, *verb projection raising* obviously refer to sets of phenomena, not to actual movement operations of the type suggested by the terminology.

licensed in the functional domain of the matrix clause in standard verb raising constructions like (12).

Though many questions concerning the syntax of verbal clusters remain, we can immediately conclude that the SVO hypothesis leads to a simplification, both in taxonomy and in analysis. This is an important result, not just from the point of view of descriptive elegance, but also from a language learnability perspective.

Apart from morphological issues and questions of overt versus covert movement, what the language user has to learn in order to master the complex pattern of Germanic verb clusters is that not every clausal constituent needs to be expanded up to the AgrOP level, as long as an AgrOP is eventually created. This possibility is allowed by the universal structure building mechanism of generalized transformations, and therefore does not count as a burden for the language learner.

More generally, the question which cycle will host which functional projections must be answered in terms of locality theory. If a functional projection is created in a cycle which cannot be reached by the movement operations needed to eliminate its features, the derivation will not converge. The locality principles involved are presumably universal as well. In the case at hand, they allow speakers of Dutch to license the object of an infinitival complement clause in the functional domain of the matrix clause. This seems to remain within the narrow margins of language learnability.

In contrast, if the traditional analysis based on the SOV-hypothesis were correct, the language user would have to learn whether to move a clause, a head, or a projection of a head, and whether to adjoin those elements to the right or to the left. Then, in addition to that, it would have to be learned whether the element that is moved to the right contains an AgrOP or not, in order to distinguish between the extraposition and the third construction.²¹

The SVO-hypothesis clearly has the advantage over the traditional hypothesis here.

2.4.4 Conclusion

The syntax of verb clusters in Dutch can be described in a maximally simple way if we assume that the VP in Dutch is head initial. This suggests that the difference between German and Dutch verb clusters reduces to a difference between overt (in German) and covert (in Dutch)

²¹ Also, assuming Vandea Wyngeerd's (1989c) analysis, in order to distinguish between verb raising and Verb Projection raising.

leftward movement of embedded verbs. An analysis based on the alternative, according to which the VP in Dutch is head final, must express the difference between Dutch and German in terms of direction of adjunction.

2.5 Conclusion

In this section I have argued that the VP in Dutch is head initial. The verb final orders in embedded clauses in Dutch are all derived orders. Direct objects in Dutch move to the specifier position of AgrOP in overt syntax, embedded predicates move to the specifier position of PredP. Clausal complements appear to the right of the verb in embedded clauses in Dutch. It follows from the properties of verb clusters in Dutch and related languages that this overt verb-complement order reflects the basic structure of the VP in Dutch.

3 On the Structure of Other Lexical Projections

3.1 Introduction

In the preceding section, I argued that the VP in Dutch can profitably be analyzed as being head initial. Earlier, in chapter III, we reached a similar conclusion for the structure of the functional projections in Dutch. This suggests that all projections in Dutch are head initial.

In the final section of this chapter, I will consider very briefly the structure of the remaining lexical projections, the Noun Phrase (NP), the Preposition Phrase (PP), and the Adjective Phrase (AP).

A comprehensive treatment of the syntactic properties of these projections falls outside the scope of this book. My goal in these pages will be to discard *prima facie* evidence for the head final status of these projections, and to discuss certain favorable consequences for the analysis of these projections emanating from the hypothesis that all projections in Dutch are head initial.

It is obvious that relative certainty about the basic structure of the NP, AP, and PP is hard to get without studying the internal syntax of these projections in more depth. Moreover, it is unclear whether more detail will bring more clarity in this issue. In the minimalist approach, syntactic licensing processes always involve movement to positions in the functional domain at some point in the derivation. It is well known that

the functional domain of at least NPs is as articulate as the functional domain of the VP (Abney 1987, many others). We may assume that APs and PPs have a functional domain of appropriate complexity as well. Therefore, we cannot exclude the possibility that elements are not in their basic position in the observable overt syntax. This makes it hard to draw any conclusions out of context.

Nevertheless, if we were right earlier on in arguing that the functional projections and the VP in Dutch are head initial, the null-hypothesis must be that the remaining lexical projections do not deviate from the established pattern. Therefore, in the absence of evidence to the contrary, we must conclude that NP, AP, and PP are head initial as well.

In the following sections, aspects of the syntax of NP, AP, and PP are treated in that order.

3.2 NP

The issue of the basic structure of the NP is extremely difficult to resolve.

For one thing, it is not clear that nouns have complements. In contrast to prepositions, transitive adjectives, and verbs, nouns do not take noun phrase complements:

- (1) a. *de verwoesting* **(van)* *de stad*
 the destruction of the city
 Caesar *verwoestte* *de stad*
 Caesar destroyed the city

This is generally accounted for in terms of Case theory, nouns being unable to assign Case (Chomsky 1981:49). This explanation can be translated in minimalist terms by stating that the functional domain of a noun phrase lacks a licensing position for the noun's complement.¹

Emonds (1985) rejects an account of (1a) in terms of Case theory, noting examples like the following:

- (2) a. *John* arrived a welcome guest
 b. *John's arrival* **(as)* a welcome guest

Arrive being an unaccusative verb, the problems for Case assignment to *a welcome guest* are the same in both (2a) and (2b). Emonds proposes that

¹ Note that nouns do take clausal complements. This supports the hypothesis that clauses are not licensed in AgrOP. This hypothesis is instrumental in the explanation of the distribution of noun phrases and clauses (see section II.4.3).

the preposition *as* in (2b) has to appear because nouns, unlike verbs, cannot assign a θ -role without intervention of a preposition.

However, in the minimalist framework (2b) may receive a similar explanation as (1a), on the assumption that *a welcome guest* in (2) is a Small Clause predicate. If Small Clause predicates must be licensed in the specifier position of a Predicate Phrase, as proposed in section 2.3, we can maintain the standard analysis by stating that the functional domain of a noun phrase not only lacks an AgrOP, but also a PredP.² This possibility of unifying the analysis of (1a) and (2b) provides additional support for the existence of a PredP.

