

Hinterhölzl provides a comprehensive study of three salient phenomena of the West Germanic language group, namely scrambling, remnant movement, and restructuring, and discusses their interrelatedness. He shows that scrambling cannot be taken to create the remnant categories necessary for VP-topicalization and the formation of verb clusters in restructuring infinitives. Instead, he argues that remnant categories are created by licensing movement and that restructuring involves remnant movement of large portions of the infinitival clause.

Restructuring breaks down into movement of the infinitival AspP, which accounts for the formation of verb clusters, and the infinitival TP, which is responsible for the general transparency of restructuring infinitives, into dedicated licensing positions in the matrix clause. These movements follow from a general theory of sentential complementation. Furthermore, Hinterhölzl argues that only a biclausal account can provide a uniform explanation for the properties of all types of restructuring infinitives, and he shows that the distribution of adverbs/adjuncts differs from the one found in single clauses and therefore calls for the existence of (at least) two licensing domains in restructuring infinitives. In addition, he shows that the binding properties of all types of coherent infinitives differ from the binding properties of simple clauses, and arguments for the presumed monoclausal nature of coherent to-infinitives, derived from the existence of long passives, are discarded. Finally, he proposes a uniform format for the different types of verb clusters in German, Dutch, and West Flemish, which accounts for the appearance/non-appearance of the IPP-effect and provides the basis for accounting for the different properties of VP-topicalization in these languages. These properties follow from the fine structure, in essence the branching nature, of the different verb clusters in these languages and the Phase Impenetrability Condition.

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Hinterhölzl
Scrambling, Remnant Movement, and
Restructuring in West Germanic

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Roland Hinterhölzl

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Since my return to Europe, I have been working on the proper characterization of scrambling (chapter 2), the fine structure of verb clusters (chapter 6), and the complex relation between restructuring and VP-topicalization (chapter 7). A preliminary version of chapter 2 has been published in Hinterhölzl (2004). The materials of chapter 6 and chapter 7 have been presented at Tilburg University in November 2004, at the ZAS in Berlin in January 2005, at the Incontro di Grammatica Generativa in Rome in February 2005, and at the GLOW workshop in Geneva in April 2005. I thank these audiences for valuable comments and feedback.

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*Scrambling, Remnant Movement, and
Restructuring in West Germanic*

Introduction

This book is dedicated to an exploration of the empirical properties and the theoretical implications of three salient phenomena of West Germanic, namely, remnant movement, scrambling, and restructuring. The following section provides a brief outline of the interdependence of these phenomena.

1.1 Basic observations

1.1.1 The connection between remnant movement and scrambling

The term *remnant movement* was coined by Den Besten and Webelhuth (1987) to account for a peculiarity of VP-fronting in German. Consider example (1). It seems that what has been fronted (into [Spec,CP]) is just the verbal head. In order to reconcile this fact with the well-known Verb Second Constraint, which requires that the finite verb in matrix clauses is preceded by one (and only one) *maximal* phrase, Den Besten and Webelhuth propose to analyze the structure in (1) parallel to the case in (2), where the entire VP has been fronted.

- (1) gelesen hat Hans das Buch
read has Hans the book

- (2) das Buch gelesen hat Hans
the book read has Hans

What makes (1) different from (2) in their analysis is the fact that in (1) the direct object has scrambled out of the VP prior to VP-fronting. The subsequent operation of VP-fronting will then move whatever remains in the VP, the so-called remnant category, into [Spec,CP], as is illustrated in (3). Thus, it seems that remnant movement of the VP is dependent on scrambling, which evacuates the VP of its internal argument. Since English does not allow scrambling, the parallel structure to (1) in English is correctly ruled out. If the VP is fronted in English, the object has to move along with the verb (3b–c).

- (3) a. [_{CP}[_{VP} t_{SCR} gelesen] hat [_{IP} Hans das Buch_{SCR} t_{VP}]]
 b. John promised to read something
 *... and read he did the book
 c. John promised to read the book
 ... and read the book he did

1.1.2 The connection between remnant movement and restructuring

In German, VP-fronting is not restricted to participles but may also affect infinitives. Example (4a–b) shows that VP-fronting can apply to bare infinitives as well as to infinitives. However, there is one restriction to this operation. VP-fronting may affect an infinitive only if the matrix verb belongs to the class of restructuring verbs. This is illustrated by the contrast in (4c–d), where the matrix verb *try*, a typical restructuring verb, licenses fronting of the embedded VP, while the verb *deny*, a typical representative of non-restructuring verbs, fails to license the respective operation. Thus, it seems that remnant VP-fronting is dependent not only on scrambling but also on restructuring.

- (4) a. kaufen will er das Buch
 buy wants he the book
 b. zu kaufen versprach er das Buch
 to buy promised he the book
 c. zu kaufen hat er das Buch versucht
 to buy has he the book tried
 d. *zu kaufen hat er das Buch abgelehnt
 to buy has he the book refused

1.1.3 The connection between scrambling and restructuring

Scrambling in German may permute the arguments of the verb. For instance, in (5a) the direct object has scrambled across the subject. It is important to note that this operation is clause-bound. As (5b) shows, the embedded object may not scramble

across the matrix subject. As (5c) shows, this also holds for embedded nonfinite clauses. However, in restructuring contexts, the embedded object can do exactly that, namely, scramble up to a position above the matrix subject, as is illustrated in (5d).

- (5) a. weil den Max jeder kennt
 since the Max-ACC everyone-NOM knows
 b. *weil den Max Peter glaubt dass jeder kennt
 since the Max-ACC the Peter-NOM believes that everyone-NOM knows
 c. *weil den Max jeder zu kennen bedauert
 since the Max-ACC everyone-NOM to know regrets
 d. weil den Max jeder zu kennen glaubt
 since the Max-ACC everyone-NOM to know believes

Thus, scrambling has often been used as a diagnostic for detecting restructuring infinitives. At this point we hit a bifurcation and two ways of explaining the contrast in (5c–d) seem to suggest themselves. First, one may hold that scrambling is always strictly clause-bound, implying that restructuring constructions are monoclausal structures (in this sense, scrambling is a diagnostics for the clause-mateness in infinitival constructions). Under these assumptions, studying restructuring constructions would amount to deriving a theory of which (verbal) predicates may combine within a single clause (cf. Cinque [2001], Wurmbrand [2001]).

Alternatively, one may assume that restructuring constructions are biclausal. Under this assumption, studying restructuring involves investigating the conditions under which an element may scramble from one clause into the next one up—in other words, under which conditions an element may undergo so-called long-distance scrambling. In this sense, scrambling is a diagnostics for the transparency of infinitival constructions.

Once the direct object of the embedded infinitive has undergone scrambling, the remnant infinitival phrase, however large it may be, probably just a VP in the monoclausal approach and possibly an entire CP in the biclausal approach, is free to undergo fronting, providing a possible account for the contrast in (4c–d), as is illustrated in (6).

- (6) a. [hat er versucht [das Buch zu verkaufen]] base structure
 b. [hat er [das Buch]_{SCR} versucht [t_{SCR} zu verkaufen]] long-distance scrambling
 c. [[t_{SCR} zu verkaufen] hat er das Buch versucht] fronting of the infinitival

In this book, I will carefully investigate the phenomenon that has been called scrambling (chapter 2) and argue that *scrambling* is a cover term for various operations with different properties and triggers. It will be shown that one of these operations, so-called S-scrambling, is actually not clause-bound, but that all other scrambling operations are strictly clause-bound. Furthermore, I will argue on the basis of a thorough analysis of remnant movement and its restrictions (see section 1.4 later) that Den Besten

and Webelhuth's famous account of data like (1) is untenable, since scrambling cannot be taken to create the remnant category that is the input for VP-fronting.

In (4c-d) earlier, I have illustrated that VP-fronting, an operation of remnant movement, is dependent on restructuring. In turn, I will argue that restructuring is dependent on remnant movement. The goal of this book is to argue that restructuring is based on remnant movement of large projections, both of the argument domain and of the licensing domain, of the infinitival clause (chapter 4). More specifically, I will show that S-scrambling does not play a role in restructuring. Thus, accounts of restructuring that assume that the constituents of the embedded infinitive undergo long-distance movement into the matrix clause are doomed. I will also show that what has been fronted in (4c) is not an infinitival clause (out of which the direct object has been scrambled into the matrix clause) but constitutes just an infinitival VP.

These observations, which I consider the empirical core of the book, seem to support a monoclausal account of restructuring constructions. However, I will argue (in chapter 5) that only a biclausal approach can provide a comprehensive and coherent account of all cases of restructuring in German, making necessary an account of restructuring in terms of remnant movement that splits up the embedded clause in various parts and has them licensed in dedicated positions in the matrix clause.

Before we take a closer look at restructuring, I have to introduce a number of phenomena and concepts that are essential for the description of the syntactic structure of West Germanic as well as for the understanding of the discussion of restructuring infinitives.

1.2 The basic syntactic phenomena of West Germanic

In this section, I provide an informal account of the basic notions and processes that govern the syntax of West Germanic. Though the different phenomena are introduced and illustrated by German data, the relevant generalizations carry over to the other West Germanic languages and dialects.

1.2.1 Verb second

First, note that German is a so-called Verb Second language. This means that the finite verb in matrix clauses moves from its base position, which is generally taken to be the position it occupies in an embedded clause (7a), to a sentence-initial position that has generally been assumed to be C⁰ (Den Besten 1977/1983). This movement only affects the finite part of a verb or verbal complex, leaving behind nonfinite verbs as in (7b) or verbal particles if they are separable (cf. [7c], which contains the particle verb *mit-teilen*). German is called Verb Second (V2) because in many sentence types the verb in this position must be preceded by another constituent, which is generally analyzed as occupying [Spec,CP] (7b).

- (7) a. weil Hans der Maria das Buch gegeben **hat**
since Hans to Mary the book given has

- b. *(Gestern) **hat** Hans der Maria das Buch **gegeben** [t]
yesterday has Hans to Mary the book given

The V2-structure in (7b) neatly displays the three topological fields, the *Vorfeld* (prefield), *Mittelfeld* (middle field), and *Nachfeld* (postfield), that have become standard terminology in describing the syntactic structure of German sentences. A constituent that precedes the finite verb in C⁰ occupies the *Vorfeld* or is said to be *topicalized*. Elements that occur between the finite verb and the nonfinite verb (or sometimes the verb-particle in case there is no auxiliary) are said to make up the middle field of the German sentence. A constituent that occurs after the nonfinite verb (or a verb-particle) occupies the *Nachfeld* and is assumed to be *extraposed*. For instance the subject *Hans* is topicalized in (7c), the sequence *der Maria gestern* forms the middle field of the sentence (7c), and the sentential complement *dass sie krank ist* is extraposed.

- (7) c. Hans **teilte** der Maria gestern **mit** [t] dass sie krank ist
Hans shared Mary-DAT yesterday with that she sick is
'Hans shared with Mary (told Mary) that she is sick'

1.2.2 Scrambling and topicalization

Second, I want to introduce the notion of *scrambling* in an informal way. Chapter 2 provides an extensive discussion of the formal nature of scrambling; here it suffices to characterize scrambling as a movement process that allows for the re-arrangement of constituents in the middle field, as is illustrated in (10) later. This notion of scrambling presupposes that there is an (unmarked) basic word order, from which alternative orders are derived via scrambling and that this base order is identifiable with independent criteria (cf. Höhle [1982], Lenerz [1977], for some discussion of these issues). One of the tests for identifying base orders is the naturalness of certain orders in out-of-the-blue contexts, as is illustrated in (8).

- (8) Was ist passiert? Ich habe gehört
What happened? I have heard
- a. dass der Hans die Maria getroffen hat
that Hans-NOM Maria-ACC met has
- b. dass die Maria der Hans getroffen hat
that Maria-ACC Hans-NOM met has

The order in (8a) is unmarked in this context and thus counts as base order. The order in (8b) is inappropriate in this context and thus counts as a marked word order that is derived from the basic word order. This test reveals that basic word orders in German are verb class-dependent (cf. Haider and Rosengren [1998]). This means that the base order cannot simply be determined by the Case properties of the arguments of the verb, say NOM > DAT > ACC, but is dependent on the specific (thematic) class a verb belongs to. These classes are illustrated in the following table, adopted from Haider and Rosengren (1998).

- (9) a. Nom > Acc: *bedauern* 'regret', *interpretieren* 'interpret'
 b. Acc > Nom: *interessieren* 'interest', *imponieren* 'impress'
 c. Nom > Dat: *helfen* 'help', *gratulieren* 'congratulate'
 d. Dat > Nom: *gefallen* 'appeal/please', *fehlen* 'lack'
 e. Nom > Dat > Acc: *anvertrauen* 'entrust', *verbieten* 'forbid'
 f. Nom > Acc > Dat: *aussetzen* 'expose', *unterordnen* 'subordinate'

Returning to scrambling and assuming that (10a) exemplifies the basic word order, scrambling can be described as a process that moves a constituent (preferably an argument) across arguments and adverbs to the top of the middle field. For instance, in (10b) the subject has been scrambled across both adverbs. In (10c), in addition to the scrambling in (10b), the direct object has been scrambled across the indirect object and the lower adverb, and so on. As should be clear from Example (10), the alternations I list only display a small subset of all the scrambling possibilities: In (10) I only gave the permutations that have the subject in the highest position in the middle field, then there are the permutations that have the subject in second position in the middle field and so on, not all of which, but most of which, yield felicitous sentences in one context or other.

- (10) a. weil vermutlich gestern Hans der Maria das Buch gegeben hat
 since presumably yesterday Hans to Maria the book given has
 b. weil Hans vermutlich gestern der Maria das Buch gegeben hat
 c. weil Hans vermutlich das Buch gestern der Maria gegeben hat
 d. weil Hans vermutlich gestern das Buch der Maria gegeben hat
 e. weil Hans vermutlich der Maria das Buch gestern gegeben hat
 f. weil Hans der Maria das Buch vermutlich gestern gegeben hat

For our purposes, it is irrelevant at this point what motivates scrambling or which alternations are most felicitous in which contexts. It is also irrelevant at this point whether scrambling is A- or A'-movement and how it is formally to be distinguished from topicalization. What is important for us here is that we assume that the alternations in (10) are derived by movement that we call scrambling and do not constitute different patterns that can be base generated, as has been proposed repeatedly by different scholars such as Fanselow (2001), Haider (1994), and Neeleman (1994a). To summarize, we characterize movement into the middle field as scrambling and movement into [Spec,CP] as topicalization.

It is important to note that this type of scrambling is clause-bound. Example (11) shows, while there is long-distance topicalization (11a), there is no process of long-distance scrambling in German (11b). In (11a), the embedded object has been moved into the topic position of the matrix clause and the result is fine. Scram-

bling of the embedded object into the middle field of the matrix clause, however, results in ungrammaticality.

- (11) a. **Den Mann** hat Peter geglaubt, dass Maria t geküsst hat
 the man-ACC has Peter believed that Mary kissed has
 'It was the man who Peter believed that Mary kissed'
 b. *Peter hat **den Mann** geglaubt, dass Maria t geküsst hat
 Peter has the man-ACC believed that Mary kissed has

Scrambling and topicalization also differ in the following respect: Scrambling seems to be restricted to arguments, while almost any (maximal) category, with the exception of IP, can be topicalized. Predicative elements, like predicate nominals (12a), heads of small clauses (12c) and idiomatic expressions (12e) cannot be scrambled, while the same elements can be topicalized quite naturally (cf. [12b, d, f]). Even verb-particles when they are separable from the verb, as can be detected from their behavior under V2 (whether they go along with the verb or stay behind in the base position), may be topicalized if the contribution of the particle to the meaning of the complex verb is transparent, while scrambling of verb-particles results in strong ungrammaticality (cf. [13b-c]). The particle *weg* ('away') is a separable verb prefix as can be seen from the alternation in (13a): When the main verb is finite it undergoes V2 and leaves the particle behind.

- (12) a. ??Er hat **einen Idioten** gestern seinen Freund genannt
 he has an idiot-ACC yesterday his friend called
 'He called his friend an idiot yesterday'
 b. **Einen Idioten** hat er gestern seinen Freund genannt
 an idiot has he yesterday his friend called
 c. ??Er hat **grün** gestern den Zaun gestrichen
 he has green yesterday the fence painted
 'He painted the fence green yesterday'
 d. **Grün** hat er gestern den Zaun gestrichen
 green has he yesterday the fence painted
 e. *Sie ist ihm **ins Wort** noch nie gefallen
 she is him into-the word yet never fallen
 'So far she has never interrupted him'
 f. **Ins Wort** ist sie ihm noch nie gefallen
 into-the word is she him yet never fallen
- (13) a. Er ist noch nie weggelaufen/Er lief noch nie weg
 he is not yet away-run/He ran not yet away

- b. **Weg** ist er gelaufen (und ist nie wieder zurückgekommen)
away is he run (und is never again back-come)
'He ran away (and has never come back again)'
- c. ??Er ist **weg** noch nie gelaufen
he is away not yet run
'So far he has never run away'
- d. *Gelaufen ist er noch nie **weg**
run is he yet never away

It should be pointed out that the topicalizability of a separable prefix (particle) is a bit surprising. When the finite verb undergoes V2 to C⁰, [Spec,CP] has to be filled. X-bar theory prescribes that it be filled with a maximal projection. What seems to have been topicalized in (13b) is a head or even part of a head, if we analyze the otherwise inseparable string *weg-laufen* as a complex head. However, if we assume that a separable prefix starts out as an independent syntactic unit that heads its own projection that can either cliticize onto the verb by head movement or move as a maximal projection (when it receives some kind of contrastive stress), then the fact in (13b) can be brought in line with standard assumptions about topicalization. Finally, it should be noted that a particle verb cannot be topicalized leaving behind its separable prefix, as is shown in (13d).

1.2.3 Extraposition

It is important to note that the term *extraposition*, though we intend to use it as a pretheoretic notion to refer to constituents that occupy the postfield, has been used to describe a movement operation in what I will call the standard theory of the phrase structure of the West Germanic languages. The standard theory assumes that these languages are head-final and analyzes constituents to the right of the nonfinite verb as being extraposed, that is, moved to this position by right-adjunction to VP or IP from its base position that precedes the verb that governs it. Example (14a) shows the base structure, where a complex sentential complement precedes the matrix verb that governs it. In (14b), the sentential complement of the matrix verb has been extraposed with the lower infinitival complement remaining in its (preverbal) base position. In (14c), both the complement of the matrix verb and the complement of the infinitival have been extraposed, that is, right-adjoined to the immediately dominating VP/IP node. It is important to note that extraposition is clause-bound. In (14d), the lower infinitival clause is moved across the dominating infinitival clause and right-adjoined to the matrix VP/IP, resulting in ungrammaticality. Viewing extraposition as derived by movement, we may assume that this operation may not cross a CP-node.¹

- (14) a. dass der Lehrer [_{VP} die Kinder [_{CP} [_{CP} die Aufgaben zu lösen] zu versuchen] bestärkt]
that the teacher the children the problems to solve to try encourages
'that the teacher encourages the children to try to solve the problems'

- b. dass der Lehrer [_{VP} [_{VP} die Kinder t bestärkt] [_{CP} die Aufgaben zu lösen zu versuchen]]
- c. dass der Lehrer [_{VP} [_{VP} die Kinder t₁ bestärkt] [_{CP}₁ [_{VP} [_{VP} t₂ zu versuchen] [_{CP}₂ die Aufgaben zu lösen]]]]
- d. *dass der Lehrer [_{VP} [_{VP} die Kinder [_{CP} t zu versuchen] bestärkt] [die Aufgaben zu lösen]]

1.2.4 Verb-finalness

As we have seen earlier, in embedded clauses the finite verb occurs in a sentence-final position (15a). Nonfinite verbs follow their complements (15b) and generally precede the finite verb in clause-final position (15c).

- (15) a. weil Hans gestern das Buch las
since Hans yesterday the book read
- b. Hans hat gestern **das Buch gelesen**
Hans has yesterday the book read
- c. weil Hans gestern das Buch **gelesen hat**
since Hans yesterday the book read has

When we compare this state of affairs with the positioning of finite and nonfinite verbs in a VO language like English, there are two options to account for these differences. The first option consists in assuming parametric variation in the head complement order and represents the standard approach to the syntax of the West Germanic OV languages. In this approach, the lexical and functional projections in the IP-domain are assumed to be head-final. Thus, the embedded verb-final position in (15a) is compatible either with the lack of V-movement (16a) or with rightward V-movement to a functional head within IP (16b). Furthermore, because of the right-headedness of the VP, an argument that precedes the verb may be analyzed as occupying its base position in the VP or as having scrambled out of the VP to a position in the middle field (cf. [16b] and [16c]). A considerable amount of work in German linguistics, culminating in Diesing's (1992) *mapping hypothesis*, was dedicated to the question of which factors determine whether scrambling out of the VP does apply or does not apply.

- (16) a. [_{CP} weil [_{IP} Hans gestern [_{VP} das Buch las]]]
- b. [_{CP} weil [_{IP} Hans gestern [_{VP} das Buch t_i] las_i]]
- c. [_{CP} weil [_{IP} Hans gestern [das Buch]_j [_{VP} t_j t_i] las_i]]
- since Hans yesterday the book read

The second option is to adopt the Universal Base Hypothesis (Kayne 1994), according to which all phrase structure is head-initial. In this approach it is assumed

that complements in German like in English are base generated following the selecting head and move to a licensing position to the left of the selecting head in the course of the derivation (cf. Zwart [1993]). The derivation of (15a) is illustrated in (17). In this approach, licensing movement is taken to derive the unmarked or neutral word order (in this case, the direct object moves to an Agreement head to check its Case, as I will argue later), before scrambling may further affect constituents in the middle field to derive more specialized or marked word orders. Therefore, this account predicts that scrambling is to be distinguished from movement out of the VP. I will take up this issue in section 1.4 on remnant movement.

- (17) a. [_{CP} weil [_{IP} Hans gestern [_{VP} las das Buch]]]
 since Hans yesterday read the book
 b. [_{CP} weil [_{IP} Hans gestern [_{das Buch}]_i [_{VP} las t_j]]]
 since Hans yesterday the book read

Note that in this approach, leftward movement must not only affect nominal arguments but also all VP-internal (verbal and non-verbal) predicates. In the case at hand, the participle in (15b-c) must move leftward to derive the unmarked word order *PART* > *AUX*.

A number of questions arise in this approach: First there is the question of where the finite verb in embedded clauses is located. It could be in its base position in the VP, as is assumed in (17b), or in a sentence medial I-position, as has been argued for by Haegeman (2001, 2002b). In the latter approach, movement of the finite verb to a medial Tense-head is followed by remnant movement of the VP to an even higher position in the middle field to derive the basic order arguments > verb. Throughout this book, I will adopt the former approach and assume that the verb in embedded clauses stays in the VP and can maximally move to a low functional position, below T (called Aspect, which will be introduced and motivated later). Second, the question arises of what the positions are to which VP-internal arguments and predicates (and VP-remnants in the account of Haegeman) move. And most important, what are the motivations and triggers for all these movements?

In the remainder of the book, I will try to provide satisfactory answers to these questions by investigating the properties of verbal complexes (chapter 3 and 4) as well as the distribution of arguments and adjuncts in the middle field (chapter 2). The general procedure will be the following: I will first adopt the standard approach to restructuring, scrambling, and remnant topicalization and point out the difficulties it faces in accounting for these phenomena. In exploring the alternative approach, I will provide empirical evidence for leftward movement of VP-internal material and develop an antisymmetric account of the syntactic core phenomena of the West Germanic OV languages.

In the process of developing the Universal Base approach, I will often provide analyses of phenomena in both accounts, switching back and forth between them in order to evaluate their advantages and disadvantages. Thus, it is important

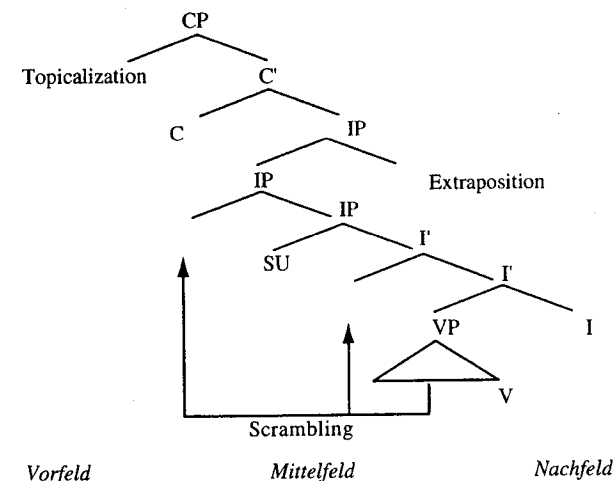
for the reader to keep in mind the basic tenets of the two approaches as outlined earlier.

1.2.5 Comparing the standard approach and the UBH approach

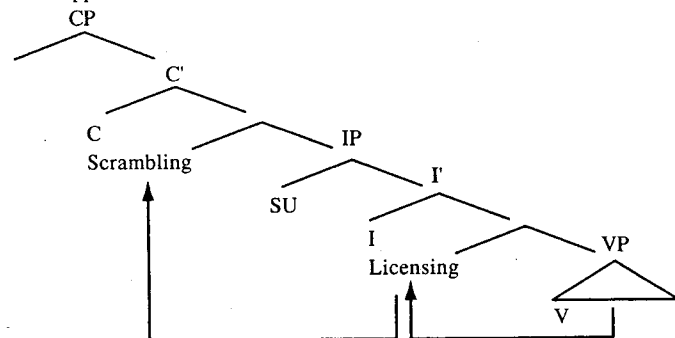
To summarize, in the standard approach the West Germanic OV languages are analyzed as head-final. The following processes are relevant for the description of a sentence in West Germanic: Verb Second moves the finite verb into C⁰ in matrix clauses (and certain complementizerless embedded clauses). Topicalization moves a constituent into the *Vorfeld*, which is identified as [Spec,CP]. Scrambling is an operation that allows for the rearrangement of syntactic constituents in the middle field. In the standard approach, scrambling is analyzed as an operation that moves constituents out of the VP. Extraposition moves a constituent into the *Nachfeld*. The core candidates for extraposition are embedded clauses. These elements are analyzed as being right-adjoined to VP or IP.

In the approach that endorses the UBH, the West Germanic OV languages are analyzed as head-initial languages, in which VP-internal material, both arguments and predicates, is moved leftward into licensing positions in the middle field (but see Haegeman 2001 and 2002b for an interesting alternative). Scrambling in this approach must be distinguished from licensing movement. The latter moves material out of the VP to derive the unmarked word order, while the former affects constituents in the unmarked word order to derive more specialized or marked word orders. Extraposition and rightward movement in general are disallowed. While in the standard approach the finite verb in embedded clauses may be taken to stay in the VP or to move to a clause final I-position, I will be adopting an antisymmetric approach in which the finite verb stays low and does not move to the clause-medial I-position.

(18) Standard Approach



(19) UBH Approach



Having familiarized ourselves with the basic tenets of the syntactic structure of German, we are now able to discuss (and appreciate) the properties that distinguish restructuring from non-restructuring infinitives.

1.3 Coherent infinitives

The West Germanic SOV languages German, Dutch, Frisian, and their numerous dialects have two types of infinitival complements. Like English, these languages have *non-coherent*,² that is, sentential, infinitival complements that behave like finite embedded clauses with respect to extraction. Like Italian, they also have so-called *coherent* or restructuring infinitival complements that are transparent for several types of extraction processes. For instance, the direct object of the embedded verb can be moved into the matrix clause in restructuring infinitives (20a) but not in sentential infinitives (20b).

- (20) a. weil die Maria der Hans [t zu besuchen] versprach
 since the Maria-ACC the Hans-NOM to visit promised
 'since Hans promised to visit Maria'
- b. *weil die Maria der Hans den Peter [t zu besuchen] bat
 since the Maria-ACC the Hans-NOM the Peter-ACC to visit asked
 'since Hans asked Peter to visit Maria'

There are two types of explanations in the literature for the transparency of restructuring infinitives. Many scholars (cf. Haider [1993], Napoli [1981], Rochette [1988], Rosen [1989, 1990], Rutten [1991]) have assumed that restructuring infinitives are monoclausal structures. In this account, the problem of transparency disappears trivially, though it reappears in the form of the question of under which circumstances two *main* verbs can project a single clause (see Cinque [2001] and Wurmbrand [2001] for an interesting new answer to this question). In biclausal accounts, their transpar-

ency has been traditionally explained with the assumption that either restructuring infinitives are not full CP-complements or *Verb Raising* (VR) opens the domain for *long-distance scrambling* (LDS).

In this section, I want to discuss only the most crucial properties that distinguish coherent from incoherent infinitives and reserve more language-specific properties of coherent infinitives for discussion in later sections that are dedicated to an in-depth analysis of these constructions in the individual languages. Here I want to outline the core properties of coherent infinitives, which will provide us with a first circumscription of the problem of restructuring.

The most salient properties of coherent infinitival constructions are the following: First, coherent infinitives, as opposed to other (sentential and non-sentential) arguments, show a very restricted distribution in the sentence. Second, as already illustrated, coherent infinitives are transparent for several types of extraction processes. Third, the formation of a coherent infinitival construction is typically, though not necessarily, associated with a morphological effect that has become known as IPP (infinitivus pro participio)-effect.

1.3.1 The immobility of coherent infinitives

I will first discuss the restricted distribution of coherent infinitives. *Coherent infinitives, as opposed to incoherent ones, cannot be extraposed.* Subject-raising verbs like *scheinen* ('seem') obligatorily require a coherent infinitival complement, the extraposition of which results in ungrammaticality (21a).

- (21) a. *dass Hans schien [sich zu rasieren]
 that Hans seemed himself to shave
- b. dass Hans versprach [sich zu rasieren]
 that Hans promised himself to shave

Subject control verbs like *versprechen* ('promise') may take a coherent or incoherent infinitival complement. Extraposition of the incoherent infinitival complement is fine (21b). The fact that incoherent infinitives may extrapose has been taken to show that these infinitives are full CPs, since it is assumed that only full-fledged sentential projections can be extraposed. Along the same lines, the fact that coherent infinitives cannot be extraposed has been taken as evidence that these infinitives are smaller than CPs. They are often analyzed as IPs or sometimes even as VPs (cf. Broekhuis et al. [1995]).

At this point it is important to note that incoherent infinitives are not restricted to the extraposed position. Like other arguments, they can be scrambled into the top of the middle field. Example (22) shows that they may occur in a relatively high position in the middle field. In (22a), the infinitival has been scrambled across the subject. In (22b), the infinitival has been scrambled to a position just below the subject. However, sentences in which the infinitive occupies a very low position in the middle field are considerably degraded (22c).

- (22) a. weil [sie morgen zu besuchen] Hans gestern noch nicht versprechen wollte
since her tomorrow to visit Hans yesterday yet not promise wanted
'since Hans did not yet want to promise yesterday to visit her tomorrow'
- b. weil Hans [sie morgen zu besuchen] gestern noch nicht verprechen wollte
since Hans her tomorrow to visit yesterday yet not promise wanted
- c. ??weil Hans gestern noch nicht [sie morgen zu besuchen] versprechen wollte
since Hans yesterday yet not her tomorrow to visit promise wanted
- d. *weil [sich zu rasieren] Hans schien
since himself to shave Hans seemed

Coherent infinitives, as opposed to incoherent infinitives, cannot scramble to the front of the middle field. The raising verb *scheinen* only allows a coherent complement, which cannot be scrambled at all (22d).

1.3.2 The transparency of coherent infinitives

Let us now look at the second salient property of coherent infinitives: transparency. *Coherent infinitives, as opposed to incoherent ones, allow for long-distance scrambling.* The arguments of an embedded infinitive can be scrambled into the middle field of the matrix verb. For instance, the embedded object can be scrambled across the matrix subject (23a). It is important to note that this process of long-distance scrambling, though it occurs most naturally with weak pronouns and anaphors, is not restricted to them. Example (23b) shows that full DPs that are arguments of the embedded infinitive can be scrambled across the matrix subject. Long-distance scrambling out of incoherent infinitives results in ungrammaticality. In (23c), the embedded object phrase *das Buch* has been scrambled across the matrix subject out of an extraposed, hence incoherent, infinitival complement that leads to ungrammaticality.