Nevertheless, the obligatory prepositional character of the complement of a noun raises the question how PPs are licensed. There appear to be two options. Either PPs are licensed in the specifier position in the functional domain of a noun, or PPs inside noun phrases must be considered as adjuncts.

There appears to be some support for the latter point of view. The prepositional complement of a noun is never obligatorily present:

- (4) a. *de verwoesting* *(van de stad)*
 the destruction of the city
 b. *Caesar* *verwoestte* **(de stad)*
 Caesar destroyed the city

- (5) a. *John* arrived
 b. *The arrival*

But if the PPs inside noun phrases are adjuncts, the issue of the basic structure of the NP becomes void.

Let us therefore assume, for argument's sake, that the PPs inside noun phrases are generated as complements of the noun, and have to be licensed in the functional domain of the noun phrase.

This, however, does not make it any easier to unravel the basic structure of the NP. As has become clear in recent years, nouns have a well developed functional domain (referred to as DP), and several analyses involving head movement of the noun into its functional domain have been proposed (cf. Abney 1987, Delsing 1988, Longobardi 1990, Valois 1990, Bernstein 1991, Ritter 1991, Holmberg, ed., 1992, Lattewitz 1992). In combination with the potential movement of the PP complement to a

² Many of the facts familiar from Kayne (1984, chapter 7) may be explained by the absence of a PredP in DPs (e.g. *Mary proved a good companion* - **Mary's proof a good companion*). It is unclear to me, however, why insertion of a preposition does not help in these cases, unlike in Emonds' examples.

- (9)

die	Zerstörung	der	Stadt	German
the	destruction	the-	GEN	city
	"the destruction of the city"			

Lattewitz assumes that the postnominal genitive DP must be licensed in a specifier-head configuration with the head noun in overt syntax. Hence, the head noun *Zerstörung* 'destruction' must be in a derived position in (9).

Lattewitz argues that the derived position occupied by *Zerstörung* in (9) is the head of a functional projection the specifier of which is the designated licensing position for APs. This analysis is supported by the existence of morphological agreement between the head noun and the adjective, and by the observation that the AP and the head noun are strictly adjacent. Both phenomena can also be observed in Dutch:

- (10)

a.	één	oud/*oude	huis	Dutch
	one	old-SG/PL	house-SG	
b.	twee	oude/*oud	huizen	
	two	old-PL/SG	houses-PL	

(11)

a.	het	oudste	huis	in	de	straat
	the	oldest	house	in	the	street
b.	* het	oudste	in	de	straat	huis
	the	oldest	in	the	street	house

In (10), the adjective shows number agreement with the noun (and with the numeral). In (11) the PP restricting the scope of *oudste* 'oldest' cannot appear between the adjective and the noun. These phenomena suggest that the noun and the AP are in a specifier-head configuration.⁴

Let us therefore assume that this is the case. It follows that the head of the NP in (6a) is in a derived position, and that we can draw no conclusions as to the basic structure of the NP in Dutch.

⁴ It is clear that the entire AP must be in a specifier-head relation with the head noun in view of constructions like *de zo compleet mogelijkste verwoesting* 'the as-complete-as-possible destruction'. Notice, however, that the analysis implies that movement of N to the head of the adjectival agreement phrase also takes place when there is no AP around. Otherwise, the position of the postnominal genitive in German and of the postnominal PP in Dutch would not be accounted for in noun phrases without an adjective.

position in the functional domain, this makes it difficult to determine the structure of the NP on the basis of overt word order.

In Dutch, complement PPs always follow the head noun in overt syntax:

- (6)

a.	de	verwoesting	van	de	stad
	the	destruction	of	the	city
b.	* de	van	de	stad	verwoesting
	the	of	the	city	destruction

However, this fact does not prove that NP in Dutch is head initial. It could be that the noun *verwoesting* has moved to a position in its functional domain in overt syntax.

On the other hand, it is not easy to demonstrate that head movement has taken place in (6a), either. The determiner and the noun are not necessarily adjacent, so the head noun cannot have been moved to the determiner, the head of DP:

- (7)

de	complete	verwoesting	van	de	stad
the	complete	destruction	of	the	city

Also, it is not likely that the head noun has been moved to the head of the Adjective Phrase (AP), since *compleet* can be modified:

- (8)

de	zo	compleet	mogelijke	verwoesting	van	de	stad
the	so	complete	possible	destruction	of	the	city
	"the as-complete-as-possible destruction of the city"						

In (8), the circumpositional degree element *zo...mogelijke* 'as...as possible' modifies the adjectival head *compleet* 'complete'. This shows that the head noun *verwoesting* is not adjoined to the adjectival head, and that the adjective *compleet* is not adjoined to the determiner.⁵

The head movement in the Dutch DP, therefore, lacks a clear target. It may be that the PP *van de stad* 'of the city' is in its licensing position in the functional domain of the noun *verwoesting*. If that is the case, we must conclude that *verwoesting* has moved through the head of the functional projection in which the PP is licensed, to a functional head position to the left of the PP.

Lattewitz (1992) argues that this derivation takes place in the DP in German, where the postnominal PP can be a genitive DP:

⁵ See section 2.3 on the structure of the AP.

3.3 AP

The complement of an adjective is generally expressed in a PP in Dutch:

- (12) a. trots op iets
proud on something
"proud of something"
b. verlied op iemand
enamored on someone
"in love with someone"

The complement PP preferably follows the adjective in predicative constructions, but this is excluded in attributive constructions:

- (13) a. de man is trots op zijn auto
the man is proud of his car
b. ? de man is op zijn auto trots
the man is of his car proud
- (14) a. de op zijn auto trotse man
the of his car proud-AGR man
b. * de trotse op zijn auto man
the proud-AGR of his car man
c. * de trotse man op zijn auto
the proud-AGR man of his car
"the man that is proud of his car"

As indicated in the glosses, the adjective shows agreement with the head noun in attributive constructions, but not in predicative constructions. There is a strict requirement of adjacency between the inflected adjective and the head noun in attributive constructions (cf. Van Riemsdijk 1991).