- (23) a. dass sie_i der Mann [t_i zu besuchen] versprach
that her the man-NOM to visit promised
'that the man promised to visit her'
- b. dass [der Maria]_i [das Buch]_j Hans gestern [t_i t_j zu geben] versprach
that Maria-DAT the book-ACC Hans yesterday to give promised
'that Hans promised yesterday to give the book to Mary'
- c. *dass uns [das Buch]_i Hans gestern bat [der Maria t_i zu geben]
that us the book Hans yesterday asked to Mary to give
'that Hans asked us yesterday to give the book to Mary'

As in English, the scope of non-wh-quantifiers and operators is restricted by clausal boundaries in German. Consequently, the sentences in (24) and (25), where the matrix verb *bedauern* ('regret') selects only an incoherent infinitival complement, may only have the narrow scope reading in (b) but not the readings with a

wide scope of the quantifier/operator represented in (c). Examples (24d) and (25d) illustrate again that incoherent infinitival clauses are also opaque with respect to (overt) extraction. The direct object, be it a personal pronoun like in (24d) or a negative quantifier as in (25d), may not be extracted from the infinitival and scrambled above the matrix subject.

- (24) a. weil er [sie nicht geheiratet zu haben] bedauerte
since he her not married to have resented
- b. since he resented not having married her
- c. since he did not resent having married her
- d. ??weil sie der Mann [t geheiratet zu haben] bedauerte
since her the man married to have regretted
- (25) a. weil er [niemanden geheiratet zu haben] bedauerte
since he nobody married to have regretted
- b. since he regretted not having married anybody
- c. since for no x: he regretted having married x
- d. ??weil **niemanden** der Mann [t geheiratet zu haben] bedauerte
since nobody the man married to have regretted

However, a non-wh-quantifier/operator embedded in a coherent infinitive may take scope over the matrix clause. Thus, the sentences in (26) and (27), in which the matrix verb *wagen* ('dare') allows for a coherent infinitival complement, are ambiguous between the readings given in (b) and (c). In (26) and (27), I have somewhat impressionistically bracketed arguments that belong to the embedded verb within the infinitive, to highlight the effects of restructuring. In (26), these elements include the negative marker since it occurs between the infinitive and its direct object argument.

- (26) a. weil er [sie nicht zu küssen] wagte
since he her not to kiss dared
- b. since he dared to not kiss her
- c. since he did not dare to kiss her
- (27) a. weil er [niemanden zu küssen] wagte
since he nobody to kiss dared
- b. since he dared for no x: to kiss x
- c. since for no x: he dared to kiss x

Finally, *coherent infinitives, as opposed to incoherent infinitives, allow for "long extraposition."* I have shown in (14) that extraposition is clause-bound. In (14d), repeated here as (28a) for convenience, the matrix verb *bestärken* ('encourage') only

takes an incoherent infinitival complement headed by *versuchen* ('try'), extraposition out of which leads to ungrammaticality. The verb *versuchen*, however, optionally takes a coherent infinitival complement. Hence, when it functions as matrix verb as in (28b), long extraposition becomes possible.

- (28) a. *dass der Lehrer [_{VP} [_{VP} die Kinder [_{CP} t zu versuchen] bestärkt] [die Aufgaben zu lösen]]
 b. dass der Lehrer [_{VP} [_{VP} die Kinder [₇ t zu bestärken] versucht] [die Aufgaben zu lösen]]

1.3.3 The IPP-effect in coherent infinitives

The third salient property of coherent infinitives is the IPP-effect. As I said before, coherent infinitives typically, though not necessarily, display this morphological effect. For instance, in German, though not in Dutch, only bare infinitives, but not to-infinitives, give rise to the IPP-effect. The IPP-effect occurs when a verb that selects a coherent infinitive (the dependent infinitive) is put into a perfect tense (present perfect or past perfect tense). In this case, the verb does not show up in its expected past participial form but is realized as bare infinitive (the IPP-infinitive). Example (29) illustrates the IPP-effect in Dutch with the dependent infinitive being a to-infinitive. Example (30) illustrates the IPP-effect in High German, where the dependent infinitive must be a bare infinitive.

- (29) a. *dat Elsje hem een brief heeft gezien te schrijven
 that E him a letter has tried-PART to write
 b. dat Elsje hem een brief heeft zien te schrijven
 that E him a letter has try-INF to write
- (30) a. *dass sie Hans nicht küssen gewollt hat
 that her Hans not kiss want-PART has
 'that Hans has not wanted to kiss her'
 b. dass sie Hans nicht hat küssen wollen
 that her Hans not has kiss want-INF

I will discuss the IPP-effect in more detail in the different sections devoted to the individual West Germanic languages.

1.3.4 Conclusions

To summarize, coherent infinitives, compared to other (sentential) arguments, have a very restricted distribution: they can be neither scrambled nor extraposed; they are transparent for several types of extraction processes, including long-distance scrambling, quantifier/operator movement, and long extraposition; and finally, they typically give rise to the mysterious IPP-effect.

1.3.5 The formation of verb clusters in coherent infinitives

We have seen that while a coherent infinitive as a whole cannot be scrambled, parts of it, namely, its arguments, can undergo movement into the middle field of the selecting verb. It is important to note that the infinitival head itself cannot be separated from the selecting verb. The contrast in (31) shows that while the embedded direct object can be scrambled across the matrix subject, the infinitive itself cannot be scrambled across an adverb that modifies the matrix verb. In (31a-b), I have scrambled the direct object of the infinitive above the matrix subject to make sure that we are dealing here with a coherent construction. In this case, the adverb has to precede the infinitive and can modify both the matrix verb and the dependent infinitive, as can be expected from the general transparency of coherent infinitives (31b).

- (31) a. *weil sie der Hans zu besuchen oft versprach
 since her the Hans to visit often promised
 'since Hans often promised to visit her'
 b. weil sie der Hans oft zu besuchen versprach
 since her the Hans often to visit promised
 'since Hans (often) promised to (often) visit her'

Finally, let us look at the behavior of coherent infinitives with respect to topicalization. First note that the head of the coherent infinitive and the verb selecting it can be topicalized as if they formed a constituent, while if the infinitive is incoherent its head cannot be topicalized with the verb selecting it. In (32a), *versprechen* ('promise'), which optionally selects a coherent infinitival, can be topicalized with its dependent infinitive, whereas topicalizing the verb *bestärken* ('encourage') together with its dependent infinitive results in ungrammaticality, since this verb only selects an incoherent infinitival complement.

- (32) a. [zu besuchen versprochen] hat sie der Hans noch nie
 to visit promised has her the Hans-NOM yet never
 'So far Hans has never promised to visit her'
 b. *[zu besuchen bestärkt] hat mich Hans seine Schwester noch nie
 to visit encouraged has me Hans-NOM his sister yet never
 'So far Hans has never encouraged me to visit his sister'

It should be noted, however, that although the selecting verb cannot be topicalized without its dependent infinitive in a coherent construction (33a), the dependent infinitive can be topicalized to the exclusion of its selecting head (33b). This contrast is reminiscent of the contrast that we observed in the behavior of particle verbs with respect to topicalization (cf. [13c-d] earlier): In a restricted way, it is possible to topicalize the particle without the verb it seems to be attached to, while it is impossible to topicalize the particle verb without its particle. Furthermore, it is important to note that topicalization of the dependent infinitive alone voids the IPP-effect, as is illustrated in (33c).

Voiding of the IPP-effect pertains only to perception verbs in German but occurs quite generally in Dutch and West Flemish (see chapter 7 for details).

- (33) a. *[sehen] wird sie Hans nicht kommen
see will Hans her not come
'Hans will not see her coming'
- b. [kommen] wird sie Hans nicht sehen
come will her Hans not see
- c. [kommen] hat sie Hans nicht *sehen / gesehen
come has her Hans not see-INF / see-PART
'Hans has not seen her coming'

The fact that the head of a coherent infinitive cannot be separated from its selecting verb (see [31a–b]), as well as the fact that the head of a coherent infinitival can be topicalized with the verb that selects it to the exclusion of the arguments of the infinitive have been taken as direct evidence for the assumption that coherent infinitival constructions involve the formation of a verbal complex by *Verb Raising* (VR). VR is a process of head movement that adjoins a dependent infinitive to its selecting verb (Evers 1975).

The formation of a complex head by either VR or reanalysis (Haegeman and van Riemsdijk 1986) has been taken as a causal explanation for the restrictive distribution and the transparency of coherent infinitives. The former property of coherent infinitives would follow trivially from the fact that the dependent infinitive and its selecting verb form a complex head. The latter property of coherent infinitives has been explained in the following way: Evers assumed that VR gives rise to a process of *S-pruning*. Van Riemsdijk and Haegeman assumed that reanalysis gives rise to a multidimensional representation: one dimension to represent the biclausal properties and one dimension to represent the monoclausal properties of coherent infinitives. In more modern terminology but still exploiting the same idea, we may analyze VR as a process that *incorporates* the dependent infinitive into the selecting verb. We may then assume with Baker (1988) that once the head of a projection has been incorporated, the entire projection, here the coherent infinitival complement, becomes transparent with respect to the incorporator.

VR has also been taken to be responsible for the IPP-effect. If it should turn out to be correct that VR actually is the trigger for the IPP-effect, then the data we have looked at so far suggest that we are dealing here with two independent factors for the following reason: We have seen that to-infinitives in German may be transparent for several types of extraction processes, but I have also pointed out that they never give rise to an IPP-effect. It thus seems that VR and the transparency of coherent constructions are independent factors and are not causally related to each other as has been assumed traditionally; VR may be a side effect of the transparency of coherent infinitives but not its trigger.

Also, my initial presentation of the core data shows that the evidence for the formation of a complex head is not as direct or clear-cut as it seems at first sight. The

fact that the head of a coherent infinitival cannot be separated from its selecting verb cannot only be explained by adjunction or incorporation but may simply follow from the inability of the head of a coherent infinitive to scramble. I have pointed out that constituents that are interpreted as predicates generally resist scrambling. Of course, this alternative account presupposes an explanation of why and how coherent infinitives are to be interpreted as part of the main predicate.

Furthermore, the argument that the fact that the dependent infinitive and its selecting verb can be topicalized together shows that these two heads form a constituent (32a) is considerably weakened by the observation that the dependent infinitive can be also topicalized without its selecting head (33b).

To summarize, the properties discussed earlier have been standardly interpreted as indicating that restructuring infinitives involve (1) verbal complexes and (2) a monoclausal middle field. Monoclausal accounts assume that verbal complexes can be base generated. Haider (1993) assumes that verbal complexes are base generated head-adjunction structures. Wurmbrand (2001) argues, following Chomsky (1995b) in analyzing transitive verb phrases as involving two verbs—the verbal root and an abstract causative verb (small *v*)—that the verbs in a coherent construction share a single small *v*. Cinque (2001) argues that restructuring verbs in Italian are those verbs, in essence modal verbs and aspectuals, that can be assumed to be base generated in designated functional positions. All these accounts share the assumption that restructuring infinitival constructions involve only one VP, from which assumption it follows that restructuring infinitives have a monoclausal middle field, that is, have only one IP.

Biclausal approaches hold that each verb in a coherent construction projects its own clause (full or reduced) and assume special restructuring processes (*S-pruning*, reanalysis, *Verb Raising*) to account for the presumed monoclausal properties of coherent constructions.

1.4 Remnant movement

As already noted, the term *remnant movement* was coined by Den Besten and Webelhuth (1987) to account for a peculiarity of verb-preposing in German and Dutch. Provided that only XPs can move into XP-positions, it follows that what has been moved into [Spec,CP] in (34) is not simply a verb but must be minimally a full VP. Thus, they propose to analyze (34a) parallel to cases of VP-preposing (cf. [34b]) in which the direct object has been scrambled out prior to VP-to-CP movement. The moved VP is called a remnant category since it contains, at least, the trace of the direct object as is indicated in (34c).

- (34) a. gelesen hat Hans das Buch
read-PART has Hans the book
'Hans has read the book'
- b. [_{VP} das Buch gelesen] hat Hans t_{VP}
- c. [_{VP} t_{SCR} gelesen] hat Hans [das Buch]_{SCR}

In the following subsection, I discuss the essential properties of and the relevant restrictions on remnant movement. The latter will be shown to follow from the workings of Attract Closest. Then, I discuss the interaction between remnant movement and head movement. I argue that remnant categories created by head movement cannot undergo further movement and show how this restriction can be derived from Attract Closest as well. Finally, I show that the original account of (34a) by Den Besten and Webelhuth is flawed by presenting data that show that the remnant VP in (34a) cannot be taken to have been created via scrambling. Instead, I argue that remnant VPs in German are created by licensing movement of VP-internal material into dedicated licensing positions in the lower middle field.

1.4.1 Properties of remnant movement

Remnant movement seems to be exempted from the Proper Binding Condition (PBC), which requires that traces be bound. It is typical of remnant movement to create unbound traces as we have seen earlier. In (34c), the fronted VP contains the trace of the direct object, which is not c-commanded by its antecedent.

Remnant movement typically also leads to so-called Anti-Freezing effects. A Freezing effect occurs if extraction of constituent *a* out of a constituent *b* takes place in a derived position of *b*. This is illustrated in (35a–b). In (35a), extraction of the wh-PP takes place from the base position of the direct object. In (35b), the direct object has been scrambled to a higher position from which extraction is excluded.

- (35) a. *Worüber_i hat keiner [ein Buch t_i] gelesen*
 where-about has nobody a book read
- b. **Worüber_i hat [ein Buch t_i] keiner gelesen*
 where-about has a book nobody read
 'Which topic has nobody read a book about'
- c. *[Ein Buch t_i] hat darüber_i keiner gelesen*
 a book has there-about nobody read
 'Nobody has read a book about that'

Example (35c) is a case of remnant movement. From a representational point of view, (35c) should be as bad as (35b), since the direct object in (35c) occurs in a derived position and contains a trace created by extraction. However, if we look at these cases from a derivational point of view, we immediately understand why (35b) is ungrammatical and (35c) is fine. The difference follows from the Extension Condition on derivations (Strict Cyclicity). In (35c), it is possible to extract the PP out of the DP in its base position and then move the remnant DP, obeying the Extension Condition, to a higher position. This derivation, however, is not available in (35b). If the PP were extracted first, movement of the remnant DP to a lower position would violate cyclicity. Thus, we see that obeying the Extension Condition voids—in a manner of speaking—Freezing effects but necessarily leads to unbound traces. Consequently, we may assume that the PBC is not a derivational constraint.

Furthermore, as Müller (1996, 1998) has discussed at length in his important work on incomplete category fronting, cases of remnant movement display unexpected asymmetries. If we restrict ourselves to the interaction between remnant movement and scrambling, it is interesting to note that remnant categories can be topicalized while scrambling may not affect them, as is illustrated in (36). This asymmetry does not show up in cases of complete category fronting (37).

- (36) a. *[zu lesen] hat das Buch keiner versucht*
 to read has the book nobody tried-PART
 'Nobody has tried to read the book'
- b. *??dass [zu lesen] das Buch keiner versucht hat*
 that to read the book nobody tried has
 'that nobody has tried to read the book'
- (37) a. *[das Buch zu lesen] hat keiner versucht*
 the book to read has nobody tried-PART
 'Nobody has tried to read the book'
- b. *dass [das Buch zu lesen] keiner versucht hat*
 that the book to read nobody tried has
 'that nobody has tried to read the book'

Müller (1996) concludes from these and other similar observations that remnant XPs cannot undergo Y-movement if the antecedent of the unbound trace has also undergone Y-movement, where Y-movement ranges over scrambling, wh-movement, and topicalization. In other words, a remnant category cannot, say, undergo scrambling if the operation that created the remnant category was itself a scrambling operation. Müller derives this constraint on remnant movement from his Principle of Unambiguous Domination, which is motivated by the need of traces, so Müller assumes, to be unambiguously identifiable.

There are several problems with Müller's account though. First, there are cases where remnant categories can undergo scrambling, as we will see in chapter 4 (section 4.3.4). Second, various cases where remnant categories cannot scramble can be reduced to independent restrictions on the individual operations involved, as I will also argue in chapter 4. Third, Müller is assuming (following Den Besten and Webelhuth [1987]) that the remnant XPs in (36) are created by scrambling. In section 1.4.3, I will argue that remnant VPs are created by licensing movement of VP-internal arguments into dedicated positions in the middle field, which is to be distinguished from scrambling. Fourth, Müller's Principle of Unambiguous Domination lacks conceptual plausibility in a theory of movement in terms of copy and delete, that is, in a theory where there are no traces to be identified.

From the point of view of feature checking, Müller's observations indicate that for remnant movement to be possible two sets of features must be involved that cannot be checked in the same (type of) position. Thus, Müller's generalization (to the extent that it is correct) can be derived from Attract Closest (Chomsky 1995b), as is

illustrated in (38). In order for a (remnant) category A to undergo scrambling, extraction of B out of A must involve a type of movement other than scrambling. In (38), the head F cannot select category B as a target since category A, containing and dominating B, is a closer target that shares the scrambling feature with B (cf. Fukui [1997]).³

(38) F_{SCR} ... [A^{SCR} ... [B^{SCR} ...]]

There is a class of cases of remnant movement that are illicit although they obey Attract Closest (or Unambiguous Domination, for that matter). These involve topicalization of a remnant category out of which a category has been extracted via wh-movement as is illustrated in (39). Example (39a) is a case of topicalization of a clause across a wh-island, which leads to a mild, subjacency-like violation. Example (39b), where the wh-word is extracted from the embedded clause (creating a remnant category), however, is ungrammatical. The same contrast can be observed in English, as is shown in (40), taken from Pesetsky (2000). The relative grammaticality of (39c) is interesting in this respect. If the trace of the wh-word were contained in the fronted VP, as is standardly assumed, then (39c) should be on a par with (39b) and (40b). However, it is just as good as (39a). I will come back to this difference and show how it is to be explained in section 1.4.3.

- (39) a. ??[dass Fritz Peter liebt] weiß ich nicht wer gesagt hat
that Fritz loves Peter know I not who has said
'I don't know who has said that Fritz loves Peter'
- b. *[dass Fritz t liebt] weiß ich nicht wen er gesagt hat
[that Fritz loves t] know I not who he has said
'I don't know who he said that Fritz loves'
- c. ??[geküsst] weiß ich nicht wen sie hat
[kissed] know I not whom she has
'I don't know whom she has kissed'
- (40) a. [give a book to John] I can guess who will
- b. *[give a book to t] I can guess who Mary will
(I can guess who Mary will give a book to)

It is not clear why wh-movement differs in this respect from other types of movement. In other words, it is not clear why the PBC nevertheless seems to be relevant for wh-movement. Pesetsky (2000) assumes that there is a (special) command restriction on wh-movement.

Cecchetto (2001) argues that the illicit cases of remnant movement in (39b) and (40b) follow from the Phase Impenetrability Condition (cf. Chomsky [1998, 2001]). Contrary to Chomsky, Cecchetto proposes that the CP contains two escape hatches, one for wh-elements and one for D-linked elements like topics, and argues that elements that contain a wh-trace cannot make use of the escape hatch reserved for

D-linked elements. Thus, (39b) and (40b) involve movement across a strong phase in his system, while the topics in (39a) and (40a) can move via the extra escape hatch for D-linked elements. This seems like a promising approach to me, though it remains unclear how Cecchetto can account for the relative grammaticality of (39c).

I will introduce the Phase Impenetrability Condition in chapter 6 and leave the question of the best treatment of the data in (39) open here, concluding from the preceding discussion that as long as we steer clear of extraction via wh-movement, remnant movement is freely available if Attract Closest and Strict Cyclicity are obeyed.

1.4.2 Remnant movement and head movement

In this section, I would like to address a further restriction on remnant movement that has been discussed in the literature (cf. Haider [1990], Sabel [1996], Takano [2000]) and show how it can be reduced to the workings of Attract Closest as well.

So far, I have only discussed cases in which a remnant category is created by extraction via XP-movement. In the sentences in (41), the remnant category (topicalized in [41a–b] and clefted in [41c]) has been created by extraction via head movement.⁴

- (41) a. *[Ihr ein Buch t] gab Hans
her a book gave Hans
- b. *[Het boek aan Marie t] gaf Jan waarschijnlijk
The book to Mary gave John probably
- c. *It's [a book to Mary] that John gave

All three cases involve remnant movement of the VP that contains a trace of the finite verb, which either has undergone V2 as in (41a–b) or has raised out of the lower VP-shell in a Larsonian structure in (41c). Takano (2000) argues that the data in (41) fall under the generalization in (42).

- (42) Remnant movement of α is impossible if the head of α has moved out of α

At this point the question arises what (42) can be derived from. It can be shown that the major restrictions on remnant movement follow from the mechanism of feature checking, more specifically from the restrictions on target selection. In (43), F and G are functional heads and XP is some category that contains Specifier A and Complement B. I make the standard assumption that XP and its head X share all relevant feature (i.e., XP is a projection of X). Furthermore, I assume that head and complement do not share features via agreement, while Specifier and head may share certain features via agreement.

- (43) G ... F ... [XP A [X B]]

If the functional head F attracts a feature of X (for checking), I assume that due to Attract Closest, movement of the entire XP will ensue (since the XP shares the feature with X

but is closer to F than X), unless the functional head F itself requires a head, that is, it is an affix.

If F attracts a feature of B and G a feature of X (not shared with B), we have a standard case of remnant movement. If X and B for any reason share the relevant feature with F, remnant movement is blocked, as has been discussed in section 1.4.1. If on the one hand, F attracts a feature of A that is not shared by X (a non-agreeing feature), then the Specifier will extract from XP. If on the other hand, F attracts a feature that A and X agree in, then movement of XP will ensue (a case of pied-piping).

Let us now look at the situation in which a remnant category is created by head movement. In this case F, being an affix, attracts a feature of X and X undergoes head movement to F, creating a remnant XP. The issue now is why the functional head G cannot attract the remnant XP. We have to distinguish two cases: (1) G attracts a feature shared by X. In this case, G will select F or FP but not XP due to Attract Closest. (2) G attracts a feature within the constituents of XP not shared by X. In this case, either A or B may extract from XP, but no movement of the remnant category XP will be triggered. It thus follows that movement of a remnant category that has been created by head movement is impossible.⁵

1.4.3 Remnant movement and licensing movement

As I have pointed out earlier, in the original account of Den Besten and Webelhuth (1987) of data like (1), the operation that evacuates the VP before it undergoes topicalization is assumed to be scrambling. English does not allow for the topicalization of remnant VPs. In their account this simply follows from the fact that English does not allow for scrambling. Ingenious though this account at first sight seems, it nevertheless turns out to be severely flawed at closer inspection. It suffers from two inconsistencies, the extraction paradox and the evacuation paradox that will be discussed and illustrated later.

To avoid these problems, I propose that the VP in German (and Dutch) is evacuated by licensing movement. In Hinterhölzl (1999), I argue that not only arguments but also VP-internal predicates move out of the VP to be licensed in specific positions in the middle field as is illustrated in (44).

(44) [DPs [Neg⁰ [Focus⁰ [DPs [VP-adverbs [Pred⁰ [Asp⁰ [V_{VP}V]]]]]]]]]

In chapter 4, I will provide empirical arguments for the following licensing operations: Verb-particles are licensed in [Spec,AspP]. Small clause predicates, idiomatic expressions, and directional PPs are licensed in [Spec,PredP] above Asp⁰. Nominal arguments of the verb undergo Case-licensing movement to positions above VP-adverbs. From there they may undergo scrambling to higher positions according to their semantic/discourse properties. Thus, movement of arguments out of the VP is licensing movement that applies to all DPs independently of whether they are definite or indefinite and has to be distinguished from further movement that applies to DPs according to their semantic/discourse properties as is discussed in detail in chapter 2.

The assumption of licensing movement of VP-internal material that is to be distinguished from scrambling proper can solve the two long-standing problems with

the standard account of VP-topicalization in terms of scrambling and remnant movement, namely, the extraction paradox (1) and the evacuation paradox (2):

1. The assumption that there is licensing movement of VP-internal material to specific positions in the middle field is corroborated by the existence of so-called string vacuous scrambling as is illustrated in (45). In (45), the underlined phrases seemingly occur in their canonical position (in [45b] the direct object follows the subject) but have to be assumed to have been scrambled out of VP in order to be exempted from VP-topicalization.

- (45) a. [_{VP} t gerechnet] hat wie immer keiner damit
counted has as always no one there-with
'as usual nobody has reckoned with that'
- b. [_{VP} t gelesen] hat gestern der Fritz ein Buch darüber
read-PART has yesterday the Fritz a book there-about
'Fritz has read a book about this yesterday'

As (46) shows, these presumed scrambling positions do not behave like regular scrambling positions since they do not exhibit any Freezing effect (cf. [35] earlier) in that they allow for further extraction, which scrambles part of the phrase to a higher position. Thus, the data in (45) pose the following problem: If scrambling viewed as an operation that moves VP-internal material into the middle field were a unitary operation, then why is it that scrambled phrases allow for further extraction in certain positions but not in others?

- (46) a. gerechnet hat da wie immer keiner mit
counted has there as always noone with
- b. gelesen hat darüber gestern der Fritz ein Buch
read has there-on yesterday the Fritz a book

2. Another problem for the standard approach is the fact that elements that resist scrambling can be left behind by VP-topicalization. This is illustrated for small clause predicates and indefinite "w-words" in (47a) and (47b), respectively. I will show in chapter 2 that scrambling proper may not affect (small clause) predicates. Furthermore, I will also demonstrate that indefinite w-words may only scramble to extend their scope domain. This is not the case in (47b). If scrambling were the only operation that can evacuate material from the VP, then it is hard to understand how these elements can be left behind by VP-topicalization.

- (47) a. gegessen hat der Karl das Fleisch roh
eaten has the Karl the meat raw
'Karl has eaten the meat raw'
- b. gelesen hat die Maria erst gestern was
read-PART has the Maria only yesterday something
'It's only yesterday that Mary read something'

A possible solution to these problems is the assumption of licensing movement (prior to scrambling) that moves VP-internal material, irrespective of its quantificational or referential potential, out of the VP. This assumption immediately solves the evacuation problem—elements that do not scramble nevertheless leave the VP to be licensed in specific positions in the lower middle field—but also opens up the way toward a solution to the extraction problem. Given the distinction between licensing movement and scrambling, we may assume that licensing movement out of the VP does not give rise to a Freezing effect and that this Freezing effect is connected with the “Specificity effect” of the semantically motivated scrambling operation. We know independently that extraction out of specific DPs is illicit. Since DPs that have scrambled across sentential adverbs or negation (crucially not ones that have scrambled across VP-adverbs) exhibit a Specificity effect, the Freezing effect associated with these scrambling operations follows without further ado.

Finally, note that the trace within the VP in (39c) earlier, repeated here as (48a), does not behave like a Case-marked *wh*-trace; otherwise we would expect (39c) to be on a par with (39b) and (40b). However, (39c) gives rise only to a mild, subjacency-like violation and is on a par with (39a), as we have seen in section 1.4.1 earlier. This fact, too, follows straightforwardly, if we assume that there is licensing movement of DPs (and of VP-internal predicates) out of the VP that leaves A-movement traces in the VP such that the *wh*-word in the embedded clause can bind a *wh*-trace outside of the fronted VP within its clause, as is indicated in (48a). The analysis of (39c) in (48a) makes this case of remnant movement parallel to cases of movement of remnant categories that are created by movement of the subject to [Spec,TP] or another licensing position for subject, as is illustrated in (48b). Example (48a) thus only differs from (48b) in that it involves extraction of the topicalized phrase out of a weak *wh*-island, which accounts for its slightly marked grammatical status.

- (48) a. ??[_{t_i} geküsst]_j, weiss ich nicht [wen_i sie hat t_i [_{VP} t_j]]
 kissed I don't know whom she has
 'I don't know whom she has kissed'
 b. [fired t by the company] John indeed was

To summarize, I have argued that the assumption of movement of DPs and VP-internal predicates to specific licensing positions in the middle field, as illustrated in (44) earlier, can provide a solution to the extraction problem as well as the evacuation problem and gives us an explanation for the otherwise rather mysterious contrast between (39b) and (39c).

1.5 Theoretical assumptions

In the following, I will endorse the Minimalist Program (MP) in its programmatic sense. That is to say that the discussion and treatment of scrambling, remnant movement, and restructuring is cast in the spirit of MP, without endorsing all its tenets and principles to the letter. For instance, I do make use of agreement projections, though

they are argued to be non-minimalistic in Chomsky (1995b). However, I do not make use of multiple specifiers though they are part of minimalist accounts of Case-licensing and other phenomena and abstract away completely from assumptions made within the bare phrase structure framework (Chomsky 1995a). An important minimalist notion that I consider and adopt in the description and treatment of scrambling, remnant movement, and restructuring is the concept of the phase. In particular, I propose that employing the notion of phases may be useful in approaching the problems posed by extraposition and VP-topicalization.

Consequently, I will now outline the core ideas and concepts that I will adopt and later indicate in the account of individual phenomena where I differ from standard treatment. In my view, the basic weakness and strength of MP lies in its programmatic character. I think MP cannot be simply adopted since it is not a fleshed-out theory (by now) as, say, Government and Binding theory was. But I would like to endorse it in the way in which it approaches grammatical phenomena.

The core idea lies in the way in which it conceptualizes grammatical representations and their well-formedness. The levels of representations are reduced to the two interface levels, PF and LF. As a consequence, every principle has to be formulated in a way that it can be reasonably taken to apply at one of the interfaces (as an output condition) or in such a general way that it can be taken to apply at every step in the derivation.

Another important concept of the MP is that the grammaticality of a derivation may depend on the properties of another derivation. In particular, the MP invokes economy principles that compare derivations that involve the same lexical resources and select the most economical derivation.

In GB-theory, operations such as move alpha apply freely and a single derivation that results from the free application of such operations is checked against the constraints formulated in the different modules. In the MP, individual constituents have particular needs that motivate them to move and failure to meet these needs can lead to a derivation that is uninterpretable at one of the interfaces. In short, movement operations of constituents are motivated or triggered by the particular needs that they have, technically implemented by the types of features that they possess. This means, in turn, that every movement operation that is proposed in the account of a certain phenomenon needs to be justified by specifying the features, in the ideal case, the interface features, that motivates it. I will come back to this point, shortly. I consider this an important tenet of the MP, because it will prompt us to search for genuine explanations rather than for merely technical accounts of syntactic phenomena, insofar as we strive to provide derivations that are preferably triggered by (interpretable) interface properties.

To be concrete and to specify the needs that a particular constituent may have, a DP argument holds a thematic relation to a predicate, has a certain grammatical function in the clause, has scope over other elements in the sentence, may be interpreted as a variable bound by a particular operator within a certain domain, may be the topic or the focus of the sentence, and so on, possibly all or several of these at the same time. These relations are encoded by various means in the languages of the world, among which we find morphological marking, prosodic phrasing, word order, and intonational marking.

It has been a leading idea in generative theory from the beginning that these different types of marking are incorporated into the syntax or dependent on syntactic structure. In minimalist terminology this means that these relations are either part of the computational system itself or the result after a complex computation at one of the interfaces. A sentence can thus be viewed as the most economic derivation that connects the individual partial representations that encode the different relations among the lexical items that have been chosen to express a piece of meaning, say, a proposition. A core ingredient in this system is the copy theory of movement. Chains formed by movement in the MP consist of a sequence of copies of the moved constituent. Where the chain is pronounced and where it is interpreted is decided by independent principles. This analysis of chains as a sequence of copies allows for reconstruction without any special operation (of putting lexical material back). In this manner, the copy of a DP argument within the VP may be said to designate its thematic relation, the copy within IP its grammatical function, and its copy within the CP-layer its discourse status in the sentence.

Locality principles that constrain movement seem to follow from a least effort strategy. This is captured in various economy conditions, most important among which is Shortest Move. The basic idea is that a constituent must not move beyond the first position of the relevant type, an idea that was first captured, though in different terms, as Relativized Minimality by Rizzi (1990). Another important economy principle that I will make use of is the principle of last resort. Last resort allows a certain operation only if all other options are prohibited. Do-insertion in English questions and negative clauses is an example of a last-resort operation that may apply to save the derivation in case the verb itself cannot move to C. To summarize, here are the most important tenets of the MP that I endorse in this book:

1. Movement is triggered and needs justification.
2. Grammaticality depends on a comparison of derivations.
3. Constraints apply only at the interfaces or throughout (uniformly at) the derivation.
4. Chains are analyzed as a sequence of copies, whose interpretation and pronunciation are determined by independent principles.
5. Derivations are constrained by economy conditions and phase based.

1.5.1 Narrow syntax and the role of Case

One idea or concept that I will not adopt is the assumption that the computation is driven by uninterpretable formal features predominantly or exclusively. Dealing with phenomena like scrambling and restructuring, I reject the approach that has become known as narrow syntax. In chapter 2, I will provide a comprehensive discussion of the empirical nature of scrambling phenomena in German and argue that scrambling is triggered (partially) by pragmatic features like familiarity/specificity.