In (14a), the complement PP *op zijn auto* and the adjective *trotse* are not necessarily adjacent:

- (15) de op zijn auto nog altijd zeer trotse man
the of his car still very proud-AGR man

This indicates that the complement PP in (14) is not in the basic complement position inside the AP. The complement PP may be in a licensing position to the left of the adjective, or it may have been generated as an adjunct in a position to the left of the adjective. In the latter case, we have to assume that the PP in APs is interpreted as a complement PP on the basis of our knowledge of the world, not as a function of θ-role assignment.

The nonadjacency in (15) indicates that the order in (14a) does not serve to indicate the basic order of elements in the AP. However, it is not

clear that (13a) serves this purpose either. There are indications that the adjective itself is in a derived position.

Let us assume, following Corver (1991), that comparative and superlative APs involve a functional projection DegP (Degree Phrase). The morphology associated with the Degree features is visible on the adjective:

- (16) kort-Ø "short"
kort-er "shorter"
kort-st "shortest"

When the adjective is inflected, the agreement morphology is suffixed to the degree morphology:

- (17) kort-Ø-e short-AGR "short"
kort-er-e short-DEG-AGR "shorter"
kort-st-e short-DEG-AGR "shortest"

In itself, these facts do not show that the adjective is in a derived position, since all features associated with the morphology could be checked in covert syntax. However, it is likely that the features associated with the agreement morphology are checked in a higher functional head position than the features associated with the degree morphology. The agreement features express a relation between the head of the AP and an element outside the AP, whereas the degree features are relevant inside the AP only.

We can express this by stating that the agreement morphology is generated in Deg, and that agreement between the AP and the head noun is really agreement of the head noun with DegP.⁵ The morphology in (17) then results from overt movement of *kort*, *kort-er*, *kort-st* to Deg.

This analysis is prompted by the existence of discontinuous degree elements in Dutch, in particular the expression *zo...mogelijk*

⁵ The idea of generating the adjectival morphology in Deg is not to be confused with the minimalist notion of generating inflectional morphology in functional heads. Rather, the adjectival morphology must be thought of as being part of a (possibly empty) degree element, and the inflectional features associated with the morphology are not checked in Deg but in a higher functional head.

[as...possible].⁶ In attributive APs, the agreement morphology is suffixed to *mogelijk* instead of to the adjective:⁷

- (18) a. een zo kort mogelijk route
 a as short possible-AGR route
 b. * een zo korte mogelijk route
 a as short-AGR possible route

This follows if we assume that *mogelijk* is generated in the head of DegP, carrying the agreement morphology. In this view, *kort* must be adjoined to Deg in (18a), to check its degree features. As predicted, the adjective's superlative degree morphology appears in between the adjective and *mogelijk*:

- (19) a. do kortst mogelijke route
 the shortest possible-AGR route
 b. * de kort mogelijke route
 the short possible-DEG-AGR route

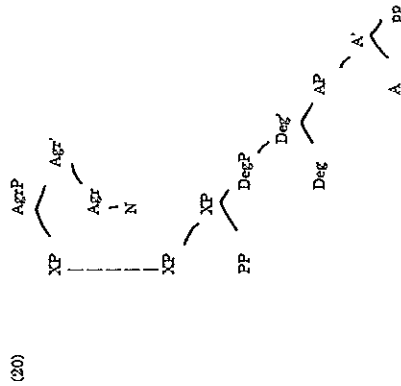
The hypothesis of A-to-Deg movement in Dutch goes halfway in explaining the mandatory adjacency of the adjective and the noun. It makes the correct prediction that the only exceptions to this adjacency requirement involve adjunction to an element in Deg.

What is missing in the explanation is an account of the absence of complement PPs between the adjective and the noun. But we had to conclude above, on the basis of (15), that complement PPs in APs are either in a position in the functional domain, or base generated as adjuncts. If adjuncts cannot be generated to the right, either approach suffices to account for the obligatory adjacency of adjective and noun in Dutch, assuming, as in section 3.3, that AP (now including the functional domain of AP) and N are in a specifier-head configuration in overt syntax in Dutch.

⁶ Zo...*mogelijk* should not be confused with *zo...als mogelijk* [as...as possible]. The latter expression is one of a productive paradigm of comparisons, including also *zo groen als gras* 'as green as grass', *zo goed als nieuw* 'as good as new', etc. One of the differences between the two types of expressions is that in *zo...mogelijk*, *mogelijk* precedes complement PPs in predicative APs (*hij is zo trots mogelijk op zijn auto* [he is as proud possible of his car], **hij is zo trots op zijn auto mogelijk* [he is as proud of his car possible]), whereas in *zo...als mogelijk*, *als mogelijk* may follow the complement PP (*hij is zo trots op zijn auto als mogelijk* [he is as proud of his car as possible], *hij is zo trots als mogelijk op zijn auto* [he is as proud as possible of his car]).

⁷ This is only possible with *zo...mogelijk*, not with expressions of the type *zo...als mogelijk* ('*een zo kort als mogelijke route* [a as short as possible route]), with the exception of *zo goed als nieuw* [as good as new], which has come to mean 'practically new'.

If this is correct, the contrast between (13) and (14) suggests that an additional movement operation is involved in the derivation of predicative adjective constructions. Consider the structure of attributive DegPs, as suggested above:



XP in (20) is the maximal functional domain of the adjective. PP is the position where the complement PP of the adjective is either licensed or base generated. In the first case, PP is a trace, in the second case, PP is empty. It is assumed that A moves to Deg, and that the features associated with Deg (the \bar{e} morphology) are in agreement with the features of the noun N.

The difference between predicative constructions and attributive constructions is that in the latter, the complement PP may not intervene between the noun and the adjective. This is accounted for in the structure in (20), if A is in Deg, and PP is in the position indicated by PP, as was assumed. The fact that the adjective may precede the PP in predicative constructions is accounted for if in these constructions DegP moves to the left, stranding the complement PP. This yields the word order in (13a). The word order in (13b), with the PP preceding the adjective, can be derived if the PP can be taken along in the movement of DegP, either because a larger category can be moved, or, if the PP is an adjunct, because the PP may be adjoined in various positions.