Another issue with which I disagree is the role of Case in the MP. There are actually two assumptions connected with Case that I think are mistaken: (1) The assumption that Case is not interpretable at the interfaces, in particular, that it is uninterpretable at LF. In investigating scrambling phenomena, I will argue that Case is essential for

permuting arguments by marking their grammatical functions (see chapter 2). (2) The assumption that Case is invisible for the computational system. To evaluate this assumption, let us look at the role that Case plays in Icelandic and German.

We have seen earlier that basic word order in German is dependent on the particular verb class. One such class is constituted by the so-called Dative-Nominative verbs, which are stative psych-verbs that assign the experiencer role to the Dative argument and the theme role to the Nominative argument. The experiencer is hierarchically higher than the theme argument and, consequently, the unmarked word order is DAT > NOM in German, as is illustrated in (49a).

- (49) a. weil dem Hans das Essen schmeckt
since Hans-DAT the food-NOM tastes
- b. Þer hefur líkað maturinn
you-DAT have liked food-the-NOM
- c. [T [DP-DAT [DP-NOM]]]

The same class is found in Icelandic, where the two arguments are realized in a parallel fashion as Dative experiencer and Nominative theme (cf. [49b]). The difference between Icelandic and German, however, is the different grammatical function of the arguments. In German, as is expected, the Nominative argument, though the lower argument, is the subject of the clause. Icelandic is special in that these Dative experiencers function as the subject of the sentence, as is shown by their binding properties and their behavior in control structures (cf. Zaenen, Maling, and Thrainsson [1985]).

How can we account for the difference in syntactic behavior between Dative experiencers in German and Icelandic? If we identify the subject as the argument that moves to or is attracted by the T-head, then the Icelandic case is straightforward: T will simply attract the closest element with a D-feature, namely, the higher argument marked with Dative Case (cf. [49c]). In German, the case is more difficult since T has to attract the hierarchically lower argument, to render the Nominative argument subject of the clause. I want to argue that one way to achieve this is to assume that T in German does not simply attract the closest element with a D-feature, but that the T-head can refer to the Case properties of a DP and will attract the closest argument marked with Nominative Case. This account of the difference between German and Icelandic implies that Case is visible in the computation in German.

This difference between German and Icelandic is very instructive since it shows that the visibility of Case is not simply a matter of the presence (German) or absence (English) of morphological Case. Thus, contrary to narrow minimalist assumptions, my representations will include Case-positions and other positions that relate to the semantic contribution and the pragmatic role of the constituents in the clause.

1.5.2 The universal base hypothesis and triggers for movement

In the course of this study, I will adopt the UBH (Kayne 1994). Applying the UBH to a language like German, as I have discussed and illustrated in section 1.2, requires

additional movement operations to derive the surface forms that in the traditional head-final account are taken to be base generated. To derive OV-surface orders from VO-base structures, I will provide additional (see section 1.4.3) empirical evidence that VP-internal predicates and arguments move out of the VP (to appropriate licensing positions in the middle field). To derive the monoclausal properties and verbal complexes of restructuring infinitives, I will make substantial use of remnant movement of diverse categories that include VPs and TPs. It is an important goal of this study to not only describe the movements necessary in a Kaynean analysis to derive the surface properties of restructuring infinitives but to also provide motivation for the complex derivations proposed at each step. Hence I will try to justify each movement operation by specifying its syntactic or interface-related triggers. Only to the extent that these triggers seem non-arbitrary and non-stipulative can the endeavor be considered successful that consists of combining the restrictive theory of phrase structure implied by the UBH with the restrictive theory of movement inspired by the MP.

At several points of this study, I will evaluate the results of this endeavor by comparing the new analysis with the traditional account, discussing their strengths and weaknesses. In my opinion, this endeavor is successful overall. However, some recalcitrant problems remain, foremost the issue of extraposition and the topicalization of verbal projections (extended verb phrases). With these issues the goal of this study has to remain more modest: In chapter 7, I discuss these issues, pinning down the problems they pose for this approach, and outline paths toward their solution. The solution I provide for VP-topicalization is very promising, while I have to leave a full account of extraposition for further research.

Scrambling

This chapter provides a comprehensive discussion of both the empirical nature and the theoretical implications of scrambling. I argue that the phenomenon of scrambling can only be done justice to if it is recognized that scrambling is subject to both PF- and LF-interface conditions. In particular, I address the claim by Haider and Rosengren (1998), henceforth H&R, that trigger accounts are essentially inappropriate for the phenomenon of scrambling on account of its optional nature. Contrary to H&R, I argue that a trigger account is indeed feasible in a copy theory of movement in which both LF- and PF-conditions determine which copy is to be spelled out.

Furthermore, I argue that one type of trigger for scrambling involves scope features of arguments. Scope features are relational syntactic properties of scope-taking elements, and as such they are inherently non-lexical. I propose an extension of the minimalist framework that allows for the introduction of non-lexical features in the course of the derivation to account for this aspect of scrambling.

Finally, I show that scrambling in German and Dutch obeys a uniform minimality condition and argue that this minimality condition must not be reduced to, that is, must be kept distinct from, the Minimal Link Condition in order to uphold a non-optional trigger account in contexts that display minimality effects.

The chapter is organized in the following way. Section 2.1 contains introductory remarks. Section 2.2 provides a discussion of the properties of scrambling in German. On the basis of these data, I argue in favor of an A-movement analysis of the phenomenon, discarding arguments having been put forth in favor of an A'-movement analysis. The section concludes with a discussion of how the pertinent A/A'-distinction can

be drawn independently of the notion of L-relatedness. Section 2.3 introduces the account of H&R highlighting its virtues as well as its problems. Section 2.4 sketches and illustrates H&R's argument that trigger accounts necessarily fail to do justice to the phenomenon of scrambling.

In section 2.5, I provide a solution to the trigger problem. Outlining the distributional properties of definite and indefinite, specific and nonspecific, focused and non-focused DPs with respect to the negative marker in German, I argue that scrambling is not optional and show how apparently irregular word order patterns can be explained by the interaction of output conditions that determine the Spell-out of movement copies.

In section 2.6, I address the issue of how scope features that represent relational properties of constituents can be handled in a simple trigger account. I propose an extension of the standard minimalist framework and show that the computational complexity of the generalized transformation proposed is sufficiently reduced by the standard economy conditions as to render it an attractive alternative to assuming optionality in syntactic computation. Section 2.7 discusses minimality effects in scrambling operations and outlines a uniform account that constrains scrambling in both German and Dutch and discusses its implication for the status of the Minimal Link Condition.

2.1 The grammatical nature of scrambling

The term *scrambling* was coined by Ross (1967) to refer to "the permutation of two adjacent constituents." Ross focused on the clause-boundedness of the operation and argued that scrambling should be placed in the stylistic component of the grammar, since scrambling was formally so unlike other transformational rules. Along these lines, Williams (1984) proposed that scrambling applies between S-Structure and PF.

However, it was soon noticed that scrambling has syntactic effects that influence the grammaticality and the interpretation of the clause. Webelhuth (1985) pointed out that scrambling induces anti-crossover effects, as is illustrated in (1).

- (1) a. *weil seine_i Lehrer jeden_j fürchten
since his teachers-NOM everyone-ACC fear
- b. weil jeden_i seine_j Lehrer fürchten
since everyone-ACC his teachers-NOM fear
'since his teachers are afraid of everyone'

Furthermore, it was noted that scrambling affects the grammaticality of focused DPs (2) and *wh*-phrases in situ (3), in the sense that scrambling of these elements leads to ungrammaticality. In (2), the focused constituent appears in small capitals.

- (2) a. *weil dem Studenten das BUCH der Professor geliehen hat
since the student-DAT the book-ACC the professor-NOM lent has
- b. weil dem Studenten das Buch der PROFESSOR geliehen hat

- (3) a. Was hat gestern der Professor wem geliehen?
what has yesterday the professor-NOM who-DAT lent
- b. *Was hat gestern wem der Professor geliehen?
what has yesterday who-DAT the professor-NOM lent

Since scrambling is related to restrictions that take effect at LF, it became clear in the hey-day of GB-theory that scrambling must be considered a syntactic operation. The following years saw a vivid and heated debate about the issue of how the syntactic operation of scrambling can be fitted into the A/A'-dichotomy of movement operations in the Extended Standard Theory. Since scrambling does not fit either movement type completely, the question of what type of movement operation scrambling is and whether scrambling should be described as the result of movement at all (rather than of base-generation) was far from being subject to general consensus for a long time. I cannot go into the details of this historic debate and refer the reader to two volumes that deal extensively with the question sketched earlier (cf., Corver and van Riemsdijk [1994], Grewendorf and Sternefeld [1990]). Instead I will provide a discussion of the descriptive properties of scrambling in German and explain why I consider the debate as having been decided in favor of A-movement.

2.2 The properties of scrambling in German

Scrambling has been used as a cover term for different operations that affect word order in the German middle field. It is important to distinguish two such operations in order to detect the constitutive properties of the operation of word order change that we are interested in here. Depending on whether the moved item bears stress or not, the movement operation displays quite significantly different properties.

The operation of scrambling in which the moved item is stressed shows clear properties of A'-movement: It can affect arguments as well as predicates and is not clause-bound. This operation moves contrastive topics and comes with a special intonation, the so-called *hat* contour that comprises a fall-rise tone on the moved topic and a fall tone on the (contrastive) focus-element in the remainder of the clause. This operation has been called *focus scrambling* by Neeleman (1994a), *I-topicalization* by Jacobs (1997), and *T-scrambling* by H&R. Because the moved item bears stress, I shall use the term *S-scrambling*. This movement operation is illustrated in (4) and (5), in which stressed syllables are given in small capitals. In Dutch, contrary to German, an object cannot scramble over the subject. However, if the operation is accompanied with the special intonation of a contrastive topic, scrambling of the object across the subject is fine (cf. [4b-c]). Example (5) depicts long-distance S-scrambling in German: The embedded object has been moved into the middle field of the matrix clause.

- (4) a. dat Jan de boeken niet koopt
that Jan the books not buys
- b. *dat de boeken Jan niet koopt
that the books Jan not buys

c. dat ZULke boeken selfs JAN niet koopt
that such books even Jan not buys

- (5) Noch gestern haben DIESE Frau alle geglaubt, dass NIEMAND einladen wird
Still yesterday have this woman-ACC all believed that nobody invite will
'Of this woman everyone believed still yesterday that no one would invite her'

Once the distinction is made between S-scrambling and scrambling operations in which the moved element bears no special stress, it can be shown that scrambling proper is restricted to arguments (6) and strictly clause-bound as well (7). In (6), the infinitival predicate has been scrambled across negation, leading to ungrammaticality. In (7), long-distance scrambling of the embedded object results in ungrammaticality.

- (6) a. weil jeder oft gewinnen möchte
since everyone often win wants
b. *weil jeder gewinnen oft möchte
since everyone win often wants
'since everyone often wants to win'
- (7) a. Gestern hat niemand geglaubt, dass er die Maria einladen wird
yesterday has nobody believed that he the Maria invite will
b. *Gestern hat niemand die Maria geglaubt, dass er einladen wird
yesterday has nobody the Maria believed that he invite will
'yesterday nobody believed that he will invite Maria'

Scrambling can create new binding possibilities. In (8a), the quantifier cannot A-bind the pronoun simply for lack of c-command. However, if the direct object quantifier is scrambled across the subject that contains the pronoun, the latter can be bound with no weak crossover effect (henceforth WCO-effect) being noticeable.

- (8) a. *weil seine_i Mutter jeden_i liebt
since his mother-NOM everyone-ACC loves
b. weil jeden_i seine_i Mutter liebt
since everyone-ACC his mother-NOM loves

Scrambling *can* lead to scope ambiguities. Stress in the former statement is on the modal *can*, since there seem to be two groups of speakers. For speakers of the first group, scope is solely a matter of surface relations. For these speakers, including me, the scrambled structure in (9b) is as unambiguous as the base structure in (9a), though the scope relations have been inverted by scrambling. For speakers of the second group, the base structure is unambiguous as well, but the scrambled structure is ambiguous. In (9b), these speakers not only get the reading that results from surface scope (as speakers of the first group do) but also get the reading that results from reconstructing the scrambled object into its base position.

- (9) a. weil [mindestens eine Frau] [fast jeden Mann] liebt
since at least one woman-NOM almost every man-ACC loves
b. weil [fast jeden Mann] [mindestens eine Frau] t liebt
since almost every man-ACC at least one woman-NOM loves

It is important to note that also for the second group binding relations are strictly read off from surface relations. In German, scrambling may not only create new binding possibilities; it may also destroy binding possibilities, as the example adopted from H&R shows. Even for speakers of the second group, the unbound anaphor in (10b) cannot be saved by reconstructing it into its base-position.

- (10) a. dass der Mann die Bilder einander anglich
that the man the pictures-ACC each other-DAT made-alike
b. *dass der Mann einander die Bilder t anglich
that the man each other-DAT the pictures-ACC made-alike
c. einander hat der Mann die Bilder angeglichen
each other-DAT has he the pictures-ACC made-alike

To sum up, the fact that scrambling (1) is restricted to arguments, (2) is clause-bound, and (3) can create new binding possibilities speaks in favor of an analysis in terms of A-movement. Moreover, the fact that scrambling cannot be reconstructed for reasons of binding speaks against an analysis in terms of A'-movement, since as is shown in (10c), an anaphor that has been A'-moved into [Spec,CP] can be bound via reconstruction. Thus, there is little reason to assume that scrambling in German should not be A-movement.

One argument that played an important role in the debate on the nature of scrambling was based on the observation that scrambling can license parasitic gaps. If parasitic gaps can only be licensed by A'-movement, as seems to be the case in English, then scrambling ought to be A'-movement, so the argument went. Neeleman (1994b) provides an excellent discussion of this argument and convincingly argues that the evidence that is given by examples of the type of (11a) has been overrated. It is sufficient here to present his strongest argument, namely, the observation that the so-called parasitic gap in (11a) can also be licensed by A-movement. In (11b), the presumed parasitic gap is licensed by a passive subject. This observation also holds for German (cf. [11c] and [11d]). Given Neeleman's observation, the argument that comes from the licensing of (so-called) parasitic gaps is mute.

- (11) a. dat Jan het boek [zonder *pg* in te kijken] aanprijst
that Jan this book [without at to look] offers
'that Jan offers this book without looking at it'
b. dat [de boeken] door Jan [zonder *pg* in te kijken] angeprijst worden
that the books by Jan without at to look offered were
'that the books were offered by Jan without looking at them'

- c. dass Hans die Bücher [ohne *pg* zu lesen] weitergegeben hat
that Hans the books without to read on-passed has
- d. dass die Bücher [ohne *pg* zu lesen] weitergegeben wurden
that the books without to read on-passed were

In an influential article, Grewendorf and Sabel (1999) investigate scrambling in German and Japanese and argue that clause-internal scrambling in German, contrary to clause-internal scrambling in Japanese, must be A'-movement. Their claim is decisively based on two arguments/observations. First, scrambling of a potential binder in German, contrary to scrambling in Japanese, cannot license an anaphor contained in a DP. Second, they argue that the lack of WCO-effects with scrambling in German should not be taken as evidence for an A-movement analysis, since clear instances of A'-movement in German can be found that do not give rise to a WCO-effect, either. I will take up this issue in the following subsection.

To illustrate their first point, let us look at the data in (12). In (12a), the anaphor contained in the direct object is licensed by the c-commanding subject. In (12b), the anaphor contained in the subject cannot be licensed by the direct object, a potential antecedent, for lack of c-command. If scrambling were an instance of A-movement in German, so they argue, then the direct object in (12c) should be able to license the anaphor, contrary to fact. Since in the parallel case in Japanese the anaphor is licensed (12d-e), clause-internal scrambling in German must be an instance of A'-scrambling.

- (12) a. weil Peter_i einen Freund von sich_i eingeladen hat
since Peter-NOM a friend of himself-ACC invited has
- b. *weil ein Freund von sich den Peter eingeladen hat
since a friend of himself the Peter-ACC invited has
- c. ??weil den Peter ein Freund von sich eingeladen hat
since the Peter-ACC a friend of himself-NOM invited has
- d. ?*[_{IP} otoga_i i-no sensei-ga [_{VP} karera_i-o hihansita]] (koto)
each other-GEN teacher-NOM them-ACC criticized
- e. ?[_{IP} karera_i-o [_{IP} otoga_i i-no sensei-ga [_{VP} hihansita]]] (koto)
they-ACC each other-GEN teacher-NOM criticized

Note, however, that the postnominal anaphor in German behaves like a long-distance anaphor in being strongly subject oriented, as is shown in (13). In (13), only the subject qualifies as an antecedent for the anaphor within the complex noun phrase. Thus, I would like to contend that (12c) is ungrammatical not because scrambling is not an instance of A-movement in German but because an object does not qualify as an antecedent for the subject oriented anaphor in German.

- (13) weil der Peter_i den Hans_j zu einem Freund von sich_v geschickt hat
since the Peter-Nom den Hans-ACC to a friend of himself sent has

Since the binding of anaphors is the only empirical argument they advance in favor of an A'-movement analysis and since clause-internal scrambling in German in their account would stand out compared to clause-internal scrambling in Hindi (which has been shown by Mahajan [1990] to be a clear instance of A-movement) and Japanese (which Grewendorf and Sabel themselves argue to be an instance of A-movement as well), I feel justified in concluding that the observation in (13) weakens their argument to a degree that it seems ill advised to base such a strong claim on the sole data of (12).

2.2.1 Vikner's argument

Vikner (1994) puts forward an important comparative argument in favor of an A'-movement analysis of scrambling in German. Vikner points out that scrambling in Dutch and object-shift in Scandinavian, contrary to scrambling in German, may permute arguments. For instance, in Icelandic, a definite direct object cannot move across the indirect object, as is shown in (14).

- (14) a. Petur keypti bokina ekki
Peter bought book-the not
- b. *Petur syndi bokina oft Mariu
Peter showed book-the often Mary-DAT
- c. Peter zeigte das Buch oft der Maria
Peter showed the book often the Maria-DAT

If object-shift is analyzed as A-movement into AgrO, then the contrast in (14) can be explained as a violation of (relativized) minimality (cf. Rizzi [1990]): The intervening indirect argument in an A-position would block object-shift of the direct object in (14b). If scrambling in German is A-movement as well, so Vikner argues, then it is surprising that no minimality effect can be observed in this language (14c).

Vikner concludes that free permutation of arguments in German calls for an account in terms of A'-movement: Not only would this account explain the lack of minimality effects, but adjunction would also be the most elegant way to derive the great number of possible word orders in German. Example (15) shows for the case of three arguments that all possible permutations, namely, six, are grammatical. The permutations of the base order in (15a) are most easily derivable by (multiple) adjunction to VP and IP.

- (15) a. weil Peter der Maria das Buch zeigte
since Peter the Maria-DAT the book-ACC showed
- b. weil Peter das Buch der Maria zeigte
- c. weil das Buch Peter der Maria zeigte
- d. weil der Maria Peter das Buch zeigte

- e. weil der Maria das Buch Peter zeigte
 f. weil das Buch der Maria Peter zeigte
 since Peter showed the book to Mary

Vikner then goes on to challenge the arguments that favor an analysis of scrambling in terms of A-movement. He notes that almost all the arguments are based on the lack of WCO-effects in German scrambling. Given that wh-movement does trigger WCO-violations (16a), it is argued that scrambling and wh-movement cannot be of the same kind.

However, so Vikner argues, it is not possible to have this kind of WCO-violation at all in German, and he concludes that the crucial difference would not seem to be between scrambling and wh-movement but between German and English. As is shown in (16b), not even (local) wh-movement triggers a WCO-violation in German.

- (16) a. *Who_i does his_i mother love?
 b. Wen_i liebt seine_i Mutter nicht?
 who-ACC loves his mother-NOM not
 'who is such that his own mother does not love him'
 c. Wen_i liebt [_{t_i} [seine Mutter nicht t_i]]

The observation is correct, but the conclusion here is invalid. It is true that no WCO-effects are observable in a single clause in German. However, when it comes to long-distance movement, we can detect an interesting contrast (cf. Frey [1993]). Long-distance wh-movement of the embedded object does give rise to a WCO-effect if the pronoun is contained in the matrix subject but does not if the pronoun is contained in the embedded subject, as is illustrated in (17). On the one hand, if A'-movement in German, as Vikner argues, were exceptionally not subject to WCO, then the contrast in (17) remains unexplainable.

- (17) a. Wen_i glaubt Peter dass seine_i Mutter t nicht liebt
 who-ACC believes Peter that his mother not loves
 'Who does Peter believe is such that his own mother does not love him'
 b. *Wen_i glaubt seine_i Mutter dass der Peter t nicht liebt
 who-ACC believes his mother that the Peter not loves
 'Who does his own mother believe is such that Peter does not love him'

On the other hand, if we assume that the WCO-effect can be circumvented by prior scrambling of the wh-word (cf. [16c]),¹ then the contrast in (17) follows simply from the fact that scrambling is clause-bound. Given this assumption, scrambling can provide an A-binder for the pronoun in the embedded subject but not for the pronoun in the matrix subject. Consequently, wh-movement in (17b) only leads to an A'-bound pronoun in the matrix clause and therefore does give rise to a WCO-violation inasmuch as wh-movement does in English.

However, the (well-motivated) assumption that German scrambling is A-movement gives us for free the property that scrambling, contrary to S-scrambling, is clause-bound. Were scrambling indeed an operation of A-bar movement, then it would be hard to explain why long-distance scrambling, for instance in (7b) earlier, cannot make use of [Spec,CP] of the embedded clause as a licit escape hatch. If scrambling is treated as A-movement, then movement via the embedded [Spec,CP] falls prey to the uniformity condition on chains, an option that we may assume is open for the A'-movement operation of S-scrambling.

At this point, a question concerning the A/A'-dichotomy arises, namely, how the distinction between A- and A'-positions is to be made. It seems ill advised to me to base the distinction on the L- or non-L-relatedness of the respective head. Due to V2, [Spec,CP] should count as L-related in German; nevertheless, movement to this position clearly and unambiguously has the properties of A'-movement. Furthermore, there are languages in which movement into a designated focus position, an operation that is standardly analyzed as A'-movement, is accompanied by verb movement. Thus, I would like to propose to make the nature of movement dependent on the type of feature that is checked in the target head, irrespective of L-relatedness. If the feature checked is an operator feature, [wh], [foc], or [neg] to name a few, then the movement operation will have the properties of A'-movement. If a non-operator feature is checked, for instance, [Specificity] or [Topicality] of an argument, then the movement operation will have properties of A-movement (see Grewendorf [2002] for a different view). That is to say that A-movement will be extended to check other features than just Case. S-scrambling involves movement of a contrastive topic. A contrastive topic presupposes a set of alternatives and by introducing a variable that ranges over the members of the presupposed set will involve, despite its topicality, an operator feature. Therefore, S-scrambling counts as A'-movement. In a parallel fashion, the features checked by scrambling (proper) will thus have to be of the non-operator type.

To conclude, Vikner's refutation of the A-movement approach to German scrambling fails, but the comparative issue that he raises is important and must be taken seriously. I will take it up as a challenge to my approach. Assuming that German scrambling is A-movement, I have to find an explanation for the fact that scrambling can freely permute arguments in German but is severely restricted in Dutch in a similar way as is object-shift (assuming that this operation is to be analyzed as A-movement as well) in Scandinavian.

2.2.2 Weak pronouns and scrambled DPs

Having argued that scrambling is A-movement, I have to address the question of what the landing positions and the triggers of this type of A-movement are (for a different approach see Meinunger 2000). In this book, I argue that scrambling in German does not have a unified trigger but is initiated by two types of triggers, namely, specificity in the sense of Enç (1991)² and scope (cf. Hinterhölzl 2002a, 2004). In the following, I want to propose that scrambling of specific DPs is movement into the Specifier-position of heads that license weak pronouns or clitics, as has been initially proposed by Sportiche (1996) (cf. also Cecchetto (2000), Haegeman [1996a, 1996b] for an

implementation of this idea in different languages). In German weak object pronouns can be licensed in two different positions, one below the subject and one above it, as is shown in (18). Weak subject pronouns are licensed in a position above the position for weak object pronouns, as is shown in (19a–b). We thus arrive at the representation in (20) (licensing positions for weak pronouns are simply termed cl[itic]).³

- (18) a. weil der Hans ihn gestern t getroffen hat
since the Hans him yesterday met has
b. weil ihn der Hans gestern t getroffen hat
since him the Hans yesterday met has
- (19) a. weil er ihn gestern getroffen hat
since he him yesterday met has
b. *weil ihn er gestern getroffen hat
since him he yesterday met has
- (20) [C [Cl-S [Cl-O1[Su [Cl-O2 [. . .]]]]]]

Given the structure in (20), it can be shown that all the orders in (15) earlier can be derived without adjunction by assuming that scrambled DPs move into the Specifiers of heads that license weak pronouns. Example (15a) corresponds to the base order. In (15b), the direct object has moved into the Specifier of the lower object licensing position, whereas the order in (15c) results from movement of the direct object into the higher licensing position for objects. Example (15d) involves movement of the indirect object into the higher object licensing position. Finally, in (15ef) both licensing positions above the subject are filled with the two objects in alternating orders.⁴ Summing up, the scrambling orders in (15) can be derived without adjunction, simply by using positions for which we have independent evidence.

One argument that could be launched against this account of scrambling is based on the observation that weak pronouns are subject to conditions that are not observed by scrambled DPs and which are specified in (21).

- (21) a. Weak pronouns appear in the order NOM > ACC > DAT.
b. Weak subject pronouns precede scrambled DPs.

Weak pronouns reach their licensing positions either by XP-movement only or by XP-movement (if necessary) and subsequent head movement. In the latter case, they form a cluster, and I would like to propose that condition (21a) pertains to clitic clusters, which are licensed in the highest licensing position for weak pronouns. Since scrambled DPs do not form clusters, they are not subject to condition (21a). Furthermore, if weak pronouns “cliticize” by XP-movement only, they can appear in various orders and different positions, very much like scrambled full DPs. This later option is available in West Flemish (cf. Haegeman [1994]) and various German dialects (cf. Gärtner and Steinbach [2000]).

To account for condition (21b), I will assume that weak subject pronouns always have to move to the highest licensing position for weak pronouns and that these licensing heads cannot simultaneously license an element in the head position and another element in their Specifier.

The proposal that one type of scrambling is movement into the Specifiers of heads that license weak pronouns is supported by cross-linguistic considerations. Alexiadou and Anagnostopoulou (1997) argue that there are some striking resemblances between scrambling in Germanic and clitic doubling constructions in Greek and Romance (cf. also Cecchetto [2000]).

It is interesting to note that in those languages (or dialects) that allow for clitic doubling as in River Plate Spanish and Romanian a typical WCO-violation can be circumvented by the introduction of a clitic (data taken from Suñer [1988] and Dobrovie-Sorin [1990], respectively), as is indicated in (22) and (23). In River Plate Spanish (22), the WCO-effect induced by QR at LF is obviated if the quantifier phrase is doubled. Likewise, a WCO-effect induced by the overt operation of wh-movement in Romanian (23) is obviated by clitic doubling of the wh-phrase.

- (22) a. *Su_i madre quire a todos;
their mother likes a everyone
b. Su_i madre los quire a todos;
their mother them likes a everyone
- (23) a. *[A cuales de ellos]_i no aguanta ni su_i madre
'a' which ones of them not stand even their mother
b. [A cuales de ellos]_i no los aguanta ni su_i madre
'a' which ones of them not them stand even their mother

We have seen earlier that overt scrambling in German can obviate WCO-effects induced by QR and proposed that the lack of WCO-effects in local wh-movement can be explained by assuming that the wh-object first scrambles across the subject that contains the pronoun, providing an A-binder for the latter before wh-movement moves the wh-object into [Spec,CP].

Assuming that scrambling is movement into the Specifiers of clitic positions will allow me to provide a uniform explanation of the parallel effects of scrambling in German and clitic doubling in Romance (and Greek) with respect to WCO, if we make the assumption, which seems natural, that clitic doubling involves movement of the doubled phrase into the Specifier of a functional projection licensing clitics but spells out the lower copy, which is then only prosodically marked as being part of the background of the sentence (while in German this is indicated by the overt position of a discourse-anaphoric element via Spell-out of the higher copy).

The data in (22) and (23) provide indirect evidence against Vikner's and Grewendorf and Sabel's (1999) position that WCO-effects are not a good criterion for deciding whether scrambling is A- or A'-movement, since they clearly show that a WCO-effect that is induced by an uncontroversial instance of A'-movement is

circumvented by the introduction of clitics that are assumed to be base generated in or related to an uncontroversial instance of an A-position.

2.3 Scrambling and optional movement

2.3.1 The account of Haider and Rosengren (1998)

H&R argue that *scrambling* is a cover term for distinct and independent constructions whose common feature is word order variation and put forth a rather restrictive theory of scrambling, the most important properties of which can be summarized as follows:

1. Scrambling is restricted to OV languages in which arguments are identified with an independent, non-positional mechanism
2. Scrambling is restricted to the permutation of arguments and applies exclusively within the lexical domain of the selecting head
3. Scrambling is truly optional—in the sense that no trigger can be identified that would force obligatory scrambling—as such it is blindly generated in the syntax and exploited at the interface levels

The first claim amounts to saying that scrambling cannot occur in VO languages at all and is restricted to those OV languages that license their arguments non-positionally. H&R assume that a language licenses its arguments non-positionally, if it has V-class dependent base orders. In chapter 1, we have seen that German has V-class dependent base orders (cf. section 1.2). Thus, German is an OV language that allows for scrambling in their account. Another language that has V-class dependent word orders is Icelandic. But since Icelandic is a VO language, it lacks scrambling according to H&R.

The second claim needs some further explication. For H&R, it is a defining feature of scrambling that it always involves “bypassing” of at least one non-empty (argument) base position. This assumption has two important consequences. First, scrambling is non-string vacuous. H&R are endorsing a representational view of grammar, in which economy principles select the minimal convergent structure, excluding representations like (24b).

- (24) a. dass der Peter die Maria besucht hat
that the Peter the Maria visited has
- b. dass der Peter_i die Maria_j t_i t_j besucht hat

Second, it has the following implication for adverbials: If adverbials do not have structurally unique base positions, as H&R assume, then the relative order of arguments and adverbials cannot be an instance of scrambling. For H&R, so-called scrambling of arguments to the left of adverbials is the result of alternative adverb placement. In a similar vein, object-shift in Icelandic is not an instance of scrambling, either, but should be explained in terms of alternative adverb placement.

Furthermore, scrambling positions are restricted to left-adjoined positions in head-final lexical projections. This restriction follows from Haider’s basic branching condition (BBC) and the condition that nodes attached to the projection line are licensed directionally.

- (25) BBC: The branching node of the projection line is to the right of its sister node.

The BBC excludes left-branching structures but allows for structures with multiple adjunctions within the maximal projection of a head. Example (26a) shows the base structure of a ditransitive verb in a head-final language. This structure is fine, since it obeys the BBC and since all nodes are licensed in the parametrically given directionality of an OV language, namely, toward the left. Example (26a), however, could also be the base structure of a verb with two arguments and a trace. In this case A and C would be coindexed and the structure would be appropriate for A having scrambled across B.

- (26) a. [_{VP} A [_V B [_V C V]]]
b. [_{VP} A V [_{VP} B [_V V C]]]

Example (26b) shows the base structure of a ditransitive verb in a VO language. Since the licensing direction is to the right in VO languages, complex VO-structures, contrary to complex OV-structures, must contain a V-chain to have all attached nodes licensed in the canonical direction.

Adjoined positions in (26a) are potential argument identification positions and hence count as A-positions, since they lie in the licensing direction of the head. Thus, scrambling in an OV language has radically different properties from the functionally parallel operation in a VO language, so H&R conclude: Adjunction to a VO-phrase does NOT create a new argument identification position. For H&R, it thus follows that scrambling in the strict sense as defined earlier cannot occur in VO languages.

2.3.2 Problems of the account of H&R

The account of H&R raises a number of questions. First and most important, their account presupposes that OV and VO languages have radically different base structures, that is, project their argument structures in very different ways. Certainly the introduction of VP-shells was originally motivated by the c-command properties of the arguments of ditransitive verbs (cf. Larson [1988])—properties that are also captured by the representation that H&R provide for a ditransitive verb in an OV language—but the existence of VP-shells has meanwhile been given semantic motivation in the work of Hale and Keyser (1993). The assumption of abstract verb positions—adopted in Chomsky (1995b)—which allows for significant generalizations about transitive and non-transitive verbs and their respective thematic and Case-assigning properties, if correct, should also hold for OV languages. However, the properties of abstract verb positions cannot be captured in H&R’s representation of the base structure of a verb in OV languages.