The alternative, according to which all elements are in their basic position in (13a), is doubtful, considering the absence of strict adjacency of the adjective and the complement PP in these constructions:

- (21) *de man is zo trots als een pauw op zijn auto*
 the man is as proud as a peacock of his car

With this much in mind, let us turn to the transitive adjectives in Dutch (cf. Van Riemsdijk 1983).

Transitive adjectives take a noun phrase complement. Some, like the ones in (22), are obviously deverbal, others, like the ones in (23), are not:

- (22) *ontwend* past participle of *ontwennen* 'break a habit'
ontgroeid past participle of *ontgroeien* 'outgrow'
toegeevigd 'devoted to', past participle of *toewijden* 'devote'
toegelegen 'affectionate', past participle of *toezigen* 'incline'

- (23) *zich bewust* 'conscious of'
zat 'fed up with'
machting 'in command of (a language)'
dankbaar 'grateful towards'
indachtig 'mindful of'
moe 'tired of'
naerbij 'close to'
trouw 'loyal to'
waard 'worth'

The complement invariably precedes the transitive adjective:

- (24) a. *Hij is de winkelsluiting ontwend*
 he is the shop-closing dis-used
 "He is no longer used to the opening hours of the shops."
 b. * *Hij is ontwend de winkelsluiting*
 he is dis-used the shop-closing
- (25) a. *Hij blijft zijn principes trouw*
 he remains his principles loyal
 "He remains loyal to his principles."
 b. * *Hij blijft trouw zijn principes*
 he remains loyal his principles
- (26) a. *Een de winkelsluiting ontwende*
 a the shop-closing dis-used
 "A Dutchman, no longer used to the shops' opening hours."
 b. * *Een ontwende de winkelsluiting*
 a dis-used the shop-closing
 Dutchman Dutchman

- (27) a. *Een zijn principes trouwe Catalaan*
 a his principles loyal Catalan
 "A Catalan, loyal to his principles."
 b. * *Een trouwe zijn principes Catalaan*
 a loyal his principles Catalan

These facts could be taken to indicate that the AP in Dutch is head final. However, in none of these constructions is the complement necessarily adjacent to the adjective:

- (28) *de winkelsluiting door het verblijf in de VS ontwend*
 the shop-closing through the stay in the US dis-used
 "no longer used to the opening hours because of the stay in the US"
- (29) *zijn principes ondanks het verblijf in de VS trouw*
 his principles in spite of the stay in the US loyal
 "loyal to his principles in spite of the stay in the US"

(28) and (29) can be used in predicative and attributive constructions alike.

This indicates that the complement of a transitive adjective in Dutch is in a derived position in the functional domain of the adjective. We may assume that this derived position is a licensing position located somewhere between DegP and XP in (20). Consequently, the word order in transitive APs is irrelevant for the issue of the basic structure of the AP.

A final question to be answered is why the complement precedes the adjective in predicative transitive APs, whereas either order is possible in predicative intransitive APs. This follows if the functional projection designated for licensing the complement of the transitive adjective is always taken along in the movement of DegP to the left.

If this is correct, the crucial difference between intransitive and transitive adjectives resides in the position of the complement in overt syntax. The PP-complement of intransitive adjectives can be either stranded or taken along, the DP-complement of transitive adjectives must be taken along. Suppose that the part that is moved in predicative constructions is always the same category, some functional projection of the AP carrying the features relevant for the movement. Then the difference between transitive and intransitive APs could be that the licensing position of the complement of transitive adjectives necessarily falls inside that category. In contrast, the complement of an intransitive adjective could be defined as an adjunct, without a fixed adjunction position. Consequently, the PP in intransitive APs could be adjoined both inside and outside the category that is moved in predicative constructions.

It is tempting to suggest that the functional domain of transitive APs contains an AgrOP, like VPs, but unlike intransitive APs and NPs. This could be related to Van Riemsdijk's (1983) characterization of transitive APs as verbal categories. Certain phenomena point to the verbal character of transitive adjectives, also with the non-deverbal transitive adjectives listed in (23). For example, transitive adjectives, like past participles, cannot be modified with *te 'too'*, instead of which *te zeer 'too much'* must be used:

- (30) a. Hij is zijn beguinselen te ('zeer) trouw
 he is his principles too much loyal
 b. Hij is te ('zeer) trouw
 he is too much loyal

Also, transitive adjectives generally appear to resist synthetic comparative and superlative formation.⁸

- (31) a. Jan is de TV meer zat/zatter dan de radio
 John is the TV more fed up than the radio
 "John is more fed up with the TV than with the radio."
 b. Jan is zatter/meer zat dan Piet
 John is more drunk than Piet

Possibly, these phenomena support the idea that transitive adjectives are verbal elements. This would make it possible for transitive adjectives to feature an AgrOP in their functional domain. This again would help explaining the fixed position of the complement of transitive adjectives, compared to (what looks like) the complement of intransitive adjectives.

I will leave these and other aspects of the syntax of APs for further study.

In conclusion, the complement-head order in transitive APs cannot be considered as evidence in support of the idea that APs in Dutch are head final. Thus, the overt syntax of NP and AP does not allow us to draw any conclusions as to the basic structure of the lexical projections. In the next section, I will argue that the properties of complex PPs do lead to the conclusion that the PP in Dutch is head initial.

⁸ An exception is formed by *dankebaar 'grateful'*, which allows a synthetic comparative and superlative even when used transitively.

3.4 PP

Dutch has prepositional PPs, postpositional PPs, and circumpositional PPs:

- (32) op het dak op
 on the roof prepositional
 "on(to) the roof"
- (33) a. het dak op postpositional
 the roof on
 "onto the roof"
 b. er op
 there on
 "on(to) it"
- (34) van het dak af circumpositional
 of the roof off
 "off of the roof"

Inside VP, prepositional PPs may be adjuncts or Small Clause predicates:

- (35) a. -dat Jan op het dak sprong
 that John on the roof jumped
 "that John was jumping on the roof."
 *..that John jumped onto the roof."
 b. -dat Jan sprong op het dak
 that John jumped on the roof
 "that John was jumping on the roof."
 *..that John jumped onto the roof."

Postpositional PPs and circumpositional PPs inside VP are always Small Clause predicates:

- (36) a. -dat Jan het dak op sprong
 that John the roof on jumped
 "that John jumped onto the roof."
 * ..dat Jan sprong het dak op
 that John jumped the roof on
- (37) a. -dat Jan van het dak af sprong
 that John of the roof off jumped
 "that John jumped off of the roof."
 * ..dat Jan sprong van het dak af
 that John jumped of the roof off

As always, Small Clause predicates may not appear to the right of the verb in embedded clauses.

The fact that postpositional PPs and circumpositional PPs behave alike in this respect suggests that the latter are a subclass of the former. This would imply that circumpositional PPs are structured as in (38):

- (38) $[_{CP} [_{P'} P_1 NP] P_2]$

Van Riemsdijk (1990) argues extensively for the constituent analysis of circumpositional PPs in German and Dutch in (38). This analysis is clearly supported in German, where prepositions govern overt Case morphology:

- (39) a. unter der^{die} Brücke German
 under the-DAT/ACC bridge (locational)
 b. durch die^{der} Brücke
 through the-ACC/DAT bridge

In circumpositional PPs, the Case morphology on the noun phrase is governed by the preposition preceding it:

- (40) unter der^{die} Brücke durch
 under the-DAT/ACC bridge through
 "under the bridge (directional)"

Van Riemsdijk (1990) also argues that the relation between P_2 and the PP to its left is not a head-complement relation. If it were, it would have to be specified that the preposition *durch* 'through' (cf. (39-40)) takes a noun phrase complement to its right and a PP complement to its left.

Van Riemsdijk (1990) also argues that the PP to the left of P_2 is not an adjunct, and proposes an analysis of circumpositions in which P_2 is a functional head. In this analysis, postpositional PPs can be regarded as circumpositional PPs with an empty functional head, which is filled by moving the lexical preposition to the functional head.⁹

I fully agree with Van Riemsdijk (1990) that circumpositional PPs as analyzed in (38) do not display a head-complement configuration. However, the idea that P_2 is a functional head is problematic, since P_2 lacks one of the defining characteristics of functional elements: it has 'descriptive content' (in the sense of Abney 1987:65).

Consider the contrast between (32) and (33a). On the analysis in which P_2 is a functional head, (33a) is derived from (32a) by moving the preposition *op* 'on' from P_1 (in (36)) to the position of the functional head P_2 . However, whereas *op* in (32) can be both directional and locational, *op*

⁹ Van Riemsdijk's analysis is quoted from the handout of his presentation.

in (33a) is necessarily interpreted as being directional.¹⁰ On an analysis along the lines of Van Riemsdijk (1990), the derivation of (33a) from (32) affects the descriptive content of the preposition. This effect is not expected if movement to a functional head is involved.

At the conceptual level, the idea that the PP headed by P_2 in (38) is a head final functional projection does not accord well with the generalization that functional projections in Dutch invariably are head initial. Hence, if a postpositional preposition really occupies a functional position, we expect the PP or noun phrase to its left to be in a derived position. Conversely, if the PP or noun phrase to its left is in a derived position, it does not follow that the postpositional preposition occupies a functional position.

As a matter of fact, postpositions are not necessarily adjacent to the preceding noun phrase or PP:¹¹

- (41) a. het dak weer op
 the roof again on
 "back onto the roof"
 b. van de tafel weer af
 of the table again off
 "back through the trees"

This suggests that the noun phrase in (41a) and the PP in (41b) are in a derived position. This is a possibility that the minimalist approach allows. We may assume that the noun phrase and the PP in (41) are generated in the complement of the final preposition, and have to be licensed in a specifier position in the preposition's functional domain. The nonadjacency

¹⁰ More exactly, (33a) is used only when the direction is upward. Thus, it is impossible to say *Jan sprong de inbreker op* 'John jumped the burglar onto'. John jumped on the burglar. The prepositional group (32) can be used also when the direction is not upward: *Jan sprong op de inbreker* 'John jumped on the burglar' is fine.

¹¹ When circumpositional PPs are used inside a VP, sometimes we may not be dealing with a circumpositional PP, but with an adjunct PP in combination with a particle Small Clause predicate. In those cases, the nonadjacency of the particle and the adjunct PP is irrelevant, of course. In Dutch, the two situations can be kept apart because adjunct PPs can appear to the right of the verb in embedded clauses, whereas the PP included inside a circumpositional PP cannot (i). Also, particles cannot appear in nominalizations as free standing elements, whereas postpositions can (ii). The nonadjacency illustrated in the text also applies to genuine circumpositional PPs.

(i) -dat de kogel^{de} de man afspringt van de muur
 that the bullet^{of} the man off jumps of the wall
 "-but the bullet ricochets/leaves the man, jumps off the wall."
(ii) de sprong van de muur af van de man^{de} kogel
 the jump of the wall off of the man/bullet

further indicates that the preposition is not in the head position of the relevant functional projection.

Let us therefore assume that circumpositions have the basic structure in (42), and that the overt word order in (34) is derived by movement of the complement of P_2 to the spec-position in the functional projection FP:

- (42) $[_{FP} \text{ spec } F^* [_{FP} P_2^* [_{FP} P_1^* DP \text{ }]]]]$
of van de tafel

As can be seen, (42) is a consistently head initial structure.