Second, their account makes a number of predictions that, given what we know about these languages, seem at least problematic. The first type of prediction involves free word order languages like Polish and Russian, which are standardly assumed to be VO languages. Either these languages have to be reanalyzed as OV languages or one has to assume that there are free word order phenomena that cannot be captured in terms of scrambling. The second type of prediction involves VO languages like English or the Mainland Scandinavian languages and amounts to saying that these languages should allow for different word orders postverbally. For instance, it is not clear in H&R's account what prevents the direct object from adjoining above the indirect object or moving into a higher Specifier, in the VP-shell structure in English, giving rise to sentences like (27a).

- (27) a. *John gave the book Mary
 b. Hans hat gestern das Buch gelesen
 Hans has yesterday the book read
 c. Hans hat das Buch gestern gelesen

Third, the question arises whether the distinction between scrambling of an argument across another argument and scrambling of an argument across an adverb is real. The latter process in H&R's account is dealt with by the mechanism of alternative adverb placement. Thus, the alternative orders in (27b–c) are assumed not to be the result of scrambling but to be the consequence of generating the adverb *gestern* 'yesterday' in different base positions. This assumption makes the following prediction concerning quantified adjuncts and arguments: Both orders should be unambiguous. The scrambling approach predicts that the two orders should behave differently with respect to the degree of their ambiguity: For speakers of dialect 2, the scrambling order, in contradistinction to the base order, should be ambiguous.

Frey (2000) and Frey and Pittner (1998, 1999) argue that adverbs in German do have syntactically determined base positions. Furthermore, they show that scrambling of arguments across adjuncts as well as of adjuncts across other adjuncts gives rise to ambiguous readings (examples taken from Frey [2000]).

- (28) a. weil an fast jedem Tag mindestens einer eine Wahlrede halten wird (unambiguous)
 since on almost every day at least one person a speech give will
 b. weil mindestens einer an fast jedem Tag eine Wahlrede halten wird (ambiguous)
 since at least one person on almost every day a speech give will

Given that scrambling of arguments across adjuncts has the same properties as scrambling of arguments across arguments, both operations should be given a uniform account, which is impossible in the approach of H&R.

2.4 The trigger problem

H&R argue that scrambling may not be considered as being triggered by a feature that needs to be checked in a designated position. They point out that trigger accounts

are often circular in the sense that they postulate features that apparently are only introduced into the theory to trigger scrambling. Moreover, H&R argue that accounts that introduce substantive, independently motivated features prove to be either too weak, too strong, or both.

A trigger account is too weak if the trigger just involves DP-type features, like Case or a strong [D]-feature, since it does not cover scrambling of PPs and CPs in German. What is needed is substantive features that are independent of the syntactic category of an argument. A number of features that relate to the semantic or discourse properties of an argument have been proposed in the literature. Such accounts, so H&R argue, are too strong by necessity since they entail that if the respective feature is present scrambling is obligatory, and then they go on to show that scrambling is optional.

First, they argue that the semantic and pragmatic effects induced by scrambling cannot be taken to be the triggering factor of scrambling, since the interpretational effect that is induced by scrambling is found in unscrambled structures as well. Scrambling seems to reduce, but not to replace, the interpretation potential of a phrase.

As evidence they provide examples in which a generic interpretation (29a), a specific interpretation of an indefinite (29b), and a specific definite interpretation (29c) are applicable to DPs in situ. For instance, in (29a) the definite DP object follows an indefinite pronoun subject. So the generically interpretable DP is likely to be in situ. Analogous considerations apply to (29b–c). In (29b), the indefinite is interpreted as specific, given that its reference is picked up by *Maria*, though it seems to occur in its base position following an indefinite subject. The same holds for the definite DP *her dress* in (29c), which—though occurring in its base position—can have a specific interpretation referring to *Maria's dress*.

- (29) a. dass wer die Pockenviren ausrotten sollte
 that someone the pockvirus exterminate should
 b. wenn wer eine rothaarige Frau sucht dann ist das Maria
 if someone a red-haired woman seeks then is it Maria
 c. dass er wem ihr Kleid gezeigt hat, hat Maria nicht gefallen
 that he someone her dress shown has, has Maria not pleased

Note that indefinites may not occur in the domain of negation in German (30a–b). However, H&R argue that this case of alleged obligatory scrambling rests on a controversial premise, namely, that negation universally c-commands the whole VP. They argue that the relevant condition for German and Dutch is that negation only needs to c-command the finite verb in its base position. This condition is fulfilled if negation is adjoined to V below the base position of arguments rendering scrambling of indefinite w-pronouns superfluous in order to derive the grammatical order in (30b).

- (30) a. *dass jemand nicht wen jagte
 that someone not somebody chased
 b. dass jemand wen nicht jagte
 that someone somebody not chased

Note that if this idiosyncratic assumption about the base position of negation in German is not taken, the data in (29) are not less problematic. Even if we assume that indefinite *w*-pronouns can scramble in principle, it seems hard to come up with a motivation that has the indefinite argument move across the generically interpreted definite argument.

Other triggers that have been proposed involve semantic-driven movement, that is, movement of weak DPs into strong DP positions, as in De Hoop (1992), or *familiarity*, as in the account of Corver and Delfitto (1997). But again, so H&R argue, these accounts prove to be too strong. If indeed scrambling was triggered by a specific interface feature, (31a–b) should differ to the extent defined by the absence or presence of that feature. However, (31a) can have the same interpretation as (31b), namely, that ‘Max in general admires prima ballerinas.’ Therefore, so H&R argue, the claim that a strong “generic” feature triggers scrambling cannot be correct.

- (31) a. dass ja Max Primaballerinas bewundert
that PRT Max prima ballerinas admires
- b. dass ja Primaballerinas Max bewundert
that PRT prima ballerinas Max admires

In this case, I find the evidence less convincing. In my judgment, I get an existential reading of the bare plural if the direct object in (31a) receives nuclear stress and a generic reading if the verb is assigned nuclear stress. This latter fact would indicate that the direct object in this reading of (31a) does not occupy its base position. In this case, it also seems plausible that the definite subject DP *Max* has moved to a high position above the generically interpreted object. This analysis of (31a) presupposes that the modal particle *ja*, which is generally assumed to mark the VP-boundary (cf. Diesing [1992], Kratzer [1995]) can occupy a position high up in the clausal domain. Such an analysis, however, is not available to H&R since they exclude string vacuous scrambling quite generally, as we have seen in the previous section.

In a similar vein, if scrambling were triggered by a discourse-type feature, like [+Familiar] as in Corver and Delfitto’s account, one would expect that the reading associated with scrambled constituents is absent in the base order. Example (32) provides a context in which the existence of a unique white ball is given or familiar. Nevertheless, scrambling is not obligatory. In fact, the unscrambled order is the preferred one.

- (32) In diesem Sack sind zwei rote und eine weisse Kugel
in this bag are two red and one white ball
- a. Wenn jemand die weisse Kugel zieht, hat er gewonnen
if someone the white ball draws, has he won
- b. ?Wenn die weisse Kugel jemand zieht, hat er gewonnen

I do not think that the context in (32) is well chosen for two reasons. First, note that the indefinite in (32) is interpreted as universally quantified (for every *x*, if *x* draws

the white ball, *x* wins), so that it is far from clear that the indefinite is in its base position. Second, the context itself may not be appropriate to trigger scrambling of a familiar discourse referent, as the example (32’) with a pronoun shows. In (32’), even the pronoun is awkward in a scrambled position, possibly because the discourse referents have been introduced as a group (or sum) and the choice of one member over the other seems to require some kind of focal stress (selecting but not contrastive focus).

- (32’) In diesem Zimmer befinden sich ein Mann und eine Frau
in this room there-are a man and a woman
- a. Wenn jemand ihn sprechen will, wählt er die 9
if someone him speak wants, dials he the 9
- b. ??Wenn ihn jemand sprechen will, wählt er die 9

With the reservations indicated earlier, I agree with H&R’s observations. Also, I think that these observations are rather problematic for simpleminded trigger accounts. To summarize the discussion earlier, we have seen that definite and indefinite specific DPs obligatorily scramble across negation while in other contexts, generic, definite, specific, and familiar DPs seem to be allowed to stay in their base position. So the picture we arrive at is rather puzzling.

There is an instance of scrambling that is indisputably obligatory. This operation is scrambling for reasons of scope taking. In German, a quantified object has to scramble across a quantified subject to take scope over it, as is shown in (33).

- (33) a. weil jeder mindestens zwei Bücher gelesen hat (SU > OB only)
since everyone-NOM at least two books-ACC read has
- b. weil mindestens zwei Bücher jeder gelesen hat (OB > SU preferred)
since at least two books-ACC everyone-NOM read has

Note, however, that the property of obligatoriness does not make it easier to provide a satisfactory trigger account of at least this type of scrambling. The difficulty arises since it is quite inappropriate to assign the respective scope feature to any specific F-head in the clause. Scope features—if we introduce the features [w], [n], and [i] (for wide, narrow, and intermediate scope) for the sake of concreteness—by their very nature are not absolute properties. Scope properties are relative properties: A DP has wide scope only in relation to another DP. Thus, a checking account in terms of privative features seems inadequate for scope phenomena in principle.

In the account of H&R, the problem does not arise, since scrambling is not considered as movement into a designated position to check the relevant feature. In their account, scrambling is the result of the syntactic mechanism of chain formation, applying blindly in the identification domain of the selecting head, which can be exploited at the interface. In this approach, the presumed scope features [w], [i], and [n] could be treated as interpretable semantic features of scopal elements that do not require syntactic checking and have to obey the following interface condition at LF, which will filter out all derivations/representations that do not conform to it.

(34) Scopal Well-formedness:

- a. A phrase with the feature [w] must c-command a phrase with the feature [n].
- b. A phrase with the feature [i] must c-command a phrase with the feature [n] and must be c-commanded by a phrase with the feature [w].

Note that this conception of grammar is very much in the spirit of minimalism. It is based on a maximally narrow syntax in which only morphological and a small selected set of formal features drive the derivation, with semantic and pragmatic properties being utilized in the workings of sophisticated interface conditions. In short, the syntactic derivation is not geared by features that relate to semantic or pragmatic properties of constituents. This analysis seems to be a relatively simple and maximally elegant solution to the problem of relational features, but it comes with the prize of allowing for optional operations in the syntax.

2.5 Coping with optionality

Taking H&R's observations at face value, we are confronted with two problems: (1) There are data that require elements like w-indefinites to scramble, though the accounts given so far would have them as non-scrambleable elements. (2) There are data that suggest that elements that should scramble, like specific DPs, occupy their base position. I will tackle the first problem by proposing that next to [Specificity] there is another factor that triggers scrambling, namely, scope.

H&R assume that w-indefinites do not scramble. However, this assumption is wrong. That w-indefinites can indeed scramble in German is shown in (35a–b). In (35a), the w-indefinite is in its expected position following the indefinite (negative) subject. (35a) is unambiguous, meaning 'that nobody met anyone does not surprise me'. In (35b), the w-indefinite has scrambled across the subject, yielding the interpretation 'that there is someone that nobody met does surprise me'.

- (35) a. dass keiner wen getroffen hat, überrascht mich nicht
that no one–NOM someone-ACC met has, surprises me not
- b. dass wen keiner getroffen hat, überrascht mich
that someone-ACC no one–NOM met has, surprises me

To utter (35b) the speaker does not need to have a specific individual in mind: it suffices that he has some evidence that there is a person with the relevant property. Thus, the w-indefinite is only specific in the sense that it is the DP with widest scope, but it is not specific in the sense that it is presupposed, known to the speaker, or in any other way anaphorically anchored in the context. This shows that scope properties of arguments are triggers of scrambling, and it confirms my former observation that scrambling in this case is obligatory since the reading of (35b) is only available if the object is scrambled across the subject.

Assuming that scope is a trigger for scrambling, of course, requires me to explain how scope requirements can be dealt with in a feature-checking mechanism. This issue will be taken up in section 2.6.

In the following, I want to tackle the second problem, namely, the issue that definite DPs and the like seem to scramble optionally. That is, to address the observation that sometimes they appear to have moved and sometimes they appear to be in their base position. My answer to the optionality issue is that DPs that have the triggering property always undergo scrambling but that there are intervening factors that prevent the Spell-out of the scrambled DP in its checking position.

To show that the distribution of scrambleable arguments is not optional but subject to specific conditions, I will investigate the distribution of arguments with respect to the negative marker. More specifically, I will address the assumption by H&R that the negative marker in German occupies a very low position in the clause. This assumption allows them to refrain from assuming obligatory scrambling of specific DPs to account for the unmarked word order in (36). That the negative marker in German occupies a much higher position in the clause is shown in the following section.

- (36) weil der Hans die Maria nicht liebt
since the Hans the Maria not loves

2.5.1 The syntax of the negative marker in German

The negative marker *nicht* ('not') obligatorily precedes manner adverbs as is shown in (37). Assuming as is standardly done that manner adverbs are adjoined to the VP (I will show in chapter 4 that they actually occupy a higher position in the clause), I conclude that the negative marker in German cannot occur VP-internally—adjoined to the verb as is assumed by H&R—but occupies a functional head position in the I-domain of the clause, as is the standard assumption for the syntactic representation of negation in various languages (cf. Haegeman and Zanuttini [1991]).

- (37) a. weil der Hans das Buch **nicht** sorgfältig gelesen hat
since the Hans the book not carefully read has
'since Hans has not read the book carefully'
- b. ??weil der Hans das Buch sorgfältig **nicht** gelesen hat
since the Hans the book carefully not read has

All definite nominal arguments precede the negative marker (38). If an indefinite NP precedes the negative marker, it is interpreted as specific (39a). If an indefinite NP follows the negative marker, the reading one gets most easily is the one in which the negative marker is interpreted as negating only the nominal argument that follows it (this holds for definite and indefinite NPs), which receives a (negative) contrastive interpretation. Depending on whether it is the determiner or the noun that receives the non-neutral (contrastive) stress, the negative marker negates the (cardinality of the) determiner or the descriptive content of the NP in (39b).

- (38) a. weil der Hans das Buch **nicht** gelesen hat
since the Hans the book not read has
'since Hans did not read the book'
- b. ??weil der Hans **nicht** das Buch gelesen hat⁵
since the Hans not the book read has
- (39) a. weil Hans ein Buch **nicht** gelesen hat (only specific interpretation)
since Hans a book not read has
'there is a book that Hans did not read'
- b. weil Hans **nicht** ein Buch gelesen hat (sondern zwei; sondern ein Journal)
since Hans not a book read has (but two; but a journal)
'Hans did not read ONE book; he read TWO books; Hans did not read a BOOK;
he read a JOURNAL'

It has been argued that in these cases the negative marker acts as "constituent negation." Because the negative marker can be topicalized together with an argument of the verb, it is assumed that negation in German can simply be adjoined to an XP that it narrowly or exclusively negates (40a–b).

- (40) a. [_{TP} **Nicht der Hans**] hat das Buch gelesen
not the Hans has the book read
'It was not Hans that read the book'
- b. [_{DP} nicht [_{DP} der Hans]]

The nonspecific (existential) interpretation of an indefinite NP in a negated German sentence is expressed with the determiner *kein* (41a). In this case, the negative marker is non-overt or fused (41b).⁶ Thus, we cannot determine in (41) whether a nonspecific indefinite NP has to move across the negative marker. That a nonspecific indefinite NP must at least move up to the negative marker is indicated by the behavior of negative existentials in Upper Austrian. This dialect exhibits, like other Bavarian dialects, the phenomenon of *negative concord*, which allows for the Spell-out of the negative marker even in the presence of negative constituents. As (42) shows, the negative existential NP *kein Buch* ('no book') has to precede the negative marker *net* ('not'). In the following, I will assume that a negative existential NP with a *kein*-determiner occupies [Spec,NegP].

- (41) a. weil Hans **kein Buch** gelesen hat
since Hans 'kein' book read has
'since it's not the case that Hans read a book'
- b. weil Hans (*nicht) kein Buch (*nicht) gelesen hat
since Hans not 'kein' book not read has

- (42) a. woei da Hans ka Buach **net** glesn hot
since the Hans 'kein' book not read has
'since it's not the case that John read a book'
- b. *woei da Hans **net** ka Buach glesn hot
since the Hans not 'kein' book read has

That nonspecific indefinite NPs may not only follow what may be analyzed as constituent negation but may also follow sentential negation can only be shown with more than one indefinite NP. If a sentence contains more than one indefinite NP, the highest nonspecific argument is spelled out with the *kein*-determiner, that is, checks the negative marker in [Spec,NegP]. This is shown in (43). Example (43a) is a sentence that contains three indefinites. If all three DPs are interpreted nonspecifically, the negation of (43a) must be (43b). In (43c), where the indirect object is spelled out with a *kein*-determiner, the higher subject must be interpreted as specific if we exclude focus-affected and quantificational readings. Example (43b) in conjunction with (42) and (43c) shows— if we analyze the *kein*-phrase as occupying [Spec,NegP]—that nonspecific indefinites may follow negation. Given these conclusions, (43b) is analyzed as shown in (43d).

- (43) a. weil ein Mann einer Frau eine Blume schenkte
since a man a woman-DAT a flower gave
- b. weil kein Mann einer Frau eine Blume schenkte
since 'kein' man a woman-DAT a flower gave
'since it is not the case that some man gave some flower to some woman'
- c. weil ein Mann keiner Frau eine Blume schenkte
since a man 'keiner' Frau a flower gave
'since a (certain) man did not give some flower to some woman'
- d. [_{CP} weil [_{TP} [_{NegP} kein Mann [einer Frau eine Blume [_{VP} schenkte]]]]]

Also, quantified NPs may follow the negative marker without giving rise to a constituent negation-interpretation (44a–b). In (44a–b), the negative marker can act as sentence negation. As (44c) shows, the negative marker can be construed narrowly with the higher subject NP, which is a typical property of sentence negation but is unexpected of constituent negation. Hence it follows that quantified NPs need not move across negation.

- (44) a. weil der Hans **nicht viele Bücher** liest
since the Hans not many books reads
'since it is not the case that Hans reads many books'
- b. weil der Hans **nicht jede Frau** anbetet
since the Hans not every woman adores
'since it is not the case that Hans adores every woman'

- c. Der HANS hat **nicht viele Bücher** gelesen, der PETER hat viele gelesen
 the Hans has not many books read, the Peter has many read
 'it was not Hans but Peter who read many books'

Let me summarize what I have observed so far. Specific NPs obligatorily move across the negative marker while nonspecific indefinite NPs, unless they move into [Spec,NegP] to check sentential negation, remain below the negative marker. Definite NPs may only then remain below the negative marker if they receive a contrastive interpretation. Along the same lines, nonspecific indefinite NPs may defy movement into [Spec,NegP] only if they receive a contrastive interpretation as illustrated in (39b) earlier. Finally, quantified NPs depending on their scope may stay below or move across the negative marker. A QP below the negative marker may have a specific or nonspecific interpretation. Example (45a) depicts a specific, that is, partitive, QP that occurs below the negative marker that acts as sentence negation. But if a QP scrambles higher than the negative marker, then it can, like indefinites, only have a specific interpretation as is shown in (45b).

- (45) a. Der HANS hat nicht viele der Bücher gelesen, der PETER hat viele davon gelesen
 the Hans has not many of the books read, the Peter has many thereof read
 b. weil der Hans viele Bücher nicht gelesen hat (only specific interpretation)
 since the Hans many books not read has
 'since for many of the books it holds that Hans did not read them'

Following the proposal in section 2.2.2, I assume that movement across negation is triggered by specificity. To get rid of constituent negation, I will take up a proposal by Richard Kayne (p.c.) and assume that there is a focus-phrase just below negation into which contrastively focused elements move. The resultant structure is given in (46). I have not said anything so far about where and how arguments are Case-licensed in German. In chapter 4, I will argue that they are licensed outside of VP in Case-agreement projections, as is indicated in (46). The resultant structure is given in (46) (recall that according to [20] scrambled [specific] DPs can be licensed below or above the subject).

- (46) [_{CP} [_{IP} Specifics (Su) T Specifics [Neg [Focus AgrC [V]]]]]

Given (46), the regularities discussed earlier can be described in the following way: It seems that a strong focus-feature blocks the movement of definite NPs into the licensing positions of specifics as well as the movement of the highest nonspecific indefinite into [Spec,NegP]. A specific QP may stay below negation if it is to be read with narrow scope, while a definite NP must (in the absence of any focus-feature) check its specificity feature. It is not evident how to properly express these regularities in a system of feature checking. One possibility is to assume that something like (47) holds.

- (47) Once Case is checked, only the feature of a DP with the closest licensing head is checked overtly.

The statement in (47) may be okay as a descriptive generalization, but it is unsatisfactory as a principle of grammar. Why should it be that the possibility of checking a certain feature is dependent on the presence or absence of certain other features? So (47) cannot be correct. However, (47) has the virtue of showing that the distribution of arguments and of definite DPs in particular is not optional at all, as claimed by H&R, but subject to specific restrictions. In the following section, I will provide an account in terms of conditions on the Spell-out of copies that allows us to get rid of the generalization in (47) and to solve the problem of optionality.

2.5.2 Conditions on spell-out

The solution to the problem posed by (47), namely, the fact that certain features can only be checked in the absence of other features (conditional checking), is to assume that feature checking is unconditional but to refrain from positing that the checked category is unconditionally spelled out in the position of the highest feature checked.

Let us assume for the sake of discussion, as earlier, that specificity is the relevant feature that triggers movement of arguments across negation. Then, we may assume (1) that a specific DP (independently of other features) always moves to check its feature in a position above the negative marker and (2) that its Spell-out is determined by the conditions in (48).

- (48) a. contrastive DPs are spelled out in the focus position
 b. quantified DPs are spelled out in their scope position
 c. de-accented DPs are spelled out before accented DPs

Condition (48a) captures the data in (38) and (39) earlier, which shows that a definite DP unless contrastively stressed appears before negation. Condition (48b) captures the data in (44) and (45) earlier, namely, the fact that specific QPs are spelled out above negation, unless they are to be interpreted with narrow scope with respect to negation. The notion "scope position" that is used in (48b) will be defined in section 2.6. While the conditions in (48a–b) are related to the LF-interface, condition (48c) is a condition related to the PF-interface. While the LF-related conditions are inviolable—we may assume that the heads that license contrastive focus und scope have a phonological EPP-feature—the PF-related condition is soft. This is illustrated in (49). For the working of condition (48c) I assume that backgrounded and discourse-anaphoric DPs are deaccented. The question in (49) can be answered either with (49a) or with (49b). While (49a) is completely unmarked and the preferred option, (49b) is slightly marked but completely grammatical.

- (49) Q: Wem hat Otto das Buch gegeben?
 Who has Otto the book given?
 A: a. Otto hat das Buch dem PETER gegeben
 b. Otto hat dem PETER das Buch gegeben
 Otto has (the book) to Peter (the book) given

The marked/unmarked status of the examples of (49) can be ascribed to the workings of an interface condition that determines the mapping between information-structure and prosodic structure. I assume that in both answers the direct object has scrambled (across the indirect object) with the difference following from spelling out either the higher or the lower copy.

(50) Interface condition

The phonological phrase that contains the focus (main accent) must be rightmost within its intonational phrase (cf. Chierchia [1986], Frascarelli [2000], Hayes and Lahiri [1991]).

As is illustrated in (51), the different status of the answers follows from the prosodic constraint in (50). Example (51) shows the prosodic structure of both answers, where parentheses indicate phonological phrases and *iP* indicates an intonational phrase. We see that (51a) optimally fulfills the prosodic condition in (50). While (51b) violates this prosodic condition. I propose that this is the reason why (51a) is preferred over (51b). Example (51b) is repaired by being assigned a stronger pitch accent, while in (51a) the assignment of normal sentence accent suffices to mark the focused constituent. Thus, (51b) is prosodically more marked than (51a), but speakers are free to use the more marked forms for their communicative purposes, whatever they are.

- (51) a. [_{iP} (Otto) (hat das Buch) (dem PEter gegeben)]
 b. [_{iP} (Otto) (hat dem PEter) (das Buch gegeben)]

In sum, (48c) is a statistical consequence of the workings of the interface condition in (50). Note that I managed to restrict optionality to the workings of condition (50) only. By this maneuver, optionality is confined to a PF-interface condition that specifies prosodic requirements on the linearization of phonological material. The syntactic computation, however, including the branch leading to the LF-interface, is deterministic throughout.

Thus, contrary to optimality theoretic syntax, I assume that surface constraints have no place in the grammar itself. Alternatively, I assume that the grammar specifies a limited set of options (one being the Spell-out of copies) that are fixed by the child who has access to (next to general syntactic principles) vocabulary and conditions operative at the interface levels only, which are necessarily "surfacey." In short, "surface constraints" are only relevant for the Spell-out of copies, not for the internal working of syntax that creates the copies.

2.6 Feature checking and scope

In section 2.4, we have seen that scrambling for reasons of scope taking, though being non-optional, still poses a problem for trigger accounts because of the relational nature of scope. Also, since I showed that scrambling proper is an A-movement

operation, we need a flexible mechanism to replace adjunction. That is, we need to devise a mechanism that allows us to check one and the same feature in different positions in different occasions. In this section, I want to sketch a possible account of scope in terms of feature checking and explore its implications for the theory of grammar.

For the sake of discussion, let us assume that the features introduced earlier, [*w*], [*i*], and [*n*], are sufficient to account for scope phenomena and, furthermore, that these features drive the derivation. One question that arises is whether these features are formal or purely semantic in nature. For sure, these features are non-lexical and thus cannot be part of the numeration. Take note of the fact that these features are not in any sense part of the lexical properties of a quantifier. As such these are essentially different from the scope features that Beghelli and Stowell (1996) abstract from specific (types of) quantifiers to account for their scope properties. The scope features I am assuming are essentially independent of the properties of lexical items and are purely relational (or syntactic) in nature. Thus, it seems appropriate to assume that they cannot be assigned to a specific lexical or functional head in the numeration.

2.6.1 Relational features and the Inclusiveness Condition

Assuming that the *Inclusiveness Condition* (cf. Chomsky [1995b]) only holds for linguistic items in the numeration, I propose that non-lexical features can be assigned to any head in the course of the derivation. To restrict scrambling to the middle field, I assume that scope features can be assigned to extended projections of the verb. The enrichment of an existing structure with a non-lexical feature is possible in two ways, as specified in (52).

(52) Dynamic feature assignment

- a. Conservative extension: assign the feature to an existing structure (the head at the root) in the course of the derivation.
 b. Dynamic extension: assign the feature to (a copy of) a bare functional head and merge the head with the existing structure.

Economy of derivation guarantees that dynamic extension in (52b), which is more complex than conservative extension in (52a), will only apply in case the derivation that uses only conservative extension does not converge. Furthermore, *fewest steps* ensures that these features are not assigned repeatedly to a structure and *shortest step* requires that only the smallest extension that guarantees a convergent derivation will be taken. This is illustrated in (53). In (53) the assignment of the scope features to the corresponding DPs is left out for reasons of space, but I assume that DPs (and other scope-bearing elements)—according to the intentional purposes of the speaker—come equipped with scope features. In other words, the mechanism in (52) only concerns the assignment of formal scope features to functional heads, which check the semantic features of arguments and adjuncts corresponding to the reading that a speaker has in mind.

- (53) a. [_{CP} weil ... [jeder AgrNom[w] [mindestestens eine Frau AgrAcc[n] [_{VP} liebt]]]]
 since everyone-NOM at least one woman-ACC loves
- b. [_{CP} weil ... [F[w] [jeder AgrN[n] [mindestestens eine Frau AgrA [_{VP} liebt]]]]]]
- c. [_{CP} weil [F[w] ... [F[w] [jeder AgrN[n] [mindest. eine Frau AgrA [_{VP} liebt]]]]]]]]
- d. [_{CP} weil [T [F[w] [jeder AgrN[n] [mindestestens eine Frau AgrA [_{VP} liebt]]]]]]]]]]
- e. [_{CP} weil [F[w] ... [T [jeder AgrN[n] [mindest. eine Frau AgrA [_{VP} liebt]]]]]]]]]]

In (53a), the scope features are assigned by operation (52a) to the respective Case-agreement heads. Assuming that the subject is to be read with wide scope with respect to the object, no extension of the derivation, that is, no scrambling, is necessary. In (53b–e), I assume that the object is to be read with wide scope with respect to the subject. The structures in (53b–e) show possible extensions of the derivation before the direct object moves to check its scope feature. In this case, the derivation (53b) wins out over the derivation in (53c) due to *fewest steps*. In the same vein, the derivation in (53d) will be selected over the derivation in (53e), since the movement of the object in (53d) to check its scope feature will be shorter than its movement in (53e) (*shortest step*). In short, the assignment of scope features has to obey the regular economy conditions. Furthermore, it has to meet the interface condition in (54).

(54) Scope Filter

- a. A head assigned the feature [w] must c-command a head assigned the feature [n].
- b. A head assigned the feature [i] must c-command a head assigned the feature [n] and be c-commanded by a head assigned the feature [w].

For the sake of better illustration, I will discuss the derivation of the sentences in (55). First, the arguments are merged in their thematic position in the VP. Then the Case-checking heads are merged and the arguments move into their Case-licensing positions in a parallel fashion.

- (55) a. weil jeder mindestens eine Frau liebt
 since everyone-NOM at least one woman-ACC loves
- b. weil mindestens eine Frau jeder liebt
 since at least one woman-ACC everyone-NOM loves

In (55a), where the subject is to be read with wide scope with respect to the object, the scope features can be directly assigned and checked in the Case-positions, with AgrAcc being assigned and checking [n] and AgrNom being assigned and checking [w]. In (55b), where the object is to be read with wide scope with respect to the subject, only one scope feature can be assigned and checked in the Case-position, since the assignment of [w] to AgrAcc and [n] to AgrNom would violate the Scope Filter in (54).

Thus, the assignment of [n] to AgrNom, which according to (52) is more economic than not using any Case-position for the checking of scope features, forces

the assignment of the remaining scope feature [w] to a higher head. Since the direct object in (55) is nonspecific—if it were specific the scope features could be assigned to the head that licenses weak pronouns (cf. section 2.2)—and since the object does not have any other features to check in the I-domain, the scope feature is assigned to a bare functional head, which is merged with the existing structure. Then, the direct object moves across the subject to check its scope feature. Finally, the complementizer is merged to complete the derivation of the clause.

The assignment of a scope feature to a functional head defines the scope position of an argument. Since according to (48b) quantified DPs have to be spelled out in their scope positions, the copies of the two arguments can only be spelled out in the order given in (55), with the wide scope phrase preceding the narrow scope phrase.

Along the same lines it follows that a quantified DP if it is to be read with narrow scope with respect to negation (cf. [44] and [45] earlier) must be spelled out below negation even if it has a specific (partitive) interpretation. A DP of this type will check its scope feature in its Case-position below negation, move across negation to check its [Specificity] feature, but be spelled out in its scope position below negation. The same considerations apply to contrastively focused definite and indefinite specifics (cf. [38] and [39] earlier).

I will now address the question of whether these scope features are to be considered as purely formal features. Remember that there are two different dialects concerning the interpretation of quantified expressions. For speakers of the first dialect scrambled structures are unambiguous. That is to say, the scrambled phrase is interpreted in its surface position. For speakers of the second dialect scrambled structures are ambiguous. That is to say, the scrambled phrase can be interpreted in its surface position or in its base position (I am leaving open the question whether it is the Theta- or the Case-position that is relevant here). That is to say that a sentence produced to express a certain meaning can be ambiguous, although the speaker may have just had one meaning in his mind. The scope features that I assumed here do not determine the semantic interpretation of scopal elements. Rather, they provide a syntactic limit to the interpretation of a scopal element. This property is more akin to the nature of a formal feature (that gears but does not [directly] determine the interpretation of the element it is assigned to). Let us call the position in which a formal scope feature is checked the scope position of a scopal element; then the interpretation of these elements in the two dialects can be characterized most simply as given in (56).

- (56) Dialect 1: A scope-bearing element is interpreted in its scope position.

Dialect 2: A scope-bearing element can be interpreted in its scope or in its base position.

Again, this characterization of the properties of scrambling in the two dialects highlights the fact that the scope features that I introduced are formal in nature rather than being purely semantic. Rather than being interpreted directly, they drive the derivation that provides the input for more general principles of interpretation.

To summarize, if we want to refrain from positing an optional mechanism in the syntax like H&R's mechanism of freely creating scrambling chains that can be

exploited at the interfaces, we have to extend the computational system and allow for the introduction of non-lexical features in the course of the derivation. The enrichment mechanism I propose obeys cyclicity and is conservative in that it involves either the assignment of non-lexical (= relational) features to pre-existing structure or the introduction of a bare functional head with the feature in question that represents the smallest extension.

2.6.2 Optionality and the role of interface features

I will now briefly address the question of whether I have achieved more than replacing one optional mechanism, that of chain formation in the system of H&R, with another optional mechanism, that one involving the assignment of scope features.⁷ At this point I must clarify a number of issues. Remember that in German if the speaker has in mind the meaning that for every woman there is a man who loves her, he must use a scrambling structure to express that meaning, as is illustrated again in (57).

- (57) a. weil ein Mann jede Frau liebt (* with the intended meaning)
 since a man-NOM every woman-ACC loves
- b. weil jede Frau ein Mann liebt (essential for the intended reading)
 since every woman-ACC a man-NOM loves

Crucially, I do not assume that the syntax will generate both options in (57) and that (57b) is then selected at the interface since it corresponds to the meaning the speaker had in mind. I assume that semantic scope features (according to the intentions of the speaker) can be assigned to arguments of a verb. In the syntax, these scope features need to be checked by corresponding formal features in the course of the derivation. If the scope relation corresponds to the hierarchy of the arguments (or adjuncts) involved, no scrambling is necessary. The feature assignment mechanism ensures that in this case scope features are checked in the Case-licensing positions of the arguments. Only if the scope relation does not correspond to the thematic hierarchy of arguments does scrambling apply. The economy condition on the mechanism of feature assignment ensures that only the smallest extension necessary is taken to arrive at the inverse scope representation.

If we want to have a grammar without free adjunction, it seems to me this is the only way to handle the scope effects of scrambling. However, there is a more principled issue behind the preceding question. H&R employ a specific perspective on grammar that is essentially GB-like: Different syntactic structures are generated freely (move alpha), after which process the legitimate ones are quasi filtered out by requirements of the modules. The different filters in the account of H&R are then extended to include interface requirements. This perspective is widely spread and can be considered the standard method of handling so-called interface requirements.

For instance, many accounts to focus interpretation assume that a formal feature [f] can be assigned freely to syntactic constituents and that at the end of the derivation the representation that best corresponds to specific interface requirements is chosen. I have a different perspective on grammar and assume that the interaction

between syntax and the interfaces works differently. I assume that interface features can trigger syntactic operations. More specifically, I assume that if the speaker wants to focus a certain constituent, then a (semantic) focus feature is assigned to this constituent (in the numeration). This semantic feature must then be licensed by the specific means foreseen by the individual grammar, that is, either by a corresponding focus morpheme in the structure, by an intonational morpheme, or by movement to a certain position (an abstract morpheme).

In a parallel fashion, if the speaker wants the direct object to be interpreted with wide scope with respect to the subject, then the respective scope features are assigned to these constituents in the numeration. And these scope features must then be licensed (checked) in the course of the derivation by corresponding formal features. As we have seen earlier, the assignment of formal scope features is heavily constrained by economy conditions rather than being a mechanism that may apply freely. Thus, we can conclude that optionality is not part of this account of scrambling, though the speaker is of course free to choose a passive sentence instead of the scrambling structure in (57) to achieve the same communicative effect.

2.7 Addressing Vikner's problem

To remind ourselves, Vikner pointed at the following question: If scrambling in German and Dutch and object-shift in Scandinavian are all operations of A-movement, why is it that object movement in Dutch and Scandinavian is severely restricted but may permute arguments freely in German?

The answer that I will give is that A-movement is subject to a minimality constraint that is circumvented by the Case properties of DP-arguments in German (cf. Haerberli 2002 for a different solution). As a first approximation to the minimality condition relevant here, consider (58).

- (58) Minimality
- a. Movement of a DP-argument across an overt categorically non-distinct argument is blocked.
- b. Case (that distinctively marks grammatical functions) can render DP-arguments categorically distinct.

Let us look at the case of a ditransitive verb with an indefinite indirect object and a definite or specific direct object in a language like Dutch, in which DPs are non-distinct for lack of Case, as is illustrated in (59). In (59), the indirect object will not block the selection for agreement (or attraction) of the direct object by the head marked for [Specificity], since the latter is the closest category with the relevant feature. But it will block via minimality movement of the categorically non-distinct direct object. Note that the minimality condition is taken to only block category movement of the direct object. The agreement or attract relationship between the head marked for [Specificity] and the direct object is undisrupted by the minimality condition. To evade the problem that certain features seem to trigger movement only optionally, I

assume that the [Specificity] feature is checked by either category movement or AGREE. Thus, we see that in order to solve the problem of optionality, it is important that minimality is not reduced to (or replaced by) the Minimal Link Condition (MLC). The two conditions are independent restrictions that have to be kept separate. More specifically, a minimality effect only blocks (syntactic) movement of a category but will not disrupt an agreement relation that obeys the MLC.

(59) [[X [+spec] IO [-spec] DO [+spec] V]]

There is an alternative interpretation of the case illustrated in (59) that would allow one to conflate the MLC and minimality. The alternative account would assume that the DO in fact has moved across the IO to check its specificity feature but must be spelled out in its lower position due to an interface constraint that demands that A-movement must not obscure grammatical functions. This principle would state that in cases of A-movement copies must be spelled out in a way such that grammatical functions remain visible (in the sense that they can be read off directly from either word order or Case distinctions). Since it involves actual movement of a syntactic category, this alternative approach predicts that there may be syntactic effects of scrambling even in superficially non-scrambled word orders. In the absence of any evidence pro or contra to such an effect, I will put this alternative to the side.

Let us now see what happens in the same type of situation in German. Again, the direct object will be selected for Agreement by the attracting head. In this case, minimality will not block category movement of the direct object across the indirect object, since their Case morphology renders the two arguments categorically distinct.

Addressing the qualification in (58b), I may have to assume that only a certain type of Case can fulfill the function of rendering DPs categorically distinct. In Icelandic, Case can obviously not help circumvent the minimality condition on A-movement: Object-shift may not permute arguments in Icelandic. Either we adopt Holmberg's (1999) account of the restrictions on object-shift in terms of a phonological minimality condition (any phonological material other than adjuncts blocks object-shift in his system) or we assume that only Case that distinctively marks grammatical functions in a language can render DPs categorically distinct. Note that in Icelandic, Case distinctions, though numerous and robust, do not have this property. Icelandic does have Dative subjects as well as Nominative objects. In German, a DP assigned Nominative, even if it is a deep object, always represents the subject of the clause and the subject of the clause can be no other phrase (except for clauses) than the DP marked Nominative.

Is there any evidence for the assumption that Case can render DPs categorically distinct? First, note that also in German scrambling across a categorically non-distinct DP is illicit. In constructions where two arguments are marked with the same Case, as in ECM-constructions, scrambling is impossible. In (60), a case of restructuring, all three arguments occur in the matrix clause, as can be deduced from the fact that they all precede negation that can have scope over the matrix verb. Nevertheless, scrambling of the embedded object across the embedded subject is impossible. Example (60) cannot mean that 'she saw Maria kiss him'.

(60) weil sie ihn die Maria nicht küssen sah
 since she-NOM him-ACC the Maria-ACC not kiss saw
 'since she did not see him kiss Maria'

Second, in Dutch, as I have noted earlier, the permutation of full DP-arguments is illicit. Dutch DPs, like English DPs, have lost their Case distinctions. However, pronouns that have preserved their Case distinctions enjoy a much freer distribution: A direct object pronoun can move across an indirect DP-object. In West Flemish, pronouns can even move across the subject and can appear in various orders, similar to the free distribution of DP-arguments in German (cf. Haegeman [1996b]).

2.8 Conclusions

To summarize, in this chapter I have provided an account of scrambling in terms of feature-driven movement. Investigating the distribution of arguments with respect to the negative marker, I have shown that scrambling is not optional, as is claimed by H&R, but subject to specific conditions. Instead, I proposed an account of scrambling in which movement obtains obligatorily but the Spell-out of copies is subject to specific interface conditions. These conditions require, for instance, that a specific DP that is focused or receives narrow scope cannot be spelled out in its scrambling position.

I have argued that there are two triggers for scrambling, namely [Specificity] and [Scope], and proposed an account in which these features are checked in a Spec-head configuration that renders superfluous the operation of adjunction in accounting for alternating word orders. Alternatively, I have proposed a mechanism of assigning features in the course of the derivation that is constrained by the standard economy conditions.

Coherent Infinitives in Dutch and West Flemish

This chapter provides an initial discussion of the properties of coherent infinitives in Dutch and West Flemish. On the basis of the Dutch data, I first describe the traditional OV-based biclausal approach to restructuring infinitives in terms of VR and LDS (cf. Den Besten and Rutten [1989], Rutten [1991]). Then I discuss the distribution of verb-particles in Dutch verb clusters and argue that some occurrences cannot be derived by incorporation in terms of head movement but must involve XP-movement. This observation will lead me to reject the assumption that VR is a process that only involves head movement.

On the basis of West Flemish data, I will first introduce the standard approach to Verb Projection Raising constructions in terms of extraposition of the (extended) infinitival VP (VPR). Then I will investigate the distribution of IPP-complements in WF and argue that VPR cannot be given a satisfactory account in terms of "extraposition," that is, in terms of *rightward* movement of an extended verb projection.

At the end, I will conclude that both VR and VPR involve leftward movement (of an extended projection) of the verb, which will set the basis for a VO-based analysis of these constructions to be given in chapter 4.

3.1 Coherent infinitives in Dutch

I will start the discussion of coherent constructions in the individual languages with Dutch. Since the pioneering work of Evers (1975), there has been a vivid tradition within Dutch linguistics of ongoing research on the topic, such that this phenom-

enon in Dutch is very well described, which does, however, not imply that it is very well understood as well. The following discussion of the data is based on the work by Den Besten and Rutten (1989) and Rutten (1991).

Infinitival complements are divided into the three groups given in (1). Various main verbs can select *om* + *te*-infinitivals as a (prepositional) object. The element *om* is generally taken to be the infinitival complementizer. Thus, an example like (2a) is traditionally analyzed as displayed in (2b), with the infinitival clause being extraposed.

- (1) a. *om* + *te*-infinitivals: Extraposition
 b. bare infinitivals: Verb Raising (VR)
 c. *te*-infinitivals: VR or extraposition (classification following Evers [1975])
- (2) a. *dat* Jan besloot *om* een liedje *te* zingen
 that Jan decided a song to sing
 b. *dat* Jan t_{EXTR} besloot [_{CP} *om* [_{IP} PRO een liedje *te* zingen]]_{EXTR}

3.1.1 Bare infinitives

Bare infinitives are characterized by the lack of the infinitival marker *te* ('to'). According to Evers (1975), verbs that take bare infinitives fall into three groups. The first group consists of the Exceptional Case Marking (ECM)-verbs that license a lexical subject in the bare infinitival. This group includes the *verba sentiendi*, the causative/permisive verb *laten* ('to make/let'), and *vinden* ('to consider'). The second group consists of root modals and some isolated cases like *leren* ('to learn/teach') and *helpen* ('to help'), which are analyzed as Control verbs. The last group consists of epistemic modals and a subset of (semi-) aspectual verbs like the inchoative verb *gaan* ('to go'), which are properly characterized as Subject Raising verbs.

Example (3a) shows a bare infinitival selected by the ECM-verb *horen* ('to hear'). Here the matrix verb intervenes between the embedded infinitival and its arguments. To accommodate this order with the head-final character that he assumed for Dutch, Evers (1975) proposed a rule of VR that right-adjoins the dependent infinitive to its selecting verb as depicted in (3b).

- (3) a. *dat* ik Jan een liedje hoor zingen
 that I Jan a song hear sing
 'that I hear Jan sing a song'
 b. *dat* ik [Jan een liedje t_R] hoor zingen_R

While *om*+*te*-infinitives are unequivocally to be described as non-coherent infinitive constructions, bare infinitives in Dutch display all the properties of a coherent construction that I showed to be characteristic in chapter 1. It should suffice for the sake of illustration to discuss just three of the properties that are characteristic of a coherent construction. Example (4a) shows that a bare infinitival cannot be

extraposed. Example (4b) shows that a bare infinitival is transparent for certain extraction processes. In (4b), the embedded direct object has been scrambled into the middle field of the matrix verb.¹ Finally, (4c) shows that the negative operator *niet* can take scope within the embedded clause or within the matrix clause. Example (4c) can mean either 'we saw that the crows were not flying' or 'we didn't see that crows were flying'.

- (4) a. *dat ik t_{EXTR} hoorde [Jan een liedje zingen]_{EXTR}
that I heard Jan a song sing
- b. dat wij het_i [Cecilia t_i t_R] hoorden vertellen_R
that we it Cecilia heard tell
'that we heard Cecilia tell it'
- c. dat wij de kraaien niet t_R zagen vliegen_R
that we the crows not saw fly
'that we didn't see the crows fly'

Following is a list of those verbs that select bare infinitives in Dutch. This list is adapted from Rutten (1991) and shall function as a reference list for comparing bare infinitives in different languages.²

(5) blijven	stay, remain	laten	let
doen	do, make	liggen*	lie (down)
durven* ³	dare	lopen	walk
gaan	go, will	staan*	stand
hebben	have	vinden	find
hoeven*	need to	voelen	feel
horen	hear	willen	want
komen	come	zien	see
kunnen	can	zijn	be
moeten	must	zitten*	sit
mogen	may	zullen	will

Before I discuss the behavior of *te*-infinitives, I would like to address two phenomena that Rutten (1991) describes as exceptions to VR. Example (6a–b) illustrates that not only is it possible to have the order modal < infinitive (as is expected if VR is obligatory) but the order infinitive < modal also yields a grammatical sentence.

- (6) a. dat Anna hem een CD wil geven
b. dat Anna hem een CD geven wil
that Anna him a CD wants give/give wants
- c. *Karel zei morgen niet komen te kunnen
Karel said tomorrow not come to can
- d. Karel zei morgen niet t_R te kunnen komen_R
'Karel said that he is not able to come tomorrow'

Rutten gives the following descriptive generalization: *VR is optional if only one infinitive (without te) is embedded under a finite modal verb*. Rutten notes that when the modal verb itself is nonfinite, VR becomes obligatory again (6c–d). Furthermore, he notes that when more than one infinitive is embedded under a finite modal, VR must apply to all infinitives (7).

- (7) a. *dat Karel morgen wel niet komen durven zal
that Kares tomorrow well not come dare will
- b. *dat Karel morgen wel niet komen t_R zal durven_R
- c. dat Karel morgen wel niet t_R t_i zal [durven komen]_R_i
- d. *dat Karel morgen wel niet t_R durven komen_R zal
- e. *dat Karel morgen wel niet t_R durven zal komen_R
'that Karel probably won't dare to come tomorrow'

In (7a), none of the two infinitives has been raised and the structure is ungrammatical. Example (7b) shows that it is not sufficient to only raise the higher infinitive; since *durven* is itself a VR-verb, the lowest infinitive has to be raised as well (7c). The ungrammaticality of (7b) can be made to follow from Rutten's generalization. After all, the verb that embeds the infinitive *komen* that failed to undergo VR is not a *finite* modal. What is more surprising given the preceding generalization is that (7d) is ungrammatical as well. Since the verb that selects it is nonfinite, *komen* has to undergo VR and we derive the sequence [*durven komen*] *zal*. Since the verb that selects *durven* is a finite modal verb, it is not clear why VR is obligatory in this configuration as well. Obligatory VR in this case would follow from Rutten's generalization if the complex verb *durven komen*, derived by head-to-head adjunction, does not count as a single unit.⁴ Finally, (7e) is ungrammatical presumably because the most deeply embedded infinitive, *komen*, has been moved across two intervening heads in violation of the Head Movement Constraint.

These observations can be summarized in the following generalization: *Verbs in a verbal complex that comprises more than two verbs can only appear in the strict order V₁ V₂ V₃ . . . V_n in Dutch, where a higher number indicates a deeper level of embedding*. There is one exception to this rule: Participles that represent the most deeply embedded verb in a verbal sequence may precede the verbal complex properly ordered so (see discussion and examples [8–10] later).

Participles seem to be exempted from obligatory VR independently of the context they are part of: A participle may fail to undergo VR when the selecting verb is finite (8) or nonfinite (9). A participle may stay in its base-generated position even when the selecting verb has to undergo VR (10). In (10), the infinitival auxiliary *worden* ('be') selects a (passive) participle. The auxiliary, since it is not the only infinitive embedded under the finite modal *zal*, has to undergo VR; nevertheless, the participle may fail to raise with its selecting verb.

- (8) a. dat Anna hem een CD gegeven heeft
b. dat Anna hem een CD heeft gegeven
'that Anna has given him a CD'

- (9) a. Anna beweerde hem een CD gegeven te hebben
Anna claimed him a CD given to have
- b. Anna beweerde hem een CD te hebben gegeven
'Anna claimed to have given him a CD'
- (10) a. *dat hij tot voorzitter gekozen worden kunnen zal
that he (to) chairperson chosen become can will
- b. dat hij tot voorzitter gekozen zal kunnen worden
- c. dat hij tot voorzitter zal kunnen worden gekozen
'that he will be able to be elected chairperson'

Rutten assumes that VR is the result of a formal licensing requirement (he assumes that verbs need "verbal Case" that is assigned to the right in Dutch) and that this requirement that holds for verbs in general does not apply to participles, since they are not real verbs but may be considered as having the category label [+V]. Now it is interesting to see what word orders are possible in a sentence that combines a participle, a finite modal, and a single infinitive. We expect that both the participle and the infinitive can precede the final verb. However, this expectation is not borne out. Rutten notes that (11a) is very odd and that at least the infinitive should be raised (11b). Raising of the participle is possible as well (11c).

- (11) a. *dat Anna hem wel een CD gegeven hebben kan
that Anna him well a CD given have can
- b. dat Anna hem wel een CD gegeven kan hebben
- c. dat Anna hem wel een CD kan hebben gegeven
'that Anna may very well have given him a CD'

It seems that Rutten's rule for the distribution of inverted structures, that is, structures inverted with respect to the expected VR-order (cf. note 4), is too general. Also, it is not clear why a PF-rule like inversion should be restricted to the small class of modal verbs. In fact, Broekhuis and Den Besten (1989) point out that inversion is not restricted to modal verbs but possible with all verbs that select a bare infinitive as long as the prosodic filter in (12) is observed.

- (12) Prosodic Filter
The embedded verb can only occur in inverted position if it carries primary stress.

Broekhuis and Den Besten cite contrasts such as the one given in (13) as evidence for the relevance of their prosodic account of inversion. They argue that since a nonspecific indefinite object NP always carries primary stress, inversion is impossible if such an NP is present. They also observe that it is a characteristic feature of clauses that contain a small clause predicate that primary stress is contained within the small clause predicate, whereas the verb is assigned a secondary stress. They thus

predict that verbs that select small clauses may not invert. This prediction seems to be borne out, as example (14) illustrates.

- (13) a. dat Karel het boek lezen wil
that Karel the book read wants
- b. ?*dat Karel waarschijnlijk een boek lezen wil
that Karel probably a book read wants
- (14) a. ?*dat Jan ziek zijn kan
that Jan ill be may
- b. ?*dat ik hem boos worden zag
that I him angry become saw
- c. ?*dat hij niet altijd soldaat blijven zal
that he not always soldier remain will
- d. ?*dat hij aardig blijken zal
that he kind appear will

The facts that Broekhuis and Den Besten (1989) point out are very interesting, but I will not pursue this matter any further here (cf. Koopman and Szabolcsi [2000] for further discussion of this issue). These facts point to an interesting interaction between syntax and prosody that deserves further investigation but is beyond the scope of this book.

3.1.2 *Te*-infinitives and the Third Construction

Now let us look at *te*-infinitivals. As I have already pointed out in the beginning of the previous section, *te*-infinitivals can appear in both VR- and extraposition structures. There is a small class of verbs that select *te*-infinitivals and only allow VR; that is to say, they do not allow extraposition. This class consists of Subject Raising verbs, semi-modals, and aspectual verbs and is given in (15). The vast majority of the verbs that select *te*-infinitivals seem to allow VR and extraposition. However, a closer inspection of these verbs shows that there is only a small group of verbs that allow both VR and extraposition, the rest of these verbs are only compatible with extraposition, and what appear to be cases of VR are really instances of *Remnant Extraposition*, a type of construction that is also called the *Third Construction* (the first being extraposition proper and the second being VR).

- | | | | |
|-----------------|-----------------|-------------|----------------|
| (15) blijken te | appear | lopen te | walk and |
| dienen te | be obliged | plegen te | be used to |
| hebben te | have to | schijnen te | seem to |
| hoeven te | need to | staan te | stand and |
| komen te | come to | weten te | know to |
| lijken te | seem, appear to | zien te | see to it that |
| liggen te | lie and | zitten te | sit and |

Evers (1975) noted that some verbs like *proberen* ('try') and *beloven* ('promise') can enter into both extraposition-type and VR-type constructions and thus called them optional verb-raisers.

- (16) a. dat Jan (het boek) probeerde (het boek) te lezen
 b. dat Jan (het boek) beloofde (het boek) te lezen
 that Jan (the book) tried/promised (the book) to read

It can be shown, however, that *proberen* and *beloven* are exponents of two classes of verbs that have quite different properties. *Proberen* is an exponent of a small class of verbs that are optional verb-raisers in the sense of Evers. *Beloven* is an exponent of a large class of subject- and object-control verbs that only allow for the Third Construction.

The Third Construction and VR-structures differ with respect to the freedom of word order in the verbal sequence and with respect to the IPP-effect. We have seen before that the order of verbs in a VR-structure is very strict. So, for instance, the order *Auxiliary + VR-verb + Infinitive* may not be changed (17a-b). In the Third Construction, however, not only the order *Aux + main verb + te-infinitive* but also the order *main verb + Aux + te-infinitive* is possible. *Besluiten* ('decide') is a verb that belongs to the *beloven*-class (17c-d).

- (17) a. dat Marie geen boek heeft hoeven te lezen
 that Marie no book has need-IPP to read
 'that Marie did not need to read a book'
 b. *dat Marie geen boek hoeven heeft te lezen
 c. dat Marie dat boek heeft besloten te lezen
 that Marie the book has decided to read
 'that Marie has decided to read the book'
 d. dat Marie dat boek besloten heeft te lezen

The IPP-effect also distinguishes VR-structures from the Third Construction. I have noted before that in compound tenses the main verb cannot take its participial form when it is embedded in a verb cluster of more than two verbs (cf. [18]). The verbs *besluiten* ('decide') and *beloven* ('promise'), as opposed to *proberen* ('try'), however, do not display the IPP-effect in the relevant environment.

- (18) a. *dat Marie een boek heeft gewild lezen
 that Marie a book has wanted read
 b. dat Marie een boek heeft willen lezen
 that Marie a book heeft want-IPP read
 (19) a. *dat Marie een boek heeft besluiten te lezen
 that Marie a book has decide-IPP to read

- b. *dat Marie een boek heeft beloven te lezen
 that Marie a book has promise-IPP to read
 c. dat Marie een boek heeft proberen te lezen
 that Marie a book has try-IPP to read
 d. dat Marie een boek heeft geprobeerd te lezen
 that Marie a book has tried to read

It should be made explicit that Den Besten and Rutten (1989), though they do not offer an explanation of the IPP-effect, use it as a diagnostic for VR and I think correctly so. Before their seminal work on the Third Construction, the IPP-effect was a mysterious phenomenon that appeared in the verb clusters of some verbs but not in those of others. Even worse, as the example of *proberen* shows (19c-d), one and the same verb may or may not display the IPP-effect in what appears to be the very same structure. In their analysis, den Besten and Rutten suggest that the Third Construction involves extraposition plus scrambling (see also Broekhuis et al. [1995]). Example (19d), for instance, can be derived by extraposing the infinitival complement and extracting the DP *een boek* from the extraposed clause and adjoining it to a projection of the matrix clause, that is, by long-distance scrambling. The resulting structure has been (later) called Remnant Extraposition, since the extraposed part consists of those elements that remain after scrambling. However, it must be noted that Den Besten and Rutten (1989) do not mean by this name that scrambling and extraposition are intrinsically ordered with respect to each other. Given this account and what has been said before about VR, the similar-looking sentences in (19c-d) have the following quite divergent structural analysis.

- (20) a. VR dat Jan [PRO een boek $t_R t_i$] heeft [proberen [te lezen] $_R$]
 b. R-EXT dat Jan een boek $_{SCR}$ t_{EXT} heeft geprobeerd [PRO t_{SCR} te lezen] $_{EXT}$

Given this analysis, we may now assume that VR actually triggers the IPP-effect or, in other words, that the IPP-effect is a side effect of the formation of a single verbal complex (by head movement). The analysis of the Third Construction as involving scrambling makes the prediction that elements like parts of idioms (21), small clause predicates (22), or verb-particles (23) that resist scrambling will necessarily be part of the extraposed clause. As the following examples show, this prediction is borne out. These examples should be compared with cases of VR where these elements may and in some cases must (24b) occur before the verbal complex (24).

- (21) a. dat Jan de prijs heeft besloten [in ontvangst te nemen]
 that Jan the award has decided in acceptance to take
 'that Jan has decided to accept the award'
 b. *dat Jan de prijs in ontvangst heeft besloten [te nemen]
 (22) a. dat Jan het hekje heeft besloten [lekker groen te schilderen]
 that Jan the gate has decided nicely green to paint
 b. *dat Jan het hekje lekker groen heeft besloten [te schilderen]

- (23) a. dat Jan besloot [op te geven]
that Jan decided up to give
b. *dat Jan op besloot [te geven]
- (24) a. dat Jan de prijs in ontvangst is komen nemen
that Jan the award in acceptance is come-IPP take
'that Jan has come to accept the award'
b. dat Jan het hekje lekker groen had willen schilderen
that Jan the gate nicely green has want-IPP paint
'that Jan has wanted to paint the gate nicely green'
c. dat Jan op moest geven
that Jan up must.Past give
'that Jan had to give up'

So the IPP test and the test with respect to scrambling can be combined to yield a reliable criterion for determining whether a given verb is a verb-raiser or not. Rutten reports that the majority of the subject and object control verbs do not allow VR. Rutten points out that there seems to be a relation of mutual exclusion between the IPP-effect and *te*, indicating that if *te* is present IPP is excluded. However, there are a number of exceptions to this generalization. The verbs of the *proberen*-class can take the IPP and *te*, although *te* can be omitted in many cases (25). The verbs that allow for the Third Construction but do not allow for VR, the *beloven*-class, are listed in (26).

(25) Verb-raisers (the *proberen*-class)

beginnen te	begin	menen te	think
dreigen te	threaten	proberen te	try
durven (te)	dare	trachten te	try
helpen (te)	help	wagen (te)	dare
leren (te)	teach, learn	weigeren te	refuse

(26) Third Construction Verbs (the *beloven*-class) (all take *te*)

aanraden	advise	vergeten	forget
begeren	desire	verlangen	long for
beloven	promise	verleren	forget how to do
beogen	aim at	vermijden	avoid
besluiten	decide	verplichten	oblige
beweren	claim, say	vertellen	tell
denken	think	verwachten	expect
dwingen	force	verzuimen	neglect
eisen	demand	voorstellen	propose
geloven	believe	vrezen	fear
hopen	hope	wensen	wish
opdragen	order	zeggen	say
verbieden	forbid		

3.1.3 Particles and verb raising

In this section, I will argue that the complex distribution of particles in the Dutch verb cluster cannot be properly explained in an account that assumes that verb clusters are derived by head movement. I will demonstrate that the central mechanism of this account, namely, long head movement, forestalls an account of why particle verbs and participles block VR. I will present data that show that long head movement should not be permissible in the grammar anyway, leading me to the conclusion that the distribution of particles can only be explained in terms of XP-movement. This in turn will lead me to the conclusion that verb clusters must provide XP-landing positions for particles, indicating that verb clusters cannot simply be head-adjunction structures.

We have seen in the previous section that a particle may precede the verb cluster created by VR (24c). As (27a) shows, a particle may also move along with its selecting verb and become part of the verb cluster. That this property is not restricted to particles is shown in (27b). The head of a small clause predicate may also become a member of a verb cluster created by VR. However, if the small clause predicate is modified, the resulting complex cannot be part of a verb cluster (cf. [27c] and [24b]). This suggests that only elements that can incorporate into the selecting verb, that is, heads, can undergo VR to become a member of a verb cluster.

- (27) a. dat Jan de wedstrijd moest op geven
that Jan the competition must.Past up give
'that Jan had to give up the competition'
b. dat Jan het hekje had willen groen schilderen
that Jan the gate had want-IPP green paint
'that Jan had wanted to paint the gate green'
c. *dat Jan het hekje had willen lekker groen schilderen
that Jan the gate had want-IPP nicely green paint

The discussion about the underlying position of particles in Dutch goes back to Koster (1975) and van Riemsdijk (1978). Koster argues that a verb and a particle constitute a compound verb. If the verb and the particle are separated, this is due to the effect of Verb Movement (V2).

I am following van Riemsdijk, who assumes that the particle is the head of a particle phrase, a PP in fact, in the complement domain of the verb (28a). The fact that the verb and the particle often act as a unit is accounted for in this approach by adopting a rule of Particle Incorporation (PI) that moves the particle to the verb. If PI is optional, then the particle may stay in its PP and will be stranded by VR yielding sentences like (28b). Or the particle may incorporate into the verb and subsequently undergo VR yielding (28c).⁵

- (28) a. dat Jan [_{PP} [_P op]] geven moest *base structure*
b. dat Jan [_{PP} op] t_R moest geven_R *VR*
c. dat Jan [_{PP} t_{PI}] t_R moest [op_{PI} geven]_R *PI + VR*

Bennis (1992) points out that while everybody who has ever discussed the particle construction in Dutch has noticed that in the case of VR the particle may either be left behind or go along with the verb, it has been overlooked that the particle may appear at several positions within the verb cluster, as is shown in (29).

- (29) dat hij mij (weg) zou (weg) kunnen (weg) horen (weg) rijden
 that he me (away) would (away) can (away) hear (away) drive
 'that he would be able to hear me drive away'

Koopman (1995) notes that in her dialect the particle can only occur in the positions illustrated in (30): immediately preceding the selecting verb (30a), immediately preceding the verbal cluster (30b), and in a position immediately following the finite verb (30c). Koopman suggests that sentences like (30c) can be derived from sentences like (30b) by assuming optional movement of the finite verb to some higher functional head position.

- (30) a. dat ik Piet de doktor heb willen laten op bellen
 that I Piet the doctor have want -IPP let up call
 'that I wanted to let Peter call up the doctor'
 b. dat ik Piet de doktor op heb willen laten bellen
 c. dat ik Piet de doktor heb op willen laten bellen
 d. *dat ik Piet de doktor heb willen op laten bellen

Also, Evers (1994) notes that particles can occur in more than one position in the verb cluster and provides the example given in (31a). Evers asserts that "the Dutch particle may take any of the positions marked above with the (!) sign, and in any of these positions it attracts the main stress."

- (31) Die lamp! Als Jasmijn hem op (!) had (!) willen (!) laten (!) poetsen, dan zou de
 geest verschenen zijn
 that lamp! If Jasmin him up had want let polish then would the ghost appeared be
 'That lamp! If Jasmin had been willing to let it be polished up, the ghost would
 have appeared'

Given the agreement between Bennis and Evers, I will assume that Koopman's (30d) is grammatical in some dialect and is thus in need of explanation. Note that Koopman's strategy of deriving (30c) from (30b) is unlikely to be applicable to (30d). In order to derive (30d) from (30b) two verbs would have to undergo leftward head movement to two different head positions. While there may be some motivation for moving the finite auxiliary, it is hard to see why the infinitive *willen* in (30d) should move *after* it has undergone VR and has been adjoined to its selecting verb and thereby presumably been formally licensed.

It is clear that not all positions that the particle can occupy in (31) can be derived by PI or the lack thereof and by subsequent optional movement of the auxil-

iary. More specifically, the order *had willen op laten poetsen* cannot be derived in any way discussed so far. The solution seems to be that a particle may undergo movement itself. Bennis (1992) proposes that particles may undergo long head movement. To derive the sequence in (32a) from the underlying structure in (32b), Bennis proposes that first *bellen* undergoes VR and right-adjoins to the selecting verb *willen*.

- (32) a. dat ik de doktor heb op willen bellen
 that I the doctor have up want call
 b. dat ik de doktor op bellen willen heb (assumed base structure)
 that I the doctor up call want have

Then the particle is left-adjoined to this newly formed complex head by long head movement. Long head movement moves the particle across the trace of the selecting verb to the complex verb [*willen bellen*]. Normally the intervening head position would count as a minimality barrier for government of the trace of the particle (traces of heads must be antecedent governed and the intervening head would count as a closer governor and would by minimality act as a barrier for antecedent government of the trace). But, so Bennis argues, since the intervening head has incorporated into the head that the particle moves to, this position loses its status as a barrier.