There is some evidence that the analysis in (42) must be preferred over a consistently head final analysis of circumpositions, illustrated in (43):

- (43) $[_{FP} \text{ spec } [_{FP} DP P_1^*] P_2^*] F^*$
de tafel van of

The evidence is based on the existence, next to (34), of (44):

- (44) *van of de tafel*
 'off the table'
 'off of the table'

Assuming the structure in (42), (44) can be derived by moving P_1 and left-adjoining it to P_2 . This leads to a simple description of the alternation: either the head of the complement PP is adjoined to the higher P , or the entire complement is moved to a specifier position in the functional domain.

Assuming the structure in (43), more operations have to be involved. To derive (34) (*van de tafel of* [of the table off]), P_1 has to move to a position to the left of the noun phrase *de tafel* 'the table'. The nature of this position is unclear, however. Then, to derive (44), P_1 has to be left-adjointed to P_2 , yielding *van of*, and the complex *van of* has to move leftward again to another position to the left of *de tafel*.

Consider next how the structure of circumpositions in (42) sheds interesting light on postpositional PPs. We have noticed above that circumpositional PPs may be a subclass of postpositional PPs. If so, it may be desirable to analyze postpositional PPs along the same lines as circumpositional PPs. This can be done if we assume that in postpositional PPs P_1 is occupied by an empty preposition.

This analysis makes it possible to account for the subtle differences of interpretation between (32) and (33a). As noted above, (33a) is necessarily interpreted as directional, whereas (32) may be analyzed as both

directional and locational. Moreover, (33a) is only possible if the direction is upward (cf. note 9). Thus, (45b) is ungrammatical:

- (45) a. *Jan sprong op de inbreker*
 John jumped on the burglar
 b. * *Jan sprong de inbreker op*
 John jumped the burglar on

The core lexical content of the preposition *op* appears to be locational, involving an element of 'highness'. This may account for the requirement that the direction of movement in (33a) has to be upward. Let us refer to P_2 as HIGH. However, the directional element in the postpositional PP in (33a) is still unaccounted for. This is where the empty preposition comes in. If we assume that *op*, if it selects a PP complement, requires that PP to be directional, this PP must have a directional preposition as its head. Let us therefore refer to P_1 in this analysis as TO.

This yields the following interpretation of (33a):

- (46) TO the table, HIGH

(45b) is then excluded because the HIGH interpretation of P_2 involves that the movement indicated by the TO element of P_1 involves a high position. Accordingly, (45b) is not anomalous if *Jan* is, say, a flea.

If the directionality aspect of (33a) is accounted for by assuming the structure in (42) with an empty, directional P_1 , a similar analysis must apply to (32) in the directional interpretation. So let us assume that directional prepositional PPs and postpositional PPs start from the same basic structure, involving the same lexical elements, including TO. The problem then is to account for the word order, and for the fact that the aspect of mandatory upward movement is lost (cf. (45a)).

This follows, however, if we assume that incorporation of P_1 into P_2 yields a complex with a slightly noncompositional interpretation. Thus, adjoining TO to HIGH does yield the interpretation 'movement with an aspect of highness', but now the interpretation is weakened to 'movement to the high part of something'. This interpretation allows both (32) and (45a). Assuming this much, the directional prepositional PP can be derived by applying the same derivation that we needed independently to yield (44). Only this time, we have an empty P_1 instead of a phonetically visible one.

This yields the following interpretation of (32):

- (47) TO-HIGH, the table

The hypothesis that incorporation of prepositions affects the meaning of the target of the incorporation is also supported by the interpretation of

vanaf compared to *van...af*. In *van...af*, but not in *vanaf*, P_2 *af* is necessarily interpreted as involving downward motion:

- (48) a. *de sprong van de tafel af*
 the jump of the table off
 "the jump down from the table"
 b. *de sprong vanaf de tafel*
 the jump of off the table
 "the jump from the table"

(48b), but not (48a), has the interpretation 'away from the table'. This is explained if *af* contributes the notion DOWN, and if adjunction of *van* to *af* obscures the downward aspect of this notion, while keeping the less specific aspect AWAY.¹² Accordingly, *vanaf* but not *van...af* can be used to indicate removal in time.¹³

- (49) a. *vanaf maandag*
 of off Monday on
 "from Monday on"
 b. * *van maandag af*
 of Monday off

As for the locational interpretation of (32), we may assume that in this case TO is absent, with HIGH selecting a noun phrase complement instead of a prepositional complement. This yields the interpretation in (50):

- (50) HIGH, the table

Turning finally to (33b), repeated here for convenience, this is an example of the core case of postpositional PPs in Dutch in which we know that the complement of the preposition is in a derived position (Van Riemsdijk 1978):

¹² The relatedness of DOWN and AWAY is suggested by expressions like *down in history* and *down in Texas*.
¹³ From Monday on' can also be translated with *van maandag af aan* [of Monday off on], where a third preposition, *aan* 'at' contributes an aspect of duration. Assuming the basic structure to be *aan [af [van maandag]]*, *van maandag af aan* is derived by moving *aan* to a specifier position to the left of *af*, and *van maandag af* to a specifier position to the left of *aan*. Apparently, the durative aspect contributed by *aan* suffices to adjust the meaning of *af* in the required way. A similar analysis may be applicable to the mysterious PP *van op aan* 'of up on', used only in *Je kunt van hem op aan* [you can of him up on]. 'You can rely on him'. This can be derived from *aan op [van hem]]* in the same way as *van (maandag) af aan* is derived above. Again, the strict upward motion interpretation of *op* is lost, even though no incorporation seems to have taken place.

- (33) b. *er op*
 there on
 "out(to) it"

Only elements with the morphological feature [+R] appear as complements in this kind of PP. This suggests that movement to a licensing position is involved. Accordingly, the noun phrase and the preposition are not necessarily adjacent:

- (51) *er weer op*
 there again on
 "back on it"

This type of PP, then, does not even remotely suggest that the PP in Dutch has a head final basic structure.