Long-distance head movement allows us to generate all the occurrences of the particle in (31) by employing either only VR or VR plus (long-distance) PI at each cycle in the derivation. For instance, (30c) can be derived by raising *bellen* to *laten* and [*laten bellen*] to *willen* before PI left-adjoins the particle to the complex head [*willen laten bellen*].

Evers reports the observation of Den Besten and Rutten (1989) that "the particle may not always move around in the row of the verbs" (Evers [1994], 11). Sometimes it has to be adjacent to the verb it is selected by. This is especially the case if the immediately preceding verb is itself a particle verb or if the immediately preceding verb is in past participle form. The following example (borrowed from Evers [1994]) contrasts the aspectuals [*begin*]_V and [[*aan*]_P *vangen*]_V ('to start').

- (33) a. toen Jasmijn de lamp wou beginnen op te poetsen
 when Jasmijn the lamp wanted begin up to polish
 'when Jasmijn wanted to begin to polish up the lamp'
 b. toen Jasmijn de lamp wou op beginnen te poetsen
 c. toen Jasmijn de lamp op wou beginnen te poetsen
 d. toen Jasmijn de lamp wou aan vangen op te poetsen
 when Jasmijn the lamp wanted prt start up to polish
 'when Jasmijn wanted to start to polish up the lamp'
 e. *toen Jasmijn de lamp wou aan op vangen te poetsen
 f. *toen Jasmijn de lamp aan wou op vangen te poetsen
 g. *toen Jasmijn de lamp op wou aan vangen te poetsen

In the variants in which *start* is spelled out with a particle verb, the lower particle has to stay close to its selecting verb. One may account for this by assuming that the higher particle blocks the movement of the lower one or by assuming that the higher particle blocks VR of the embedded verb and so prevents the extension of the movement domain for the lower particle. I assume that the second account is the correct one. If the higher particle blocks VR, then we know from section 3.1.2 that we must be dealing with a Third Construction in (33d–g). Since particles cannot be scrambled they have to stay close to their selecting verb. We also know from 3.1.2 that *beginnen* is an optional verb-raiser; this explains the contrast between (33a–c) on the one hand and (33d–g) on the other hand. What is missing in Den Besten and Rutten's (1991) account of the Third Construction is an explanation for the fact that an optional verb-raiser when it appears in the past participle form like in (34) is only compatible with the Third Construction.

- (34) a. *toen Jasmijn de lamp was begonnen op te poetsen*
 when Jasmin the lamp was begun up to polish
 'when Jasmin had begun to polish up the lamp'
- b. **toen Jasmijn de lamp op was begonnen te poetsen*

In (34), the participle does not seem to allow a VR-construction; otherwise movement of the particle should be okay (compare [34b] and [33c]). The crucial difference in (34a–b) lies in the position of the particle *op*. Example (34a), where the particle stays close to its selecting head, can be analyzed as a case of Remnant Extraposition with the direct object *de lamp* having been scrambled into the matrix clause. Example (34b), however, cannot be analyzed as a case of Remnant Extraposition, since the particle occupies a position that precedes the verbal cluster, a position it cannot have reached by scrambling. Thus, (34b) has to be analyzed as a case of VR. From its ungrammaticality I conclude that participles block VR.

Den Besten and Rutten (1989) simply stipulate that particle verbs and past participles cannot restructure their complements, meaning that they do not permit the head of their complement to undergo VR. Then, the question arises of what property particle verbs and past participles have in common that causes them to block VR. Particle verbs and past participles form a very disparate class. It is clear that this property cannot have anything to do with the peculiar properties of past participles, the tenets of their temporal interpretation, or the peculiarities of particle verbs, their compound semantics for instance. The answer must be simple and syntactic. What they have in common is the particle. In the West Germanic languages, with the exception of Low German and Frisian, verbs form their past participles by prefixing the stem with the particle *ge* and suffixing the stem with an inflectional ending. I would like to propose that verb-particles and the *ge*-prefix block VR in a similar manner.⁶ I will first outline an account in terms of head movement, which will lead us to the conclusion that long head movement should be excluded from the grammar. This will leave us with the problem that many occurrences of verb-particles cannot be derived in the standard theory. I will later develop an XP-movement account,

in which it is derived that verb-particles and the *ge*-prefix block VR since they are inserted or licensed in the same syntactic position.

I will briefly sketch how this account works for particle verbs and will reserve for later the discussion of how this account can be applied to the *ge*-prefix in a way that derives the IPP-effect. I propose that a particle verb and its dependent infinitival enter into the underlying structure in (35).

- (35) [_{VP} [_{PP} [_{InfP} V2] P] V1]⁷

As earlier, I assume that the particle heads its own projection in the complement of the verb. The infinitival itself (InfP) is a complement of the particle. In this configuration, the particle intervenes between the selecting verb and the dependent infinitive and will trivially block VR: Moving the dependent infinitive across the particle violates the Head Movement Constraint.

Note that we have to exclude the possibility that the dependent infinitive first incorporates into the particle and this complex head then incorporates into the higher verb. Within the minimalist framework that I have adopted it suffices to assume that the particle is not a licenser of the dependent infinitive in order to rule out incorporation of the dependent infinitive into the particle. Note, however, that if—in following Bennis (1992)—we allow for long head movement, then the dependent infinitive can undergo VR in one swoop and adjoin to the selecting verb after the particle has itself incorporated into its selecting head. So if we allow for long head movement we have no way to derive the descriptive generalization that particle verbs disallow VR.

That long head movement should be excluded in principle is also suggested by the following data. Den Dikken (1995) notes that particles block the incorporation of the heads of small clause predicates. As I have noted earlier, heads of small clause predicates can incorporate into their selecting verb, in which case they undergo VR together with their incorporator and become part of the verb cluster (36b). When the head of the small clause predicate fails to incorporate it will be found outside, that is, to the left of the entire verb cluster (36a).

- (36) a. *dat ze de schuur rood hebben geschilderd*
 that they the barn red have painted
 'that they have painted the barn red'
- b. *dat ze de schuur hebben rood geschilderd*
 that they the barn have red painted

As the sentences in (37) show, incorporation of the head of the small clause predicate is impossible in the presence of a verb-particle. Den Dikken (1995) argues extensively and convincingly that sentences like (37) are best analyzed with the particle being the head of a small clause in the complement of the verb. The adjective *rood* in turn is the head of a small clause in the complement of the particle. Thus, the particle intervenes between the potential incorporatee and the verb as incorporator. Again, if long head movement were available in the grammar of Dutch, it is not clear

how to exclude (37d). While (37b) can be excluded in Bennis's account, since the particle that precedes the verb cluster cannot be taken to have incorporated into the selecting verb and will thus block incorporation of the adjectival head, (37d), in contrast to (37c), should be grammatical since it can be analyzed as first incorporating the particle to the selecting verb and then incorporating the lower adjectival head through head-adjunction to the resulting complex of particle and verb.⁸

- (37) a. dat ze de schuur rood over hebben geschilderd
that they the barn red prt have painted
'that they painted the barn up red'
- b. *dat ze de schuur over hebben rood geschilderd
- c. *dat ze de schuur hebben over rood geschilderd
- d. *dat ze de schuur hebben rood over geschilderd

Since I believe that the account sketched earlier of the fact that particle verbs do not allow for VR is correct—an account that receives independent support from the facts in (37)—I have to conclude that long head movement is not an option in grammar. Thus, I have to reject Bennis's account of the distribution of particles in VR-structures and have to look for an alternative approach.

The only remaining possibility is that particles undergo XP-movement (cf. Koopman [1995], who reaches the same conclusion on the basis of the assumption that Dutch is a head-initial language). We have seen that particles can undergo XP-movement when they receive some stress, as was the case with topicalization. As Evers pointed out, in (31) the particle carries stress independently of whether it occupies a high, medium, or very low position in the verb cluster (contrary to Cinque's [1993] assumption that stress [mainly] follows from depth of embedding).

Thus, it seems to be not entirely implausible that particles may undergo XP-movement within the verb cluster. If particles can undergo XP-movement in the verb cluster, then it follows that Dutch verb clusters cannot be head-adjunction structures. They must consist of maximal projections that can host landing sites for XP-moved particles.

Furthermore, I will assume that particles undergo XP movement to be licensed in a Specifier position of a functional head above VP (F1). I will also argue that it is the (extended) projection that contains the licensing position of the particle that is moved in cases of VR. In this account, the particle can then be assumed to move up within the verb cluster to [Spec,F1P] of the higher verb.⁹

3.2 Coherent infinitives in West Flemish

In this section, I will discuss the syntax of Verb Projection Raising-constructions. In section 3.2.1, I introduce the standard account of this construction. I will then argue that the scope facts in VPR-constructions cannot be properly accounted for in terms of scrambling and extraposition. In section 3.2.2, I will discuss the distribution of infinitives, participles, and IPP-complements and reach the conclusion that the distribu-

tion of IPP-complements in West Flemish cannot be given a coherent explanation in terms of extraposition. Instead, I will demonstrate that all the facts discussed fall into place if one assumes that (1) complements are base generated to the right of the selecting head and (2) there is leftward head movement of the verb in West Germanic.

West Flemish is a dialect of Dutch spoken in West Flanders, a province in Belgium. This dialect shows some striking dissimilarities to Standard Dutch. West Flemish allows for subject pro-drop and shows an elaborate system of Complementizer agreement with the subject, two phenomena that are probably related. See Haegeman (1992) for an extensive discussion of these phenomena. West Flemish has two types of coherent infinitives: VR-constructions and Verb Projection Raising (VPR)-constructions. VPR also occurs in a number of German dialects, especially in Swiss German dialects. The following discussion of the data is drawn from the pioneering work of Liliane Haegeman on the structure of WF and on the syntax of VPR, especially Haegeman (1992, 1995a).

3.2.1 Verb Raising and Verb Projection Raising

VPR in West Flemish (WF) applies to those verbs that trigger VR in standard Dutch. In WF, not only the nonfinite verb embedded under a modal can be raised (38a), but also the verb plus its direct object (38b), or the verb plus the direct and indirect object, can be raised (38c). Den Besten and Edmondson (1983) have argued that these facts should be accounted for by assuming that in such a dialect not only V⁰ may be raised but also V' or VP, whence the name Verb Projection Raising.

- (38) a. da Marie Jan nen boek t_R wilt geven_R
that Marie Jan a book wants give
- b. da Marie Jan t_R wilt [nen boek geven]_R
that Marie Jan wants a book give
- c. da Marie t_R wilt [Jan nen boek geven]_R
that Marie wants Jan a book give
'that Marie wants to give Jan a book'

However, it is clear, as Haegeman (1995a) points out, that the infinitival complement in (38b-c), which is loosely referred to as VP in the literature, is not to be equated with a bare VP-projection. VPR-constituents must contain the relevant functional projections to host clitics, adverbs, and sentential negation, as the examples in (39) taken from Haegeman (1995a) show.

- (39) a. da Valere wilt [ze morgen nen boek geven]
that Valere wants her tomorrow a book give
'that Valere wants to give her a book tomorrow'
- b. da Valere durft [tegen niemand nie klappen]
that Valere dares against no one not talk
'that Valere dares to not talk to anyone'
- c. da Valere t_{EXTR} wilt [ze morgen nen boek geven]_{EXTR}

The VPR-complement in (39a) contains the clitic *ze* ('her'). WF clitics occupy a position high in the clausal domain (Haegeman [1992]) analyzes them as being adjoined to IP). Example (39a) also contains the temporal adverb *morgen* ('tomorrow'). Remember that adverbs may not occur in a verbal cluster created by VR. Similarly, the presence of negative constituents in (39b) suggests that VPR-complements contain the functional projection that is the locus of sentential negation and triggers the leftward movement typical of negative constituents (cf. Haegeman [1995b]).

These data thus seem to indicate that VPR-structures are best described in the standard theory in terms of extraposition of the infinitival complement, which is at least as big as an IP. A sentence like (39a) would thus be analyzed as illustrated in (39c). This is the analysis that Haegeman argues for in her book on West Flemish (1992). Note that this analysis is very similar to Den Besten and Rutten's analysis of the Third Construction.

Haegeman (1992) assumes that VPR equals scrambling plus extraposition. In (38c), the whole infinitival complement has been extraposed, but since VPR-complements are transparent, as I will show later, scrambling may affect its constituents and move them into the matrix clause *before* extraposition applies.¹⁰

Like VR-structures, VPR-complements are transparent for several types of extraction processes. For instance, (40) shows that an object clitic that originates in the infinitival complement can precede the subject of the higher clause,¹¹ independently of whether we are dealing with a case of VR as in (40a) or with a case of VPR as in (40b).

- (40) a. da et Jan Valere deeg kuopen
that it Jan Valere made buy
- b. da et Jan Valere deeg vu zen wuf kuopen
that it Jan Valere made for his wife buy
'that Jan made Valere buy it (for his wife)'

VPR-complements are also transparent for scope-taking elements but only if they are not affected by VPR, that is, by extraposition in the analysis given earlier. Example (41a) is a case of VR, and (41b) and (41c) are cases of VPR. Both (41a) and (41b) are ambiguous between the readings given in (41d-e). Example (41c), however, where the adverbial is affected by VPR, that is, where it is extraposed, has only the reading given in (41e).

- (41) a. da Jan Valere drie kiers da boek deeg lezen
that Jan Valere three times that book made read
- b. da Jan Valere drie kiers deeg da boek lezen
- c. da Jan Valere deeg drie kiers da boek lezen
- d. 'that on three occasions Jan made Valere read the book'
- e. 'that Jan made Valere read the book three times'

Haegeman (1992, 112) states that a verb cluster created by VPR is opaque. The empirical generalization is the following: A scopal element that is outside of the verb cluster (i.e., that has undergone scrambling) can take its scope inside and outside of the verb cluster, whereas an element contained in the verb cluster may take its scope only within the verb cluster.

Let us look at example (42). In (42a), the negative existential occurs outside of the verb cluster. Example (42a) is ambiguous between the reading *Jan did not force Valere to read any book three times*, with *geenen boek* taking wide scope, and the reading *Jan forced Valere to not read any book three times*, with *geenen boek* taking narrow scope. In (42b), the negative existential occurs inside of the verb cluster. What is crucial is that here the negative existential cannot take scope over the higher verb. Example (42b) is only compatible with the reading that *Jan forced Valere to not read any book three times*.

- (42) a. da Jan Valere **geenen boek** deeg drie keers lezen
that Jan Valere no book made three times read
- b. da Jan Valere deeg drie keers **geenen boek** lezen

This is almost a paradoxical situation. A VPR-complement must be transparent to permit the scrambling of the negative existential into the middle field of the matrix clause in (42a) but must be opaque to prevent QR or scrambling of the negative existential in (42b). Haegeman (1992) proposes the following solution to the paradox: Scrambling applies before extraposition. When scrambling applies, the VPR-complement is still in its base position, where it is L-marked by the governing verb and does not constitute a barrier for extraction processes. Hence the negative existential in (42a) may be scrambled into the matrix clause. After extraposition applied, the VPR-complement no longer occupies its base position; it has been adjoined to a maximal projection (VP or IP of the matrix verb). Haegeman proposes that in terms of Chomsky's barrier framework, it could be argued that the extraposed complement is no longer L-marked by the matrix verb and will thus become a barrier for movement and government (Haegeman 1992, 203ff). Haegeman (1992) takes the versatile nature of her account of the scope facts in VPR-structures as a strong argument in favor of her adjunction analysis. However, I will argue that her account has two shortcomings: a technical one and an empirical one.

The technical problem with Haegeman's account has been noted by Den Dikken (1994). Den Dikken points out that the trace left by an element extracted before extraposition applies still has to be licensed at LF. This means the trace is subject to the ECP and has to be antecedent governed. If the extraposed VPR-complement constituted a barrier, a trace created by scrambling-before-extraposition would not be able to fulfill the ECP.¹² Maybe it is possible to overcome this technical problem by devising a theory that derives that for scrambling the trace in the base position of the infinitival complement can be taken into account while for QR the trace in the extraposed position is relevant for meeting the ECP. However, there is also an empirical problem with Haegeman's approach. First note that VPR, like VR but unlike Remnant Extraposition, gives rise to the IPP-effect (43).

- (43) a. **da Jan ee gewild* [Marie nen boek geven]
that Jan has wanted Marie a book give
- b. *da Jan ee willen* [Marie nen boek geven]
that Jan has want-IPP Marie a book give
'that Jan has wanted to give Marie a book'

Second, note that Haegeman's account to VPR does not differ from Den Besten and Rutten's (1989) account of Remnant Extraposition; both constructions involve scrambling plus extraposition. The difference between VPR and Remnant Extraposition with respect to the IPP-effect must thus follow from an additional movement that applies to VPR-structures but is absent in the Third Construction. I, following Den Besten and Rutten, would like to link the IPP-effect with VR. Under these assumptions, VPR would differ from R-Extraposition by employing VR at LF. VR is a process of head movement that adjoins the dependent infinitive to its selecting verb. Head movement is subject to the Head Movement Constraint, which, as Baker (1988) has shown, can be derived from the ECP. Within the barrier's framework that Haegeman adopts in her account, the trace of a head-moved element must be antecedent governed. If, however, a VPR-complement that is extraposed constitutes a barrier, then the dependent infinitive in (43b) cannot undergo head movement to adjoin to the matrix verb. This means that under Haegeman's account of the scope facts in VPR-structures no unitary account of the IPP-effect in VR and VPR is possible.

It is conceivable that one could devise a theory that derives the effect that extraposed VPR-complements are barriers for XP-movement at LF but not for head movement at LF, a notion of barrierhood that makes use of Rizzi's (1990) concept of Relativized Minimality. However, there is evidence that an XP can be extracted out of an extraposed VPR-complement. Let us look at (44) (the example is taken from Haegeman [1995b]). Example (44a) involves an IPP-complement the properties of which I will discuss in more detail later. In the standard theory, (44a) must be derived from the base structure in (44b) by first extraposing the most deeply embedded infinitival clause to *moeten* and then extracting the CP *da Jan siek was* from the extraposed clause and adjoining it to the higher verb, the auxiliary *oat* in this case. Extraposing first the CP to the auxiliary and then the clause that contained the CP to the lower verb would certainly violate cyclicity (or economy, in the minimalist framework).¹³

- (44) a. *da Valere moeten* [aan Marie _{t_i} zeggen] oat [da Jan ziek was];
that Valere must to Maire say had that Jan sick was
'that Valere had had to say to Marie that Jan sick was'
- b. *da Valere* [aan Marie [_{CP} da Jan ziek was] zeggen] moeten oat

I think that these arguments are sufficient to reject Haegeman's (1992) account of the scope facts in VPR-structures. I think that these facts do not present an argument in favor of an adjunction analysis of VPR. As an alternative, I would like to consider the following two hypotheses, which make some interesting predictions. I assume that VPR-complements are transparent throughout the whole derivation. The

first hypothesis assumes that QR is not an option in a language that allows overt scrambling. We have seen for German in chapter 2 that a sentence like *Some man loves every woman* is not ambiguous if the arguments appear in the base order and that inverse scope is only possible if the object scrambles over the subject. However, it is less clear whether QR is also dispensable in a language like West Flemish, which has a much more fixed word order. To sort this out would take an empirical investigation of quantifier scope in West Flemish, which is beyond the scope of this book.

There is a less radical alternative, however. One could assume that QR is possible in a scrambling language like West Flemish and investigate the hypothesis that an element that is not long-distance scrambled in a VPR-structure but could in principle be scrambled is necessarily focused. In a theory that assumes that a focused element is mapped into the nuclear scope of the sentence that contains it, an element that has undergone VPR will—though it could undergo QR in principle—be mapped into the nuclear scope of scopal elements in the matrix clause. An initial check of relevant data with Liliane Haegeman for West Flemish and Manuela Schönenberger for Swiss German revealed that the assumption that VPR-raised, scrambleable elements are focused seems to be correct.

I have argued that it is not necessary to analyze VPR-structures in terms of right-adjunction (extraposition) to account for their scope properties. In the following section, I will try to show that an analysis in terms of adjunction not only is unnecessary but also actually fails to explain certain word order facts that can be naturally accounted for by assuming several types of leftward-movement within a VO-based approach. The data and most of the arguments are taken from Haegeman (1995a), who provides an excellent discussion of the issues concerning IPP-complements in WF.

3.2.2 Participles, infinitives, and IPP-complements in WF

VR in WF differs from VR in standard Dutch in two respects. In standard Dutch, a single infinitive embedded under a finite modal verb may be inverted (cf. [45a–b]). As (46) shows, inversion of infinitives is not possible in WF. In WF, an infinitive always has to follow its selecting verb. This is also true for VPR-raised infinitives, as is shown in (47). In an SOV approach, one would assume that the infinitival complement must be extraposed (for whatever reason).

- (45) a. *dat Jan dat boek wil kopen*
that Jan that book wants buy
- b. *dat Jan dat boek kopen wil*
that Jan that book buy wants
'that Jan wants to buy that book'
- (46) a. *da Valere dienen boek wilt kuopen*
that Valere that book wants buy
- b. **da Valere dienen boek kuopen wilt*
that Valere that book buy wants
'that Valere wants to buy that book'

- (47) a. dan ze kosten [willen dienen boek kuopen]
that they could want that book buy
- b. *dan ze [willen dienen boek kuopen] kosten
that they want that book buy could
'that they might want to buy that book'

Participles in standard Dutch may or may not undergo VR. Participles in WF, however, may never undergo VR in the sense of Rutten (1991), that is, right-adjoin to the selecting verb (48).

- (48) a. da Valere dienen boek gekocht eet
that Valere that book bought has
'that Valere has bought that book'
- b. *da Valere dienen boek eet gekocht
that Valere that book has bought¹⁴

In contrast to infinitival VPR-complements, IPP-complements, that is, complements that contain an infinitive that stands for a participle, can both precede and follow the selecting (finite) verb (49). In the standard approach, one would account for this fact by assuming that extraposition of IPP-complements (as opposed to extraposition of infinitival complements) is optional.

- (49) a. da Jan ee [willen [Marie nen boek geven]]
that Jan has want-IPP Marie a book give
- b. da Jan [willen [Marie nen boek geven]] eet
that Jan want-IPP Marie a book give has
'that Jan has wanted to give Marie a book'

However, if the temporal auxiliary is nonfinite, the IPP-complement cannot be extraposed. Example (50) shows that the IPP-complement has to precede the nonfinite auxiliary when the auxiliary is part of a "te-infinitival." The distribution of an IPP-complement is actually very restricted in this case: It has to follow *te* and it has to precede the infinitival auxiliary. Example (51) shows that an IPP-complement has to precede its temporal auxiliary when the auxiliary represents a bare infinitive.

- (50) a. Mee Jan te [willen [Valere dienen boek geven]] een
with Jan to want-IPP Valere that book give have
'with Jan having wanted to give Valere that book'
- b. ??*Mee Jan te een [willen [Valere dienen boek geven]]
- (51) a. dan ze toch kosten [[willen dienen boek kuopen] een]
that they yet could want-IPP that book buy have
'that they very well could have wanted to buy that book'
- b. *dan ze toch kosten [een [willen dienen boek kuopen]]

We have seen earlier that the IPP-complement of a finite verb may or may not be extraposed. However, an IPP-complement has to be extraposed when the finite verb incorporates the negative particle *en*. In WF, sentential negation is expressed by means of a negative constituent, which in finite sentences may cooccur with *en* (52a). The Spell-out of *en* on the V⁰ head is optional in finite sentences but illicit in nonfinite sentences. The head-status of *en* is indicated by the fact that when V moves to C (V2), *en* is moved along (52b). Example (52c-d) shows that when the IPP-complement is not extraposed *en* cannot be spelled out on the finite verb.

- (52) a. da Valere ier nie (en) weunt
that Valere here not (en) lives
'that Valere does not live here'
- b. Valere en-weunt ier nie
Valere en-lives here not
'Valere does not live here'
- c. da Jan nooit en-eet willen an Valere nen boek geven
that Jan never en has want-IPP to Valere a book give
'that Jan has never wanted to give a book to Valere'
- d. da Jan nooit willen an Valere nen boek geven (*en)-eet

Bringing the facts illustrated in (50), (51), and (52) into a single picture, it is hard to see what rule might govern extraposition in WF. Remember that the regularities are the following: On the one hand, an IPP-complement may or may not be extraposed if the selecting verb is finite; however, it must be extraposed when the selecting finite verb incorporates the negative particle *en*; on the other hand, it may not be extraposed at all when the selecting verb is nonfinite. Finally, an infinitival complement must always be extraposed independently of the finiteness of the selecting verb. To capture these regularities in a single rule that follows from other properties of West Flemish or from general principles of grammar seems almost impossible.

Hence I will try to give an alternative explanation of these regularities based on the assumption that the West Germanic languages are VO languages rather than OV languages. I would like to point out that the account described here is Haegeman's analysis, which I merely adopt to make my case against extraposition. In the subsequent discussion I will follow Haegeman (1995a) and adopt most of her generalizations and suggestions.

In a VO-based approach all complements, that is, both infinitival and IPP-complements in our case, start out to the right of the selecting verb. All I have to say about infinitival complements is that they stay in their base position.

IPP-complements seem to move leftward. Remember, as shown in (48) earlier, that participles, as opposed to infinitives, have to precede the selecting auxiliary. Also note that the infinitive in an IPP-complement stands for a participle, so there is good reason to assume that an IPP-complement is in fact a Participle Phrase (PartP). Thus, I would like to suggest that IPP-complements like participles move into the Specifier of the selecting auxiliary to check the auxiliary's subcategorization (the auxiliary *have* c-selects a PartP).¹⁵

A *te*-infinitive in WF consists of two independent heads. This is shown by the fact that the infinitival marker can be separated from the verb by an IPP-complement (cf. [50]). Following Haegeman (1995a), I assume that the infinitival marker heads a functional projection F1 directly above VP.

So far I have developed the following picture: Infinitives stay in their base position (53a). Participial clauses move into [Spec,VP] of the selecting auxiliary (53b). If we assume that nonfinite verbs, as opposed to finite ones, cannot move to F1, then we derive the fact that an IPP-complement may not be "extraposed" if the selecting verb is nonfinite. All we have to do to derive the fact that an IPP-complement may or may not be extraposed if the selecting verb is finite (and does not incorporate the negative marker *en*) is assume that finite verbs may optionally move to F1 (53c-d).

This contrast between finite verbs and nonfinite verbs can be easily explained when one assumes that the degree of movement of a head correlates with the amount of inflectional material on that head that needs to be checked. Still the question arises why an IPP-complement can be "extraposed" while a simple participle, as is shown in (48b), cannot. The answer is that a participle moves even higher than F1. Example (54) shows that a participle cannot intervene between *te* and the auxiliary but must always precede the infinitival marker.¹⁶

Finally, if we assume, following Haegeman's (1995a) proposal, that (1) the negative particle *en* is licensed in F1 (or a higher functional head) and (2) that it has to incorporate into the verb, then we derive the fact that an IPP-complement has to be extraposed if the finite verb incorporates *en* (53e). If nonfinite verbs cannot move to F1, as we have assumed, then we also derive the fact that *en* can only be spelled out on a finite verb.

(53)	F1	SPEC	VERB	COMPLEMENT
a.	(verb)		(verb)	infinitive
b.	<i>te</i>	IPP	Aux	t _{IPP}
c.		IPP	Aux _{fin}	t _{IPP}
d.	Aux _{fin}	IPP	t _{Aux_{fin}}	t _{IPP}
e.	en-Aux	IPP	t _{aux}	t _{IPP}

- (54) a. Mee Valere dienen boek **gewild** te een (vu zenen verjoardag)
with Valere that book wanted to have (for his birthday)
'Valere having wanted that book for his birthday'
- b. *Mee Valere dienen boek te **gewild** een (vu zenen verjoardag)
- c. ??*Mee Valere dienen boek t' een **gewild** (vu zenen verjoardag)

It is clear that an account that combines extraposition with *leftward* head movement within an SOV approach is as good or elegant as the account just sketched. In this account, which presupposes that complements precede the selecting verb, one would assume that only infinitival clauses are extraposed while participial clauses

stay in their base position. The application or non-application of leftward head movement, according to the conditions outlined earlier, would then derive the correct distribution of IPP-complements.

I have no *empirical* argument against such an account within an OV-based approach. I would just like to point to the peculiarity of the situation that such an OV-based approach presupposes and which consists in the fact that while all functional projections in the sentence seem to be head-initial, the verbal projection stands out with being head-final. Zwart (1993) showed that there is no empirical argument that the verbal projection is head-final. To my knowledge, there is also no empirical argument that it is not head-final. All we are left with are conceptual considerations that lead us to investigate what a VO-based approach can reveal to us about VR, VPR, and other coherent infinitival constructions.¹⁷

(55) *participle te IPP verb infinitival complement*

In (55), I display the distribution of participles, infinitives, and IPP-complements with respect to the selecting verb and the functional head F1, the position of which is indicated by the infinitival marker *te* in (55). This pattern, again, clearly shows that IPP-infinitives pattern with participles in that they move into an extended projection of the selecting auxiliary. It also shows that the additional movement of participles must be triggered by the participial morphology that IPP-infinitives lack.

I want to close this section with a phenomenon that was thought to distinguish VR and VPR. Like in standard Dutch, VR in WF can give rise to *auxiliary switch*. WF has the two aspectual auxiliaries *een* ('to have') and *zyn* ('to be'), where *zyn* is used for unaccusative verbs and modals select *een* (cf. [56]).

- (56) a. da Valere no Gent gegoan is/*eet
that Valere to Gent gone is/has
- b. da Valere dienen boek gewild eet/*is
that Valere that book wanted has/is

As we know, modals trigger VR in Dutch and WF. If the verb-raised verb is an unaccusative verb, modals can appear with both auxiliaries in the perfect tense (57a). This is called *auxiliary switch* (auxiliary switch also occurs in Italian restructuring constructions). Based on the contrast between (57a) and (57b), Haegeman (1994) concludes that auxiliary switch is restricted to VR-structures and is not possible if the complement of the modal undergoes VPR. However, Haegeman (p.c.) overlooked that the auxiliary-switched case becomes grammatical when the auxiliary follows the verbal cluster as in (58a) and that the same contrast holds in VR-cases (58b).

- (57) a. da Valere nie no t schule eet/is willen goan
that Valere not to school has/is want-IPP go
'that Valere did not want to go to school'
- b. da Valere nie eet/??is willen [no t schule goan]
that Valere not has/is want-IPP to school go

- (58) a. da Valere nie [willen no t schule goan] is/??eet
 b. da Valere nie no t schule willen goan is/??eet
 that Valere not to school want-IPP is/has

I conclude from the data in (57) and (58) that the phenomenon of auxiliary switch does not distinguish between VR and VPR. Both constructions allow auxiliary switch, which seems to be subject to some PF-constraint: In both VR- and VPR-structures the auxiliary that is selected by the adjacent verb is strongly preferred over its alternative form.¹⁸

3.3 Conclusions

In this chapter, I have discussed the properties of coherent infinitives in Dutch and West Flemish.

I introduced the standard OV-based biclausal approach to coherent infinitives in Dutch in terms of VR and LDS and the standard approach to Verb Projection Raising in terms of extraposition of the (extended) infinitival VP. Then I outlined a number of problems and shortcomings of the traditional approach. In particular, in section 3.1 I concluded that the behavior of verb-particles shows that the Dutch verb cluster cannot be analyzed as a head-adjunction structure. In section 3.2.1, I argued that the scope facts in VPR-complements cannot be properly accounted for in terms of scrambling and extraposition. In section 3.2.2, we saw that the distribution of IPP-complements in West Flemish cannot be given a coherent explanation in terms of extraposition and concluded with Haegeman (1995a) that all the facts, that is, the distribution of infinitives, participles, and IPP-complements, fall nicely in place if we assume that (1) complements are base generated to the right of the selecting head and (2) there is leftward head movement of the verb in West Germanic.

The latter two assumptions follow from Kayne's (1994) antisymmetric hypothesis. In the following, I will adopt the antisymmetric hypothesis and assume that all phrase structure is right-branching and that movement is only to the left. These assumptions exclude rightward movement of phrases (extraposition) as well as rightward movement of heads (VR) and will force us to provide new explanations for the distribution of syntactic elements in OV languages.