The availability of both a directional and a locational interpretation suggests that (33b) is closer to (32) than to (33a). I will therefore assume that an empty directional P_1 is present in the complement of the locational P_2 *op*, and that P_1 incorporates in P_2 , yielding the interpretation paraphrased in (47). The difference between (33b) and (32) is that in the former case the noun phrase in the complement of P_2 has a morphological feature which requires overt movement for licensing purposes, whereas in (32), for all we know, this noun phrase does not move in overt syntax.

Returning to the issue of the basic structure of the PP in Dutch, none of the PP-types in (32)-(34) provides evidence to support the idea that PPs in Dutch are head final. Conversely, certain intricate patterns of word order and interpretation become understandable if we assume the simple head initial PP-structure in (42).

3-5 Conclusion

Assuming the minimalist approach, it is extremely difficult to compile empirical evidence regarding the basic structure of the lexical projections. The general possibility of moving elements into the functional domain makes it unclear whether the observed word orders reflect the basic order.

The discussions in this section lead to the conclusion that reliable evidence is not based on the observed word order, but on the elegance of the analysis of constructions involving a stack of lexical projections of the same categorial status. Thus, multiple VP-constructions in Dutch receive the most elegant analysis if all VPs involved are head initial. Likewise, the structure and interpretation of complex PPs suggest that overt head final PP orders are derived from basic head initial structures.

In connection with the results from chapter III and the conceptual considerations discussed in section I.3.3, this leads to the conclusion that

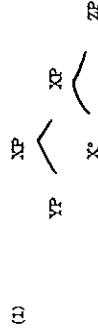
all projections in Dutch are head initial.

V

CONCLUSION

In the preceding chapters I have argued that the syntactic structures of Dutch all consist of molecular substructures with a universal hierarchical and linear organization, and that the processes affecting the elements in these substructures all conform to the requirements of the Minimalist Program of Chomsky (1992), or to the more restrictive modifications of the minimalist approach proposed here.

The hierarchical and linear organization of the molecular substructures underlying Dutch syntactic structures is as proposed in Kayne (1992, 1993), illustrated in (1):



In chapter III, I presented several arguments in support of the hypothesis that the functional projections in Dutch have the head initial structure in (1). These arguments are based on the position of the infinitival marker/preposition *te* 'to', the position of clitics in Dutch, the phenomenon of complementizer agreement, and verb movement in subject initial main clauses and inversion constructions.

In section III.1, it was argued that *te* is not an inflectional morpheme and that there is no evidence that *te* is generated in a right-peripheral functional head. On the minimalist assumption that inflected verbs preferably remain inside VP in overt syntax (by the economy-related principle of Procrastination), the clause-final position of the inflected verb

In this analysis, Verb Projection Raising can be dispensed with, and the relevant constructions can be analyzed as involving functional projections (AgrOP, PredP) in the complement of the hierarchically higher verb.

In section IV.3, it was argued that the properties of the Dutch NP and AP present no arguments for a head final structure of these projections. On the other hand, the syntactic and semantic properties of complex PPs do support the hypothesis that the PP in Dutch is invariably head initial, even in postpositional constructions.

These analyses all support the hypothesis that syntactic structures in Dutch are uniformly built up according to the universal structure building instructions which yield (1).

The other objective of this book was to reach a maximally restrictive analysis of the various movement processes taking place in the verbal system. In chapter II, it was argued that the traditional generative analysis of verb movement in Dutch (involving generalized V-to-C movement) leaves several phenomena unexplained. Foremost among these is the supposed movement of the subject to the specifier position of CP in subject initial main clauses. The idea that subject placement is a subcase of topicalization was discussed and dismissed in section III.5.1.

In a minimalist approach to subject placement (cf. Chomsky 1992), the null hypothesis is that the subject moves to the specifier position of AgrSP in neutral word order constructions (with overt subject movement). This follows from standard feature checking requirements, on the assumption that the N-feature of AgrS in the relevant language is strong. According to this approach to verb movement in Dutch, not the position of the subject is problematic, but the distribution of the finite verb.

The absence of verb movement in embedded clauses in Dutch makes it impossible to assume that the V-feature of AgrS is strong. The absence of verb movement in embedded clauses then follows from economy of derivations (the 'fewest steps' requirement). This, however, makes it necessary to provide a trigger for verb movement to AgrS in subject initial main clauses which overrules the fewest steps requirement.

In view of this, the hypothesis was advanced that verb movement to AgrS in Dutch takes place in order to make checking of the strong N-feature of AgrS possible. Assuming that licensing relations invariably are *sisterhood* relations (section I.3.2), the first projection of AgrS (the *Projection* of AgrS) must play an active role in checking the N-features. It is proposed that a *Projection* of a head α has access to the N-features of α only if α is [-accessible]. If α is [-accessible], it becomes [-accessible] if the V-features of α are removed first. The pattern of verb movement in Dutch is now explained if AgrS has the following feature specification:

- (4) AgrS N-feature: strong
 V-feature: weak
 accessibility: negative

The strong N-feature forces the subject to move to the specifier position of AgrSP. The weak V-feature in principle procrastinates verb movement to covert syntax (LF). However, the [-accessibility] feature dictates that the N-feature of AgrS cannot be checked until its V-feature is eliminated. Verb movement to AgrS then takes place as a Last Resort operation, checking and eliminating the V-feature of AgrS. As a result, the N-feature of AgrS is activated (becomes accessible to the AgrSP Projection) and N-feature checking in overt syntax under sisterhood becomes possible.

I further assumed that economy of representation entails that features are present in as few positions as possible (section III.4.4). Thus, verb movement to AgrS actually has the result that the N-feature of AgrS moves to the AgrSP Projection, feeding feature checking under sisterhood. Another consequence of this view on the distribution of morphological features is that independent functional head movement of AgrS to C (where 'C' stands for Top or Wh) removes the V-feature of AgrS from the original position of AgrS. Thus, AgrS-to-C movement has the same effect as V-to-AgrS movement: the V-feature of AgrS is removed, and the N-feature of AgrS is activated. For this reason, AgrS-to-C movement obviates verb movement. This explains the absence of verb movement in embedded clauses in complementizer agreement dialects. On the assumption that there is abstract AgrS-to-C movement in Standard Dutch as well, the absence of verb movement in Standard Dutch embedded clauses is also explained.

Another consequence of the hypothesis that the V-feature of AgrS is only present on the head of the chain resulting from AgrS-to-C movement is that AgrS-to-C movement removes the trigger for V-to-AgrS movement in inversion constructions. Thus, we may assume that in inversion constructions, the verb moves to C in one step, and adjoins to AgrS in C, thus checking the V-features of AgrS under sisterhood. Verb movement to C across AgrS is empirically supported, as it explains the obligatory stranding of object clitics in AgrS in inversion constructions in Dutch.

Verb movement to C in inversion constructions in Dutch is likewise analyzed as a Last Resort movement (section III.5.3). It is assumed that the functional heads in the CP-system (Top and Wh) carry N-features but no V-features. The N-features are assumed to be strong in Dutch, triggering overt movement of topics and wh-elements. The absence of V-features follows from the definition of Top and Wh as non-L-related functional heads (Chomsky and Lasnik 1991). Since Top and Wh have no V-features, verb movement to the CP-system violates the economy principle Greed unless the V-feature of a lower functional head ends up

role assignment also requires a sisterhood configuration, we can formulate the following hypothesis:

- (5) All licensing relations are sisterhood relations

As was illustrated above, the active role of the Projection of α in checking the N-features of α is instrumental in explaining the verb movement pattern in Dutch.

It follows from (5) that the definition of the notion *checking domain* can be sharpened. Assuming Chomsky's (1992) distinction between complement domain and residual domain, the checking domain of α consists of those positions in the residual domain of α that are the sister of α (for checking V-features) and the sister of the Projection of α (for checking N-features). The *internal domain* of α can still be defined as the minimal complement domain of α , i.e. the sister of α in the complement domain of α . It also follows that head movement does not have the effect on the definition of checking domain that was argued for in Chomsky (1992). Since head movement of α to β does not turn the Projection of β into a Projection of α , the Projection of β cannot be involved in checking the N-features of α . Thus, the specifier of α , and not the specifier of β , is part of the checking domain of the chain resulting from the movement of α to β . Consequently, the specifier of α does not become part of the internal domain of this chain, contrary to what is proposed in Chomsky (1992). These definitions make it impossible that the specifier-head configuration (actually, the specifier-Projection configuration) needed for licensing the subject in AgrSP is recreated in CP, as proposed by Rizzi (1991a). The definitions do not exclude, however, that head movement creates a derived checking position for V-features. This follows from the assumption that the V-features of a head α are carried along in the movement of α to β . As a result, the V-features of α must be checked by adjoining the lexical head (the verb, in this case) to α in its derived position. As mentioned above, this derivation takes place in inversion constructions in Dutch.

Finally, as illustrated above, the idea that the Projection of α must perform the checking operation that eliminates the N-features of α makes it possible to introduce a third instance of parametric variation associated with functional heads. Next to the strength of N-features and V-features, the accessibility of functional heads to their Projection can be parametrized. We may consider this as an arbitrary specification of a functional head, like the other instances of parametric variation in the minimalist approach. The accessibility parameter is needed to account for the phenomenon that sometimes a head must be affected in some way, for instance by verb movement or by independent functional head movement, before its N-features can be checked. The N-feature checking in these

in C as the result of independent functional head movement. In Dutch, this is the case if AgrS moves to C. Assuming now that Top and Wh in Dutch are also specified as [-accessible], the V-feature of AgrS represented in Top/Wh must be removed in order to activate the N-feature of Top/Wh. This triggers verb movement to C, along the same lines as verb movement to AgrS is triggered in subject initial main clauses.

The analyses in this book invariably take Chomsky's Minimalist Program as their starting point. In certain areas, however, it appeared necessary to propose further restrictions.

One restriction, argued for throughout this book, is that economy of derivation does not entail that steps must be as short as possible. The abolition of the shortest steps requirement is suggested by the circumstance that local head movement is generally enforced by independently established feature checking requirements. In other cases, such as successive cyclic movement, local movement steps are replaced by the operation Form Chain of Chomsky (1992). I have taken this operation to proceed in such a way that intermediate links in a chain are introduced through generalized transformations *before* long distance movement takes place. It follows from the absence of the shortest steps requirement that the Equidistance Principle (Chomsky 1992) is not a principle of Universal Grammar. This is a welcome result, since the Equidistance Principle predicts that scrambling (movement to the specifier position of AgrOP) takes place only if verb movement to AgrO takes place as well. This prediction is refuted by the facts of Dutch and related languages. The Equidistance Principle, however, does derive part of the organization of the functional domain. This result is now lost, and the question of the derivation of the structure of the functional domain must be left as a subject for further study (see Hoekstra and Zwart 1993b for discussion).

A second refinement of the minimalist approach argued for in this book is the adoption of a one-level X-bar theory (cf. E. Hoekstra 1991). This makes it possible to derive the effect of target extension in a generalized transformation in a simple way. The rule is that if α is adjoined to β by a generalized transformation, the projection of β has the categorial features of β and the bar level of α . I have proposed to distinguish the first projection of a head α (the Projection of α) from all other projections of α (the Segments of the Projection of α). Unlike in the two-level X-bar theory, this distinction is not expressed in terms of bar level status, but in terms of feature content: the Projection of α may host the morphological features of α , but Segments may not. *Specifier* can now be defined as a sister of a Projection, and specifier-head agreement can be reduced to a sisterhood relation between a specifier and a Projection carrying the N-features of its head. Since V-features are also checked in sisterhood configurations (resulting from adjunction to a functional head), and theta-

cases is *conditional*; it takes place only when assisted by such movement operations. (The principle of Greed is not violated because none of the movements proposed takes place exclusively to help out other elements.) The accessibility parameter is intended to express this, linking the notion of conditional feature checking to the independently established universal mechanism of feature checking in a sisterhood configuration.

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¹ Surnames containing *de/den, de, or van/der* are listed under D, T, and V, respectively.

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