A Remnant Movement Account of Restructuring

Before we take a closer look at the properties of coherent infinitives in German, I want to provide an alternative account of Verb Raising and Verb Projection Raising in a VO-based approach (cf. Hinterhölzl 1997, 1999, 2002b). Let me start with a discussion of how the verb-final pattern in infinitives can be derived in the traditional OV-based account and the antisymmetric VO-based account.

4.1 The verb-final position in infinitives

As I have already outlined in chapter 1, the traditional approach, allowing for parametric variation in the head-complement order, assumes that the functional and lexical projections in the IP-domain are head-final in the West Germanic OV languages. Therefore, I concluded that the embedded verb-final position in (1a) is compatible either with the lack of V-movement (1b) or with rightward V-movement to a functional head within IP (1c). Furthermore, because of the right-headedness of the VP, an argument that precedes the verb may be analyzed as occupying its base position in the VP or as having scrambled out of the VP to a position in the middle field (cf. [1c] and [1d]).

- (1) a. weil Hans gestern das Buch las
 since Hans yesterday the book read-Past
 b. [_{CP} weil [_{IP} Hans gestern [_{VP} das Buch las]]]

- c. [_{CP} weil [_{IP} Hans gestern [_{VP} das Buch t_i] las_i]]
 d. [_{CP} weil [_{IP} Hans gestern [_{VP} t_j t_i] las_i]]

A slight complication for the traditional approach is posed by the position that the infinitival marker occupies in infinitival clauses, as is illustrated in (2a). The sequence *zu lesen* ('to read') looks very much like a head-initial right-branching structure, in which the infinitival marker that heads a functional position takes the infinitival VP as its complement to the right. To accommodate this order with the particular assumptions about the word order in the IP-domain within the standard approach, it is assumed either that the infinitival marker in the West Germanic SOV languages is not an independent head but rather a verbal affix (Haider 1993), as illustrated in (2b), or that the infinitival verb undergoes rightward head movement to (right-)adjoin to the head-final infinitival marker in the IP-domain, as illustrated in (2c).

- (2) a. ohne gestern das Buch zu lesen
 without yesterday the book to read-INF
 b. [_{CP} ohne [_{IP} PRO gestern [_{VP} das Buch [_V zu-lesen]]]]
 c. [_{CP} ohne [_{IP} PRO gestern [_{VP} das Buch t_i] [_I zu+lesen_i]]]

In the antisymmetric approach (Kayne [1994], Zwart [1993]), it is assumed, as I have noted earlier, that all structure is head-initial. In this approach, the embedded verb-final order is derived by some sort of feature-driven leftward movement of VP-internal material. This is illustrated for arguments of the verb in (3a) and for VP-internal predicates in (3b). While the movement of DPs into AgrPs is in accordance with recent minimalist assumptions about Case-licensing of arguments, the movement of APs, PPs, and other VP-internal constituents required within the antisymmetric approach appears stipulative in the absence of any empirical evidence.

- (3) a. [weil Hans gestern [_{VP} las t_i]]
 since Hans yesterday the book read-PAST
 b. [weil Hans gestern [_{AP} krank]_i] [_{VP} war t_i]]
 since Hans yesterday sick was

The crucial empirical evidence that supports the assumptions necessary within the antisymmetric approach and at the same time disqualifies assumptions necessary within the traditional approach comes from the position of the infinitival marker in nonfinite IPP-constructions in West Flemish (4a), taken from Haegeman (1995a), and Afrikaans (4b), taken from Donaldson (1993).¹

- (4) a. mee Valere te [willen [dienen boek kuopen]] een
 with Valere to want that book buy have
 'with Valere having wanted to buy that book'

- b. Die banke moes oop gewees het, om dit gister te [kan betaal] het
 the bank should open been have it yesterday to can buy have
 'the bank should have been open to have been able to buy it yesterday'

Since material, given in brackets in (4), can intervene between the infinitival marker and the corresponding infinitival verb, it follows that the infinitival marker in the West Germanic SOV languages cannot be analyzed as a verbal affix but, like in English, has to be analyzed as occupying a functional position within the IP-domain. That this functional position is not head-final and that the sequence *te+V* cannot be accounted for by assuming rightward head movement of the verb within the traditional approach also follows directly from (4a). In (4a), the constituent that has been moved to the right of the infinitival marker cannot possibly be a head since it contains the DP *that book*.²

I thus assume that the infinitival marker occupies a functional head to the left of VP, which Haegeman (1995a) named F1 and which I will argue is the head of an Aspect Phrase. Though in German and Dutch the infinitival marker cannot be separated from the verb, the minimal assumption seems to be (until we find evidence to the contrary) that the infinitival marker in German and Dutch, too, occupies F1, to be called *Asp*⁰ in the remainder of this book. The position of the infinitival marker can thus be used to show that all VP-internal constituents, including APs, verb-particles, and PPs, move out of the VP. In the following section, I make use of the infinitival marker to show that there is licensing movement out of the VP in German. Furthermore, I outline the structure of the lower middle field in German, assuming that the generalizations extrapolated from German data carry over to Dutch and West Flemish.

4.2 Evidence for licensing movement out of the VP

In this section, I investigate the structure of the German lower middle field from the perspective of a VO-based approach. The most important results of this investigation are the following generalizations: (1) Nominal complements of the verb always have to leave the VP before Spell-out (independently of whether they are definite or indefinite) and are licensed in functional projections above the position of manner adverbs. (2) Also, small clauses, idioms, and directional PPs have to move out of the VP and are licensed in a position below manner adverbs. (3) Full sentential complements are not licensed in their base position within VP, either. They undergo short movement and are licensed in a functional projection directly below the position to which the verb in embedded clauses moves.

4.2.1 The licensing of nominal arguments

That arguments move out of the VP obligatorily can already be shown with the help of manner adverbs. Adverbs like *sorgfältig* ('carefully'), *genau* ('precisely', 'exactly'), *gut* ('well'), *schlecht* ('badly'), and so forth show that both definite and

indefinite DPs have to leave the VP (cf. Brugger and Poletto [1995], Haiden [1995], Hinterhölzl [1999]). Since manner adverbs are usually analyzed as being adjoined to VP (I will later show that they actually occupy a higher position in the tree), a DP that precedes a manner adverb must have moved out of the VP. Examples (5) and (6) show that in sentences with neutral intonation, the direct object precedes the manner adverb. As already discussed in chapter 1, I assume that sentences with neutral intonation correspond to the unmarked word order, from which sentences with marked word order (often accompanied with a special intonation pattern) are derived by additional movement. These considerations are important since in a scrambling language like German alternative orders are often equally good but can—due to the assumptions made earlier—be treated as marked or secondary.³

- (5) a. weil Hans das Buch/ein Buch **sorgfältig** gelesen hat
since Hans the book/a book carefully read has
'since Hans has read the/a book carefully'
- b. ??weil Hans **sorgfältig** das Buch/ein Buch gelesen hat⁴
since Hans carefully the book/a book read has
- (6) a. weil Hans den Plan/einen Plan **genau** ausführte
since Hans the plan/a plan exactly executed
'since Hans executed the/a plan exactly'
- b. ??weil Hans **genau** den Plan/einen Plan ausführte
since Hans exactly the plan/a plan executed

The negative marker *nicht* ('not') obligatorily precedes manner adverbs as is shown in (7). As I have shown in chapter 2, DPs may undergo further movement across the negative marker depending on their semantic and pragmatic properties. What is important at this point is that movement of DPs across manner adverbs is obligatory and independent of the semantic and pragmatic conditions that characterize scrambling. Thus, I would like to propose that the Case-licensing positions in German occur between manner adverbs and sentential negation and that movement of DPs across manner adverbs is licensing movement into these designated Case-positions, as is illustrated in (8).

- (7) a. weil der Hans das Buch **nicht** sorgfältig gelesen hat
since the Hans the book not carefully read has
'since Hans has not read the book carefully'
- b. ??weil der Hans das Buch sorgfältig **nicht** gelesen hat
since the Hans the book carefully not read has
- (8) [_{CP} [_{TP} T [_{Scrambled DPs} [_{Neg} [_{Focus} [_{Agr1} [_{Agr2} [_{Agr3} [_{Manner} . . . [_{VP}]]]]]]]]]]]]

In (8), I assume that Case is licensed in designated Agreement positions. These positions are not assigned to any fixed Case-values since German has V-class depen-

dent unmarked orders, as we have seen in chapter 2. Remember that in German the unmarked order of arguments cannot be determined by Case properties alone but is dependent on the thematic class a verb belongs to.

The different thematic classes with their corresponding unmarked orders in terms of Case sequences are illustrated again in (9). These unmarked orders can be derived if we assume that arguments move into their Case-licensing positions preserving their hierarchical relations as defined by the thematic structure of the corresponding verb class and if we assume that the assumptions in (10) hold.

- (9) a. Nom > Acc : *bedauern* ('regret'), *interpretieren* ('interpret')
- b. Acc > Nom : *interessieren* ('interest'), *imponieren* ('impress')
- c. Nom > Dat : *helfen* ('help'), *gratulieren* ('congratulate')
- d. Dat > Nom : *gefallen* ('appeal/please'), *fehlen* ('lack')
- e. Nom > Dat > Acc : *anvertrauen* ('entrust'), *verbieten* ('forbid')
- f. Nom > Acc > Dat : *aussetzen* ('expose'), *unterordnen* ('subordinate')
- (10) a. (1) Agr1 is only projected if a little V (v) is present
(2) Agr2 is only projected if the verb assigns lexical Case
- b. (1) Agr3 checks Accusative if v is present
(2) Agr2 checks lexical Case (usually Dative)
(3) Nominative is a default Case

The statement in (10b3) is meant to say that in the absence of any specific requirements, which are stated in (10b1, 2), any Agr-head can assign Nominative. The unmarked orders in (9) then follow from the assumptions in (10), since arguments must move into Case-licensing positions by preserving the hierarchical order given by the thematic properties of the verb. That is to say that an agent has to be licensed in a higher Case-position than, say, the theme argument and an experiencer has to be licensed in a higher position than the theme, and so on.

Example (9a) then illustrates the typical basic order of a transitive verb with the agent licensed with Nominative in Agr1 and the object licensed with Accusative in Agr3. Examples (9b and d) show the typical basic order of intransitive verbs where the higher experiencer is licensed with lexical Accusative or lexical Dative in Agr2, while the lower argument is licensed with Nominative in Agr3 (since Agr3 cannot assign Accusative in this case). Example (9c) represents the case of a transitive verb with lexical Case, which is checked in Agr2 with the higher argument obligatorily moving to the higher Agr1 to be licensed with Nominative.

Example (9e) represents the typical basic order of a ditransitive verb with the agent licensed with Nominative in Agr1, the recipient licensed with lexical Dative in Agr2, and the theme licensed with Accusative in Agr3. Example (9f) represents a subclass of ditransitive verbs that is problematic for the system expounded here, since the Dative is licensed not higher but lower than the Accusative, that is, below Agr3. I would like to propose that this subclass does not represent an exception to the rules

specified in (9–10) earlier. Instead, I assume that the Dative is assigned by the separable particles that make up the verbs of this class, proposing that the Dative in this case is checked in the Specifier of PredP, a functional position below the Agr-heads that I will introduce later.

4.2.2 Attract Closest and the issue of parallel movement

At this point, the question arises of how it is achieved that arguments undergo Case-licensing movement by preserving the hierarchical order in the VP, since the Case-licensing heads that I have proposed earlier do not have the ability to attract specific Case-forms.⁵ Let me address this issue and the reviewer's criticism expressed in the previous note by first pointing out that the system of Case-licensing discussed here is designed to account for a fair amount of idiosyncratic variation of Case-licensing properties of German verb classes. Therefore, unless we want to put all the information into the lexicon, a syntactic account of these facts is necessarily complex.

In particular, any account must say something about how it is possible that Nominative is assigned to the lower argument with unaccusative verbs.

Moreover, since I am subscribing to a framework that does not allow for multiple Specifiers, the descriptive generalization that structural Accusative is bound to (a certain type of) little *v*, and which is embodied as a second merge of the object in [Spec, vP] within minimalist treatments, has to be captured in a more indirect way.

To return to the issue of how we can account for the fact that arguments when undergoing Case-licensing movement must preserve the hierarchical relationships established in the vP, the reviewer is right in pointing out that there is currently no principle of grammar that enforces crossing movements in the process of licensing arguments. In minimalism, we only have the principle Attract Closest (AC). AC, in the absence of any inherent Case-feature on the Agr-head, would have the subject being moved to the lowest Case-checking head instead of attracting the object of a transitive verb.

The alternative that the direct object is licensed before the subject is merged is also not viable within the account of restructuring that I am developing here.

Crossing movements (or parallel movement) should follow from a strict version of the Cycle Condition that has it that any rule applies in the smallest domain first. Attract Closest as it is formulated is too coarse a principle. First, it must be taken to hold at the end of the phase. Second, it must be taken to compute not the efficiency of single operations but the efficiency of all operations within a phase (the economy of the sum of movements that follow from a certain selection).

Attract Closest as it stands yields the right results in a case where we have one probe and two possible matching targets, as is illustrated in (11a), but fails in a situation in which we have two potential probes and two matching targets, as is illustrated in (11b).

- (11) a. C [wh] Su[wh] V Obj [wh]
 b. Agr1 Agr2 Su V Obj

In (11a), we want the wh-feature of C to be checked by the subject, which follows from AC. In (11b), however, we do not want the subject to check Agr2, which property does not follow from AC.

To account for both cases, Attract Closest can then be replaced by *Cyclic Attraction*, which applies if a probe has two alternative suitable targets within its phase, as is defined in (12).

- (12) a. Cyclic Attraction
 A probe selects a suitable target in the smallest cyclic domain unless an alternative selection (of a target in a bigger domain) is more economic.
 b. Economy
 The selection of an alternative target in a larger domain is more economic if this selection leads to shorter movements in the overall derivation within the phase that contains the probe.

Let us see how these principles work. In (11a) Cyclic Attraction selects the object; alternative selection selects the subject. Since the latter selection is more economic than the former (fewer nodes are crossed by the subject than by the object), the subject wins out and we derive the effect of simple AC.

In the situation of (11b), however, Cyclic Attraction will select movement of the object to Agr2 (and movement of the subject to Agr1). Note that the alternative selection that involves movement of the subject to Agr2 and movement of the object to Agr1 is not more economic since the overall computation involves the same number of nodes being crossed in subject and object movement together. Thus, movement implied by alternative selection is not possible and the derivation having the object move to Agr2 will be selected as more economic when the phase is evaluated.

Maybe this principle could be formulated more elegantly, but it will derive the effect that (all other things being equal) multiple licensing movements preserve pre-existing orders.

4.2.3 The licensing of predicates

In a VO-based approach, we have to assume that the non-verbal predicates in (13) have been moved leftward from a position to the right of the verb. I assume that these non-verbal predicates, together with the "direct object" of the verb, form a small clause, which in turn forms the complement of the verb as is illustrated in (13').

- (13) a. weil Hans das Haus **gelb** färbte
 since Hans the house yellow painted
 b. weil Hans ihn **einen Idioten** nannte
 since Hans him an idiot called
 c. weil Hans Maria **intelligent** findet
 since Hans Maria intelligent finds
 since Hans considers Maria intelligent

- (13') a. weil Hans [_{VP} färbte [_{SC} das Haus gelb]]
 b. weil Hans [_{VP} nannte [_{SC} ihn einen Idioten]]
 c. weil Hans [_{VP} findet [_{SC} Maria intelligent]]

I assume that these small clauses form a complex predicate with the selecting verb, with the result that they share the licensing domain of the selecting verb. Following Zwart (1993) and Koster (1995), I assume that these small clauses undergo XP-movement into the Specifier of a *Predicate Phrase* (PredP) that dominates the VP (cf. also Bowers [1993] for the role of the Predicate Phrase). Example (13'') shows that this Predicate Phrase occupies a position below the position of manner adverbs. In (13''), I used the particle-verb *an-streichen* ('paint') in order to make sure that the head of the small clause predicate *gelb* ('yellow') has not incorporated into the verb and actually occupies a position in PredP; recall from the discussion in 3.2.3 that particles block the incorporation of small clause heads into the verb. Example (13''a) also shows that the subject of the small clause *den Zaun* is moved out of the domain of the manner adverb. Presumably it moves, like the nominal arguments of verbs, to its Case-licensing position below the negative marker and from there it moves like other specifics (if not contrastively focused) to a scrambling position above the negative marker, as is indicated in (13''c).

- (13'') a. weil Hans **den Zaun** *sorgfältig gelb* angestrichen hat
 since Hans the fence carefully yellow up-painted has
 b. ??weil Hans den Zaun *gelb sorgfältig* angestrichen hat
 since Hans the fence yellow carefully up-painted has
 c. weil Hans **den Zaun**, *nicht* t_i [_{t_i} *gelb*] angestrichen hat
 since Hans the fence not yellow up-painted has

That VP-internal predicates (including small clauses, idioms, and directional PPs) indeed occupy a position in the middle field, namely PredP, rather than remain within a right-headed VP, can be shown with the help of the infinitival marker. The data in (14) show that an adjectival small clause predicate cannot remain within the VP or, for that matter, incorporate into the verb, as is often assumed (cf. Neeleman [1994b]), but has to move out of the VP to a licensing position above the infinitival marker. Example (14) shows that PredP dominates the AspP in German (14a–b) and in West Flemish (14c–d). The contrast in (14c–d) is even more significant since we have seen in (4a) earlier that the infinitival marker in West Flemish can in principle be separated from the verb. We have argued above that small clauses are licensed in PredP. Example (14) shows that the head of a small clause predicate obligatorily precedes the infinitival marker that occupies Asp⁰; hence PredP must dominate AspP.

- (14) a. ohne die Tür **grün zu** färben
 without the door green to paint

- b. *ohne die Tür **zu grün** färben
 without the door to green paint
 'without painting the door green'
 c. K goan proberen van die deure **groen te** verwen (Haegeman 1995a, 23)
 I go try of the door green to paint
 d. *K goan proberen van die deure *te groen* verwen
 I go try of the door to green paint
 'I will try to paint the door green'

The test with manner adverbs indicates that idiomatic expressions and directional PPs are licensed in PredP, too. Since these elements can only occur between manner adverbs and the infinitival marker, they must occupy PredP in (15).

- (15) a. um es ihr **schnell zur Verfügung** zu stellen
 in order it her quickly to-Agr availability to put
 b. *um es ihr **zur Verfügung schnell** zu stellen
 in order it her to-Agr availability quickly to put
 'in order to make it available for her quickly'
 c. um die Milch **vorsichtig in den Kühlschrank** zu stellen
 in order the milk carefully into the refrigerator to put
 d. *um die Milch **in den Kühlschrank vorsichtig** zu stellen
 in order the milk into the refrigerator carefully to put
 'in order to put the milk into the fridge carefully'

So far we have arrived at the following picture of the lower middle field in German: Nominal arguments (including prepositional arguments) are Case-licensed in Agr-heads, as illustrated in (8), above the position of manner adverbs. The negative marker dominates manner adverbs. Small clauses, idiomatic expressions, and directional PPs are licensed in PredP directly below the position of VP-adverbs. This Predicate Phrase dominates AspP, which hosts the infinitival marker and in the Specifier of which verb-particles are licensed. AspP itself immediately dominates VP (16). The schema in (16) does not display the complete structure of the lower middle field. It just indicates a few landmark positions that I have chosen as criterial for differentiating licensing movement out of the VP from additional movement that scrambles arguments higher up in the structure. I assume that the licensing positions of arguments and their related scrambling positions are interspersed with functional projections that license adverbs (cf. Frey and Pittner [1998] for some discussion).

- (16) [Scrambled DPs [Neg [DPs Agr [Manner adverbs [Predicates Pred⁰ [Particles Asp [VP]]]]]]]]

4.2.4 The licensing of sentential arguments

Let us now look at the behavior of sentential complements (CPs). CPs in German appear invariably to the right of the verb that selects them. Given that the German verb in embedded clauses does not move, the CPs in (17a–b) seem to be in their base position, as is indicated by the analysis of (17b) in (17c). Although there is clear evidence that the German embedded verb does not move to Tense—as we have seen earlier, it cannot move across negation or even VP-adverbs—it is still possible that this verb undergoes some type of short local movement that moves it across a sentential complement that has itself moved into the Specifier of a functional projection for purposes of licensing, as is illustrated in (17d) for the sentence in (17b).

- (17) a. weil Hans der Maria **nicht** sagte, dass Peter krank ist
since Hans Maria-DAT not told that Peter sick is
'since Hans did not tell Maria that Peter is sick'
- b. ohne der Maria zu sagen, dass Peter krank ist
without Maria-DAT to say that Peter sick is
'without telling Maria that Peter is sick'
- c. ohne der Maria [_{Asp} zu [_{VP} sagen dass Peter krank ist]]
- d. ohne der Maria [_{Asp} zu [_{F2} sagen [_{F3} CP [_{VP} t_{CP}]]]]

From the licensing movement of adjectives (cf. [13] and [14] earlier) it follows that CP-complements cannot remain within the VP. Example (18a) shows the only possible order between adjective and CP-complement in an infinitival clause. The adjectival phrase undergoes licensing movement into PredP above the infinitival marker. As (18b) shows, pied-piping of the CP-complement leads to ungrammaticality. It follows then that the CP-complement has to move out of the VP before the adjectival phrase moves to PredP, in order to derive (18a) from the underlying structure in (18c).

- (18) a. ohne froh zu sein, dass der Hans nicht kam
without happy to be that the Hans not came
'without being happy that Hans did not come'
- b. *ohne [froh, dass der Hans nicht kam] zu sein
without happy that the Hans not came to be
- c. [_{CP} ohne . . . [_{Asp} zu [_{VP} sein [_{AdjP} froh [CP]]]]]

In the standard theory, cases like (18) have been accounted for by the operation of *extraposition* that right-adjoins CP-complements to the local VP or IP. Since, following Kayne (1994), I want to refrain from positing right-adjunction, I propose that the CP-complements are licensed in [Spec,F3P] directly above VP. This entails that the verb in German moves up (at least) to F2, a functional projection that dominates the licensing projection for CPs. We thus arrive at the following structure of

the German sentence, a structure that I assume also holds for Dutch and West Flemish. In (19), *S-DPs* stands for "scrambled DPs", *C-DPs* for "Case-licensed DPs" in their base order, and *S-Adv*s for "sentential adverbs" like *oft* ('often'). For the sake of simplicity, I assume that the domain of S-DPs corresponds to the traditional TP. Similarly to (16), the structure of (19) is intended to indicate, for instance, that arguments are licensed in the domain of event-related adverbs, while scrambling moves them into the domain of sentential adverbs, with the border marks being defined by PredP and negation. In particular, (19) is not intended to show that arguments are Case-licensed as a uniform block above the positions of all event-related adverbs, that is, above time, place, and manner adverbs.

- (19) [S-DPs [S-Adv [Neg [C-DPs [VP-Adv [Pred⁰ [_{AspP} zu [_{F2P} V [_{F3P} CP [_{VP}]]]]]]]]]]]]

4.2.5 The rationale for licensing movement

In the previous section, I remarked that the assumption of licensing movement of APs, PPs, and particles seems stipulative in the absence of any empirical evidence. Using the infinitival marker, I have shown that there is empirical evidence for leftward movement of all VP-internal material. At this point two questions arise. First, the question indeed remains what the motivation of the movement of these constituents is. There are two notions of licensing relevant here: formal licensing and functional licensing.

Formal licensing can be made sense of if we follow Chomsky (1995b) and assume that only thematic properties are satisfied (through merge) in the VP. Then all other properties of the verb, its morphological properties, the specific lexical requirements it imposes on its complements (what has generally been called *c-selection*), must be satisfied outside of the VP, in the extended projection of the verb.

For instance, lexical Case in the GB-framework was assumed to be assigned to the argument in the VP together with the assignment of a thematic role. In MP, it is assumed that no feature checking is possible in the VP. Instead, I want to propose that specific morphological or lexical properties are satisfied through the projection of a corresponding functional head within the extended projections of the verb. In the case at hand, this requirement is satisfied through the projection of a functional head that can be checked by a DP with lexical Case (we can assume that if a verb with lexical Dative is selected the numeration also contains the functional head Agr2[Dat]). The parallel motivation applies to PP-complements. They have to move out of the VP to satisfy the selection of the verb for a specific preposition in the Spec-head relation with a functional head that represents this selectional property of the verb.

In other words, the extended projections of the verb are a complex function of the semantic and lexical properties of the verb. We have seen in (10) earlier that the types of Case-checking heads that a verb projects are a function of its semantic (absence or presence of little *v*) and lexical (absence and presence of lexical case) properties.

In conclusion, *c-selection* can be thought of as being satisfied through projection. This approach can thus be characterized as the complete syntactization of the idea behind the Projection Principle, namely, the requirement that semantic and lexical properties are represented in the syntax through projection (*c-selection* via upward projection).

What is meant by *functional licensing*? To answer this question, I will point out some observations of a general kind and some observations that are implied by the previously described distribution of elements in the German middle field.

A secondary purpose of these licensing movements seems to be to determine which ones of the formal complements of the verb function as arguments or as (co-)predicates of the verb. The choice between these two options is not always so trivial as it may seem. DPs are the prime candidates to function as arguments. But idiomatic DPs and non-referential DPs such as in *Klavier spielen* ('to play the piano') and in *einen Lügner nennen* ('to call someone a liar') are licensed as predicates in PredP. Also, small clauses are licensed in PredP. But if Moro (1997) is right, then the choice is not even predetermined with small clauses, since the so-called subject of the small clause can function both as subject or as predicate in the main clause. Along the same lines, PPs can be licensed as arguments or as predicates. The preceding investigation shows that directional PPs are licensed as predicates, while other PP-complements of the verb as in *warten auf Maria* ('wait for Mary') are licensed as arguments. CP-complements are typically licensed as arguments. However, the basic account that I will provide for coherent infinitives in the following section is that they are licensed as co-predicates, not as arguments, implying that since predicates are transparent for extraction, the functional domain of the verb above PredP is accessible for the arguments of both predicates.

We have also seen that verb-particles are licensed in [Spec,AspP]. This can be made sense of in terms of functional licensing since particles typically modify the aspectual interpretation of the verb (phrase).

As for the licensing of arguments, the functional structure above VP seems crucial since it determines the grammatical status of each verbal argument. Assuming that the thematic structure of active and passive verbs is identical, passive verbs can be taken to assign a different argument status to their complements (the agent is licensed as an implicit argument). In a similar vein, assuming that the thematic structures of verbs in ergative and non-ergative languages are identical (consider, in this respect, languages with split-ergativity), we can assume that the functional structure above VP assigns a different grammatical status (oblique or structural) to the arguments of ergative and non-ergative verbs.

Although these observations cannot be worked out in more detail here, I hope they give the reader some idea of what I have in mind when I speak of functional licensing.

Also, since licensing movement as described previously preserves the hierarchy of VP-internal material, a simpler analysis that moves the verb out of the VP and then moves the remnant VP in front of the verb, as proposed by Haegeman (2001, 2002b), would seem preferable. However, since the licensing positions of VP-internal material are interspersed with functional heads that arguably are VP-external, like Aspect, heads that license adverbs (cf. Cinque [1999]) and negation, licensing movement out of the VP could at best be in several chunks. Such an account, however, would not conform to the previously sketched idea of grammatical licensing.

4.3 An XP-movement account of restructuring

In this section, I introduce a novel VO-based approach to the analysis of Verb Raising (VR) and Verb Projection Raising (VPR) constructions. I will first describe the analysis of these constructions in the standard approach and show that the basic assumptions that this analysis rests on are untenable.

The basic tenets of the standard analysis are *Verb Raising* (VR), an operation of head movement that is taken to account for the formation of verb clusters, and *long-distance scrambling* (LDS), an operation that moves arguments of the infinitival verb into the matrix domain in order to account for the so-called clause-union phenomenon.

I will first demonstrate with the help of verb-particles in Dutch that verb cluster formation involves movement of the (extended) infinitival VP. Second, I will argue with the help of adverbs and other elements that resist scrambling that the distribution and interpretation of elements that belong to the dependent infinitive (its arguments and adverbs that modify it) cannot be accounted for with the assumption that these elements can scramble individually into the domain of the selecting verb but calls for the movement of a larger constituent into the domain of the selecting verb that pied-pipes these elements.

Dispensing with LDS will allow me to drop the assumption that the complements of restructuring verbs are not full CPs. In order to allow for LDS, which is illicit out of non-restructuring infinitives and out of tensed embedded clauses, it has been assumed within the standard approach that the complements of restructuring verbs are IPs or bare VPs. This consequence has the advantage that we henceforth may assume that all sentential complements are CPs.

Instead of VR and LDS, I will argue that restructuring involves remnant movement of larger parts of the infinitival. More specifically, I propose that restructuring breaks down into movement of the infinitival AspP and the infinitival TP into designated positions in the matrix clause. I demonstrate that these movements are cyclic (operating in the same fashion in every clause) and occur for licensing reasons. Assuming that the complementizer is essential for checking the requirements that the verb imposes on the embedded clause, I show how these movements can be derived from a general theory of sentential complementation.

Finally, I will argue that an OV-based approach to the syntax of the West Germanic languages has to assume the same types of movements that are predicted to occur within a VO-based approach but that the VO-based approach is to be preferred over an OV-based approach since it allows one to dispense with an operation of rightward movement, namely, Extraposition.

4.3.1 The OV-based account and its problems

In this section, I will briefly sketch again the traditional OV-based analysis of VR-constructions. I will then point to empirical and conceptual problems of this analysis that lead me to the conclusion that VR-constructions crucially involve XP-movement rather than VR in the sense of Evers (1975).

To remind us of the traditional OV-based analysis of coherent infinitives, let us look again at an example of a bare infinitival selected by an ECM-verb in Dutch. In (20), the matrix verb intervenes between the embedded infinitive and its arguments. To accommodate this order with the head-final character that he assumed for Dutch, Evers (1975) proposed a rule of VR that right-adjoins the dependent infinitive to its selecting verb as depicted in (20b).

- (20) a. dat ik Jan een liedje hoor zingen
that I Jan a song hear sing
'that I hear Jan sing a song'
b. dat ik [Jan een liedje t_R] hoor zingen_R

In an OV-based account, verb cluster formation in coherent infinitives is accounted for by the rule of VR that right-adjoins dependent infinitives to their selecting verb in Dutch but left-adjoins them in German. The transparency of these constructions is simply accounted for by the assumption that bare infinitives are VP-complements (cf. Broekhuis et al. [1995]).

Remember that in Dutch a particle may precede the verb cluster created by VR, as is illustrated in (21a), or, as is shown in (21b), it may also move along with its selecting verb and become part of the verb cluster.

- (21) a. dat Jan Marie op wil bellen
that Jan Marie up wants call
b. dat Jan Marie wil op bellen
that Jan Marie wants up call
'that Jan wants to call up Marie'

Following van Riemsdijk (1978), I assume that the particle is the head of a particle phrase, a PP in fact, in the complement domain of the verb (22a). The fact that the verb and the particle often act as a unit is accounted for in this approach by adopting a rule of Particle Incorporation (PI) that moves the particle to the verb. If PI is optional, then the particle may stay in its PP and will be stranded by VR, yielding the analysis depicted in (22b) for sentences like (21a); or the particle may incorporate into the verb and subsequently undergo VR, yielding the analysis depicted in (22c) for sentences like (21b).

- (22) a. dat Jan Marie [_{PP} [_P op]] bellen wil (*base structure*)
b. dat Jan Marie [_{PP} op] t_R wil bellen_R
c. dat Jan Marie [_{PP} t_{PI}] t_R wil [_{op_{PI}} bellen]_R

First, note that while this analysis accounts for the behavior of particles in VR-constructions, it fails to explain why VR viewed as a process of head movement may pied-pipe or strand particles, while Verb Second must strand particles, as is shown

in (23). If Verb Second is an operation of head movement that moves the finite verb into C^0 in root clauses, as is standardly assumed (cf. Den Besten [1974/1983]), then it is not clear why Verb Second may not, very much like VR, pied-pipe particles. If Verb Second is to be characterized as XP-movement (cf. Hallman [1997]), then VR that can affect even a bigger chunk of structure, the verb plus a particle, should be analyzed as XP-movement as well.

- (23) a. *Jan opbelde Marie
Jan up-called Marie
b. Jan belde Marie op
Jan called Marie up
'Jan called up Marie'

Second, note that particles can never be taken to incorporate into the verb in *te*-infinitives: The infinitival marker *te* always intervenes between the particle and the selecting verb (24).

- (24) a. *zonder Marie te op bellen
without Marie to up call
'without calling up Marie'
b. zonder Marie op te bellen
without Marie up to call

Remember that in the traditional OV account, where the VP precedes its selecting head I^0 , it is assumed that the infinitival verb undergoes head movement and right-adjoins to the infinitival marker that occupies I^0 , in order to derive the sequence *te* + infinitive. In the beginning of this chapter (cf. [4]) I presented data from West Flemish and Afrikaans that cast serious doubt on the head-adjunction analysis of *te*-infinitives.

If the head-adjunction analysis of *te*-infinitives is given up, it must be assumed that particles incorporate into Asp^0 , the position of the infinitival marker, rather than into the verb. Movement of a particle and an infinitival verb as in (22c) must then always involve Asp^0 . This movement can only then be assumed to be head movement in an OV-based approach if it is assumed that the infinitive moves up to Asp^0 . Note that this latter movement would constitute leftward verb movement within an OV-based approach. This consequence is incompatible with the basic assumptions of an OV-based system. Given that the functional heads within the IP-domain occur to the left (cf. Koopman [1995], Zwart [1993]), as the position of the infinitival marker shows, the VP would be the only left-branching projection within an OV-based system. If the infinitive does not move up to Asp^0 , then movement of the particle and the infinitival verb in (22c) must involve Asp^0 plus the verb in its base position in the VP and we have a clear case of XP-movement.

But even if the head-adjunction analysis of *te*-infinitives were tenable, there would still be problems for the OV-based approach. The important point is that the sequence *op te bellen* cannot have an analysis in which it is assumed that the

verb is right-adjoined to *te* and the particle is left-adjoined to *te*. Example (25a) shows the base structure and example (25b) shows the desired resulting structure.

- (25) a. [_{IP} PRO [_{VP} [_{PP} op] V] te]
 b. [_{IP} PRO [_{VP} [_{PP} t_i] t_j] op₁ + te + V_j]

That is to say that regardless of whether we assume that the particle has incorporated into the selecting verb, this sequence cannot be analyzed as a single complex head. If the particle incorporates into the selecting verb (which then exorporates to adjoin to the infinitival marker), it cannot exorporate (out of a head-adjunction structure in which it does not constitute the head) in order to left-adjoin to the infinitival marker. If it does not incorporate into the verb, it cannot incorporate to the higher infinitival marker, since this would require that it cross an intervening head in violation of the HMC.⁶

All the preceding discussion implies that the VR-structure in (26) cannot have been derived by an operation of head movement that right-adjoins a (complex) infinitival head to its selecting verb. I therefore conclude that VR involves XP-movement of a VP or some bigger projection. Furthermore, I assume that particles are never licensed by incorporation. I assume that they undergo XP-movement to be licensed in [Spec, AspP] (or [Spec, PredP] if modified). This assumption naturally explains why particles must be stranded by the operation of Verb Second, if it is assumed that Verb Second is head movement, while they may be pied-piped by VR, an operation that involves movement of a larger maximal phrase.

- (26) dat Jan Marie t_R probeerde [op te bellen]_R
 that Jan Marie tried up to call
 'that Jan tried to call up Marie'

An OV-based approach is certainly not committed to a head-movement analysis but requires the assumption of rightward movement, which is illicit under Kayne's LCA. Another problem of the head movement account of coherent infinitives is that it treats some clausal complements as CPs and others as TPs or VPs. It would be nice to have a theory of coherent infinitives that allows one to assume that all sentential complements are CPs. In the following section, I will propose a VO-based account that assumes that both coherent and non-coherent infinitival complements are full CPs.

4.3.2 A VO-based account of verb raising

The main problem that a VO-based account of coherent infinitives faces is the question of how to account for the distribution and interpretation of nominal arguments, adverbs, and sentential complements in this construction.

If we look at a typical case of VR in Dutch (cf. [27a-b]), then we realize that the nominal arguments of the infinitive and adverbs and adverbials that modify it precede the selecting verb *wilde*, while the infinitive itself and a sentential complement of the infinitive (27c) follow the selecting verb. In (27) constituents that belong to

the embedded infinitival are given in brackets. In a VO-based account, we have to assume that a coherent infinitive like (27a) is derived from an underlying structure of the type given in (27b).

- (27) a. dat Jan [Marie het boek morgen] wilde [geven]
 that Jan Marie-DAT the book tomorrow wanted give
 'that Jan wanted to give Marie the book tomorrow'
 b. dat Jan wilde [PRO Marie het boek morgen geven]
 that Jan wanted Marie the book tomorrow give
 c. dat Jan [Marie morgen] wilde [vertellen dat Piet ziek is]
 that Jan Marie tomorrow wanted tell that Piet sick is
 'that Jan wanted to say to Marie tomorrow that Piet is sick'

The simplest possibility of relating the structure in (27a) with the underlying structure in (27b) is to assume that the bracketed constituents that precede the matrix verb have been moved individually via scrambling from the embedded clause into the matrix clause. However, a closer look at this assumption reveals that scrambling (alone) is not a solution for our problem at hand. In the following section, I will illustrate why.

4.3.2.1 Against scrambling

In this section, I present two arguments that constituents of the infinitive cannot be moved via scrambling into the domain of the matrix clause in VR-constructions. (1) Verb particles, small clause predicates, and idiomatic expressions cannot scramble but can precede the verb that selects the infinitival complement in VR-constructions. This is illustrated for small clause predicates in (28). Example (28a) shows the basic order in which the small clause predicate follows the small clause subject and precedes the finite verb. Example (28b), in which the small clause predicate has been scrambled (across the adverb), is ungrammatical. Thus, it is implausible that the small clause predicate has been moved via scrambling into the matrix clause in (28c).

- (28) a. dat Jan de schuur gisteren rood schilderde
 that Jan the barn yesterday red painted
 'that Jan painted the barn red yesterday'
 b. ??dat Jan de schuur rood gisteren schilderde
 that Jan the barn red yesterday painted
 c. dat Jan de schuur rood wil schilderen
 that Jan the barn red wants paint
 'that Jan wants to paint the barn red'

When I claimed earlier that verb-particles, small clause predicates, and idiomatic expressions cannot scramble, that was not entirely correct. What I meant was

that they cannot undergo scrambling proper (cf. chapter 2 for a more extensive discussion). However, there is another type of scrambling that both arguments and non-arguments may undergo, as is discussed in detail in chapter 2. To remind us of the basic facts, let us look again at the situation in Dutch.

In Dutch, like in German, arguments can scramble across adverbs. Unlike in German, however, this is permissive as long as the hierarchy of arguments is preserved. Scrambling that permutes the arguments in a clause is illicit. For instance, as shown in (29), the object may not scramble across the subject. In (29a), both definite DPs have scrambled across the negative marker preserving their respective hierarchy, with the subject preceding the object. Example (29b), where the object has scrambled across the subject, is ungrammatical. There is, however, a type of scrambling that Neeleman (1994b) calls *focus-scrambling* (and that I termed S-scrambling in chapter 2) that may do exactly that, namely, move the object in front of the subject, as illustrated in (29c).

- (29) a. dat Jan de boeken niet koopt
 dat Jan the books not buys
- b. *dat de boeken Jan niet koopt
 that the books Jan not buys
- c. dat zulke boeken zelfs Jan niet koopt
 that such books even Jan not buys

Recall from chapter 2 that the type of scrambling illustrated in (29c) comes with a special intonation pattern and involves a focused constituent, *zelfs Jan* in (29c), that is contrasted with the moved element that is best described as a (contrastive) topic. Remember also that this type of scrambling is not restricted to arguments but may also involve predicates (30).

- (30) dat rood zelfs Jan de hekje niet verfd
 that red even Jan the fence not paints

What is important, however, in the case of the alleged scrambling of the adjectival predicate *rood* in (27c) is that no special intonation pattern or any focused constituent is necessary here. So that we can safely exclude also S-scrambling (or focus-scrambling) as a possible explanation for cases like (28c).

(2) It is generally assumed that adverbs do not scramble. That is to say that if two adverbs, ADV1 and ADV2, can occur both in the order ADV1 > ADV2 and in the order ADV2 > ADV1, it is assumed that at least one of them can be base generated in a higher and in a lower position. This assumption is confirmed by the observation that in English, which is a non-scrambling language, adverbs of the same type may occur in different positions. Furthermore, Cinque (1999) in his extensive work on the relation between the functional hierarchy and the positions of adverbs argues convincingly that cases in which two adverbs can occur in two different orders involve movement of a larger phrase that contains one adverb over the other adverb.

In addition, there is also direct empirical evidence for the assumption that adverbs at least cannot undergo long-distance scrambling (LDS), which comes from cases of Remnant Extraposition. Example (31) is a case of Remnant Extraposition and shows that while arguments can undergo LDS, adverbs and adverbials cannot. Here the DP *het boek* has undergone LDS into the matrix clause, but the adverbial *om drie uur* ('at three o'clock') must have been base generated in the matrix clause, since it cannot be interpreted as modifying the embedded infinitive. In VR-constructions, however, adverbs and adverbials that precede the matrix verb are always ambiguous between a matrix clause construal and an embedded clause construal.

- (31) Jan heeft het boek_i om drie uur geweigerd t_i weg te brengen
 Jan has the book at three o'clock refused away to take
 'Jan has refused at three o'clock to take away the book'

4.3.2.2 The alternative account

In this section, I will outline an account of VR in a VO-based approach that dispenses with rightward movement as well as with unmotivated scrambling operations. This approach is based on the generalizations about the basic clausal structure that I outlined in section 4.2 earlier (cf. [19]) and on the assumption that coherent infinitives are full CP-complements. Let us look again at a simple case of VR in Dutch to remind us of the problem at hand. If (32a) is derived from the underlying structure given in (32b), then it seems that while the infinitive may stay in the embedded clause, everything else, namely, the arguments of the embedded verb and the adverb that modifies it, must move into the matrix clause.

- (32) a. dat Jan het boek vaak lang wil lezen
 that Jan the book often long wants read
 'that Jan often wants to read the book for a long time'
- b. [dat vaak [_{VP} Jan wil [_{CP} ... [lang [_{AspP} 0 [_{VP} PRO lezen het boek]]]]]]

I have argued that this movement cannot be scrambling of the individual constituents. In particular, I have argued in the previous section that adverbs cannot be taken to undergo scrambling. It is thus natural to assume that adverbs end up in the domain of the matrix clause by being pied-piped by the movement of a larger constituent. In addition, it must be ensured that movement of this larger constituent is to a position below all matrix adverbs, since (32a) cannot mean 'for a long time, Jan wanted to read the book often'.

Furthermore, I argued in section 4.3.1 that the operation of VR itself cannot be taken to be head movement but must be analyzed as involving XP-movement of a larger constituent. I thus propose that the embedded AspP, which is essentially the VP plus the potentially empty infinitival marker, is moved into [Spec,CP] of the infinitival, after which process the remaining TP of the embedded clause is moved into [Spec,PredP] of the matrix verb. After the embedded TP and the embedded AspP have undergone XP-movement, the infinitival Tense-head adjoins to the functional

head that licenses the controller of PRO to ensure the identification of the infinitival subject (to be discussed in chapter 5).

The infinitival verb undergoes additional XP-movement into a Specifier position of the selecting verb, accounting for the so-called IPP-effect. This movement applies in both German and Dutch verb clusters, which, however, crucially differ in the way they spell out this movement chain: While German spells out the higher copy, the lower copy is spelled out in Dutch.

In section 4.2, I have argued that nominal arguments (and VP-internal predicates) leave the VP in German, for reasons of licensing before Spell-out. The same holds for Dutch. The structure that results from this step of operation is given in (32c).

In the next step, AspP that has been emptied up to the verb is moved into [Spec,CP] of the infinitival (and then moved on into a position that precedes the matrix verb but is spelled out in [Spec,CP]). The result of this operation is shown in (32d).

In the following step, the remaining TP of the infinitival is moved into [Spec,PredP] of the matrix verb. The resulting structure is given in (32e).

In the final step, both the matrix subject and the embedded direct object scramble to positions above the sentential adverb *vaak*. This last step is optional. Hence both *dat vaak Jan het boek lang wil lezen* and *dat Jan vaak het boek lang wil lezen* are fine sentences in Dutch. If we replace the adverb *often* with sentence negation in (32), then scrambling of both arguments becomes obligatory (in the absence of any contrastive focus) as we expect (cf. the discussion of scrambling in chapter 2). Scrambling of embedded arguments is enabled by extraction of the TP out of the embedded CP.

- (32) Step 1: licensing movement in the embedded clause
 c. [dat vaak Jan [_{VP} wil [_{CP} [_{TP} PRO het boek lang [_{AspP} [_{VP} lezen]]]]]]]]
- Step 2: AspP moves into [Spec,CP] in the embedded clause
 d. [dat vaak Jan wil [_{CP} [_{AspP} lezen] [_{TP} PRO het boek lang t_{AspP}]]]]
- Step 3: TP moves into [Spec,PredP] in the matrix clause
 e. [dat vaak Jan [_{PredP} [_{TP} PRO het boek lang t_{AspP}] wil [_{CP} lezen t_{TP}]]]]
- Step 4: scrambling of the matrix subject and the embedded object
 f. [dat Jan_i het boek_j vaak t_i [_{PredP} [_{TP} PRO t_j lang] wil lezen]]

This account has several advantages. (1) It provides a simple and natural explanation of the position and interpretation of adverbs in VR-structures. An adverb that modifies the verb in a coherent infinitive is moved along with the remainder (after AspP-movement) of the infinitival to a position below the adverbs in the matrix clause. An adverb that precedes a verb cluster is ambiguous between modifying the embedded verb or the matrix verb because it can be analyzed as occupying the embedded TP or as occupying the matrix TP. No scrambling of adverbs has to be assumed.

(2) It provides us with a simple explanation for the transparency of coherent infinitives. Due to TP-movement, arguments of the embedded clause (including quantifiers) may freely undergo A-movement into the matrix clause. For instance, (33a) is ambiguous between the readings specified in (33b–c), because the negative quantifier *niemand* ('nobody') can be analyzed as occupying the matrix or the embedded TP, as is illustrated in (34).

- (33) a. weil Hans niemanden besuchen will
 since Hans nobody visit wants
 b. 'since Hans does not want to visit anyone'
 c. 'since Hans wants to visit nobody'
- (34) a. weil [_{TP1} Hans niemanden_i [_{TP2} t_i] besuchen will]
 b. weil [_{TP1} Hans] [_{TP2} niemanden] besuchen will]

I have shown in chapter 2 that scrambling proper, being A-movement, is clause-bound in German. Long-distance scrambling has properties of A-bar movement (cf. Mahajan [1990]). I assume that scrambling is confined to the local CP. A DP may only move out of the local CP if it undergoes A-bar movement. What is special with coherent infinitives is that TP extraction out of the embedded CP "merges" the scrambling domains of matrix clause and embedded clause. In coherent infinitives the CP-complement is not licensed as an argument but like small clauses as a co-predicate of the matrix verb by moving the embedded TP into [Spec,PredP] of the latter. If it is correct that predicates allow for extraction via A-movement (while arguments generally allow only for extraction via A'-movement), then it follows that the arguments of the matrix verb and the embedded infinitive (*can*) share the functional domain above PredP in the matrix clause. This is my account of the so-called clause-union phenomenon, namely, the observation that in coherent infinitives the arguments of the embedded infinitival "seem" to be licensed in the matrix clause. It has been suggested that in coherent infinitives VR-verb and dependent infinitive form a complex predicate whose argument structure is derived by merging the argument structures of the combining predicates. Under these assumptions, coherent infinitives are analyzed as monoclausal structures. I argue that the clause-union phenomenon can be simply accounted for by assuming that due to TP-movement part of the functional domain of the matrix clause can be shared by two (independent) predicates that project their own clause.

That arguments of coherent infinitives can stay in the embedded clause and need not obligatorily move into the matrix clause is shown in (35a), where the adverb *öfter* ('more often') can have narrow scope with respect to the matrix verb. In this reading the adverb must occupy a position in the embedded clause, implying that the argument *eine Frau* ('a woman') that follows it is contained in the embedded clause as well. This interpretation of the facts in (35a) is corroborated by the observation that in the narrow scope interpretation of the adverb in (35b) the negative quantifier that follows it is no longer ambiguous, that is to say, it cannot take scope over the matrix verb.

- (35) a. weil Hans öfter eine Frau besuchen will
 since Hans more-often a woman visit wants
 'since Hans wants to more often meet some woman'
- b. weil Hans öfter niemanden besuchen will
 since Hans more-often nobody visit wants
 'since Hans wants to more often visit nobody'

(3) It gives us for free the right-branching structure of Dutch verb clusters without making use of right-adjunction. I assume that verb-particles in Dutch are not licensed via incorporation but by XP-movement to [Spec,AspP] or to [Spec,PredP] if modified. Thus, the cases in which a to-infinitive has been raised with its particle that are so problematic for the standard theory (cf. [26] earlier) fall in place nicely, as the analysis in (36a) shows.

- (36) a. dat Jan [Marie]_{TP} probeerde [_{CP} [_{AspP} [_{PP} op] te [_{VP} bellen t_{pp}]] t_{TP}]
 that Jan Marie tried up to call
 'that Jan tried to call up Marie'
- b. *dat ze de schuur hebben rood over geschildert
 that they the barn have red over painted
- c. *dat ze de schuur hebben rood willen over schilderen
 that they the barn have red want-IPP over paint
 'that they have wanted to paint up the barn red'

Also, the distribution of Dutch particles can be accounted for by assuming that they can move to the higher [Spec,AspP] within the verb cluster. This does not hold for particles and small clause predicate heads if they are modified, since material that is licensed in PredP will be moved by TP-movement into the higher PredP and will thus always end up in front of the matrix verb. This will derive the ungrammaticality of the example (37d) in the previous chapter (repeated here as [36b]) and the generalization that particles prevent the incorporation of other predicate heads. The examples in (36b) and (36c) are ungrammatical because the small clause predicate contained within the particle phrase will be moved along with the particle in its licensing movement to the local [Spec,AspP]. In this position, the small clause predicate, though unmodified, can only be licensed in [Spec,PredP] and will thus always end up in front of the matrix verb. The alternative derivation, where the small clause predicate extracts from the particle phrase to be licensed in [Spec,AspP] followed by licensing movement of the particle phrase to PredP, can be ruled out as an illicit case of remnant movement, given that the containing phrase, the particle phrase, arguably checks the same feature as the small clause predicate (the Aspect-head in Dutch attracts particles and small clause predicates alike). As we have seen in the introductory section on remnant movement, this case can be excluded as a violation of Attract Closest or, in more standard terms, as a violation of the A-over-A condition.

(4) While at first sight it seems that TP-movement into the domain of the selecting verb is an artefact of a VO-based analysis, it can be shown that an OV-based account needs to assume TP-movement as well. Given that both accounts have to assume the same type of movements, we may then say that the VO-based approach is to be preferred over the OV-based approach since the former, but not the latter, can do without rightward movement.

At first sight it seems that an OV-based approach that is endowed with our insights is to be preferred. Looking at a two-member verb cluster, we might assume that within an OV-based approach right-adjunction of the embedded AspP to the

matrix verb (to explain verb cluster formation) and head movement of the infinitival Tense-head (to explain the transparency of the infinitival complement) are sufficient. Note that the latter assumption is probably sufficient to allow for the local scrambling of the arguments of the dependent infinitive into the matrix domain while adverbs and other elements that do not scramble are already in the right position, preceding the selecting verb and lower than the other material in the clause of the selecting verb.

However, once we look at bigger verb clusters we see that TP-movement is essential. Let us look at a three-member verb cluster in which the deepest embedded verb is modified by an adverb. The underlying structure within an OV-based account of such a construction is given in (37). The only possible surface order of the verb cluster in such a construction in Dutch is V₁ V₂ V₃. In order to derive this cluster, we would assume that AspP of V₃ right-adjoins to V₂ and that AspP of V₂ right-adjoins to V₁. Note, however, that the second step would necessarily pied-pipe the adverb in the infinitival TP of V₃. Thus, it is essential that the lowest TP is moved out of the domain of V₂ before verb cluster formation affects AspP of V₂. I conclude that an OV-based account has to assume the same cyclic movement operations per clause, namely, movement of AspP and movement of TP, that I was compelled to assume within a VO-based approach.

- (37) [_{CP1} ... [_{AspP} [_{CP2} ... [_{AspP} [_{CP3} [_{TP3} Adv [_{AspP} V₃]]] V₂]] V₁]]

To summarize, TP-movement is independent of whether a VO-based or an OV-based approach is taken. Empirically, the existence of TP-movement is implied not only by the interpretation of quantifiers in VPR-constructions, as I will argue in the next section, but also by the distribution and interpretation of adverbs in VR-constructions.

(5) It provides a simple and elegant solution to the distribution of CP-complements in VR-structures without making use of the operation of extraposition. CP-complements are licensed within AspP in Dutch and German. Thus, they are pied-piped by AspP-movement into [Spec,CP] of the infinitival. This yields the effect that while all other arguments of a coherent infinitival show up in positions to the left of the matrix verb, the CP-complement stays with the verb that selects it and appears in a position to the right of the matrix verb (38).

- (38) dat Jan aan Marie morgen wilde [_{AspP} 0 [_{F2P} zeggen [dat Piet ziek is]]]
 that Jan to Marie tomorrow wanted say that Piet sick is
 'that Jan wanted to say to Marie tomorrow that Piet is sick'

(6) It provides us with a simple explanation for the difference in word order between German and Dutch verb clusters. In German, the dependent infinitive generally precedes the VR-verb. After AspP-movement into [Spec,CP] the infinitive undergoes additional movement that brings it to a left-adjacent position to the matrix verb, leaving behind its CP-complement to the right of the matrix verb (compare [38] with its German counterpart in [39]). In Dutch, contrary to German, the lower

copy of the infinitival will be spelled out. Whether this additional movement of the infinitive is to be characterized as XP-movement or head movement will be discussed in chapter 6. There I will also provide the motivation for the additional movement of the infinitive.

- (39) dass Hans der Maria morgen [sagen]_i wollte [_{Aspp} t_i dass Peter krank ist]
that Hans Maria-DAT tomorrow say wanted that Peter sick is

(7) It provides us with a very straightforward explanation for the so-called IPP-effect, which will be given in chapter 6.

4.3.3 A VO-based account of verb projection raising

In this section, I will discuss the syntax of VPR-complements in a VO-based approach. I will first briefly describe again the syntax of this construction in terms of the basic assumptions of the standard approach. Then I will discuss two problems concerning the proper account of scopal relations within VPR-constructions and show that they are intrinsically related to the assumption that VPR-constructions involve extraposition and scrambling.

I will show that once these assumptions are given up, the problems disappear. Finally, I will demonstrate that the scopal facts in VPR-constructions fall out naturally if we extend the alternative account of VR-constructions to VPR-constructions.

4.3.3.1 The OV-based account and its problems

VPR in West Flemish, a Dutch dialect spoken in the West Flanders province of Belgium, applies to those verbs that trigger VR in standard Dutch. Recall from section 3.2 that in this dialect not only the nonfinite verb embedded under a modal (40a) but also the verb plus its direct object (40b) or the verb plus the direct and the indirect object (40c) can be raised. Den Besten and Edmondson (1983) have argued that these facts should be accounted for by assuming that in such a dialect not only V⁰ may be raised but also V' or VP, whence the name Verb Projection Raising (VPR).

- (40) a. da Marie Jan nen boek t_R wilt [geven]_R
that Maria Jan a book wants give
b. da Marie Jan t_R wilt [nen boek geven]_R
that Marie Jan wants a book give
c. da Marie t_R wilt [Jan nen boek geven]_R
that Marie wants Jan a book give
'that Marie wants to give Jan a book'

In the standard theory, the VPR-structures in (40) are described in terms of extraposition of the infinitival clause, which, as I discussed in chapter 3 (section 3.2), must be at least as big as an IP/TP. Under these assumptions, a sentence like (41a) is analyzed as illustrated in (41b) (cf. Haegeman [1992]).

- (41) a. da Valere wilt [ze morgen nen boek geven]
that Valere wants her tomorrow a book give
'that Valere wants to give her a book tomorrow'
b. da Valere t_{EXTR} wilt [_{IP} ze morgen nen boek geven]_{EXTR}

Since elements of the infinitival clause can appear in the matrix clause (cf. [40a-b]), it has to be assumed that VPR-complements are transparent and that scrambling may affect their constituents and move them into the matrix clause (before extraposition applies). This operation of scrambling since it moves elements out of the local TP has to be characterized as A' movement (or LD scrambling).

Recall from chapter 3 (section 3.2) that VPR-complements are also transparent for scope-taking elements but only if they are not affected by VPR, that is, by extraposition in the standard analysis given earlier. The empirical generalization is the following: A scopal element that is outside of the verb cluster (i.e., that has undergone scrambling) can take its scope inside or outside of the verb cluster, whereas an element contained in the verb cluster may take its scope only within the verb cluster. Let us look at the examples in (42). In (42a), the negative existential occurs outside of the verb cluster. Example (42a) is ambiguous between the reading *Jan did not force Valere to eat meat yesterday*, with *geen vlees* taking wide scope, and the reading *Jan forced Valere to not eat any meat yesterday*, with *geen vlees* taking narrow scope. In (42b), the negative existential occurs inside of the verb cluster. What is crucial is that here the negative existential cannot take scope over the higher verb. Example (42b) is only compatible with the reading that *Jan forced Valere to not eat any meat yesterday*.

- (42) a. da Jan Valere geen vlees deeg gisteren eten
that Jan Valere no meat made yesterday eat
b. da Jan Valere gisteren deeg geen vlees eten

This is almost a paradoxical situation. A VPR-complement must be transparent to permit the LD scrambling of the negative existential into the middle field of the matrix clause in (42a) but must be opaque to prevent LD scrambling or QR (another A' movement operation that in particular is thought to apply at LF) of the negative existential in (42b). In the next section, we will see that this paradox disappears once we apply the alternative account of VR to VPR-structures. Before we do that, let me point out another problem intrinsic to the scrambling analysis within the standard account.

I noted earlier that an element that has undergone "scrambling" into the matrix clause may take wide or narrow scope with respect to the matrix verb. It is important to note that such an element in its narrow scope reading always takes wide scope with respect to material that has undergone "VPR." So, for instance, (43a) in its narrow scope reading cannot mean that 'Jan made Valere three times read two books (possibly different ones at each occasion)'. Since in the standard approach the narrow scope reading is derived by reconstructing the scrambled element into its base position, it is hard to see how the preceding reading can be excluded.⁷ In other words, it is not clear what excludes a derivation of (43a), as illustrated in (43b).

- (43) a. da Jan Valere twee boeken deeg drie keers lezen
that Jan Valere two books made three times read
- b. da Jan Valere [twee boeken]_i t_{Extr} deeg [drie keers t_i lezen]_{Extr}

4.3.3.2 The alternative account

In this section, I will argue that VR- and VPR-constructions are basically the same, differing only in the amount of structure that can be pied-piped by AspP-movement into [Spec,CP] of the infinitival.

There is evidence that VPR-structures also involve movement of the infinitival TP and movement of the infinitival (extended) VP (= AspP). This evidence comes from the behavior of adverbs and adverbials in VPR. The adverb that occurs in the matrix domain in (44) can be interpreted as modifying the dependent infinitive. From my basic assumption that adverbs cannot undergo scrambling it follows that the adverb in (44) must have been pied-piped by the movement of a larger constituent. I have argued in section 4.3.2 that this larger constituent in VR-structures is the TP of the infinitival clause. Hence we can safely conclude that the adverb in (44) provides direct evidence for TP-movement in VPR-structures.

The VPR-structure in (44) differs from a typical VR-structure only in the amount of structure that undergoes movement into [Spec,CP] of the infinitival. In (44), a constituent larger than AspP has been moved into [Spec,CP]. The amount of structure that can be pied-piped by AspP-movement into [Spec,CP] seems to be variable, as is indicated by the different size of the bracketed material in (40).

- (44) a. da Valere drie keers deeg da boek lezen
that Jan Valere three times made that book read
'that on three occasions Jan made Valere read that book'
'that Jan made Valere read the book three times'
- b. da Jan Valere deeg drie keers da boek lezen
that Jan Valere made three times that book read
'that Jan made Valere read that book three times'

In this account the transparency/opacity paradox that I discussed in the previous section disappears. We can now dismiss this paradox as an artefact of a false scrambling analysis. Remember that the problem that the scrambling and extraposition analysis of structures like (44a) posed was the question of why it is that the adverb can undergo LD scrambling, that is, A' movement, into the matrix domain in sentences like (44a) before Spell-out, while it cannot undergo scrambling or QR into the matrix domain at LF if it is affected by VPR, as is illustrated in (44b).

Since in the alternative account the adverb in (44a) does not scramble into the matrix domain but is moved there via TP-movement, the question of whether VPR-complements are transparent does not even arise. Moreover, this alternative account also explains why material that appears in the matrix domain in its narrow scope reading with respect to the matrix verb necessarily has to take scope over all the material in the

embedded clause, as I pointed out in my discussion of (43) in the previous section. As we will see later, this fact follows naturally from the mechanics of the system.

In section 4.2, I argued that what was traditionally called scrambling in the West Germanic languages actually breaks down into two types of movement operations: an operation that obligatorily moves all DPs out of the VP into their licensing positions above manner adverbs and scrambling proper, which moves DPs to positions above frequency adverbs like *often* or *n-times*. In chapter 2, I discussed how scrambling affects the interpretation of the involved DP in the following way: A DP that is scrambled across such an adverb has necessarily wide scope with respect to that adverb but has necessarily narrow scope with respect to that adverb if it fails to undergo scrambling. If we assume that it is possible to pied-pipe the phrase that corresponds to the domain that contains these adverbs with AspP-movement into [Spec,CP], then it follows without stipulation that the DP in (43) necessarily has wide scope over the adverb in the VPR-complement: In more simple terms, in order for an element to move into the domain of the selecting verb via TP-movement, it has to take scope over the elements that stay behind and are pied-piped by movement of AspP, as is illustrated in (45). In (45), PPD stands for pied-piped domain, that is, the domain that has been pied-piped by movement of AspP.

- (45) da Jan Valere [_{PredP} [_{VP} deeg [_{CP} [_{TP} [twee boeken]_i [_{PPD} drie keers t_i lezen]]]]]

4.3.3.3 Conclusions

To summarize, I have provided a VO-based approach to VR that allows us to assume that all infinitival complements are CPs and does not employ rightward movement or unmotivated scrambling operations (of adverbs and predicates). Instead it employs movement of the infinitival AspP into [Spec,CP] of the infinitival clause and movement of the infinitival TP into [Spec,PredP] of the selecting verb. These movements are systematic and cyclic; that is, they take place in every infinitival clause in the same fashion. These movements occur for licensing purposes, as will be argued in section 4.4 later. The remaining movements of arguments are to be characterized as scrambling proper and occur for the same reasons that motivate scrambling of arguments in simple clauses. Finally, we have seen that VPR-structures and their (scopal) properties can be accounted for in the same manner, if it is assumed that in VPR-structures movement of the infinitival VP can optionally pied-pipe larger phrases.

The main argument that I provided for the account sketched earlier was that the distribution of DP-arguments, adverbs, and predicates in restructuring infinitives cannot be accounted for in terms of scrambling. At this point, the question arises of whether VR-constructions could not be derived in a simpler way in a VO-based approach in terms of licensing movement—of those elements that we argued resist scrambling but precede the verb cluster. Such an account would assume that VR-constructions are monoclausal, implying that the licensing positions for VP-internal material of all the verbs in a verb cluster occur above the VP of the highest verb (cf. Zwart [1993]). I have two comments to make about this alternative. First, such an account is possible in principle but would forestall a unified account of VR- and VPR-

constructions. In such an approach it must be assumed that the licensing positions for VP-internal material of the infinitive optionally can be projected "upstairs" or "downstairs." Second, within the monoclausal construal the question arises of how the licensing positions of the dependent infinitive(s) are ordered with respect to the licensing positions of the matrix verb (and with respect to each other). In chapter 5, I will show that in VR-constructions the licensing positions of the dependent infinitive occur lower than the licensing projections of the matrix verb, implying that there are two licensing domains present in these constructions, not just one. Furthermore, I will show in chapter 5 that the binding properties of coherent infinitives also imply the presence of more than one licensing domain.

In conclusion, an alternative monoclausal VO-based approach that employs only licensing movement of VP-internal material is both theoretically and empirically inferior to the account that I have provided earlier.

4.3.4 Implications of this account for the theory of remnant movement

In this account of restructuring, embedded infinitives can no longer be analyzed as (possibly referential) remnant categories that contain scrambling traces. Thus, the illicit cases of remnant scrambling that I discussed in chapter 1 (section 1.4) can no longer be ruled out by Attract Closest. In this account, embedded infinitives are simply infinitival VPs that contain traces of licensing movement, among which are traces left behind by Case movement. In particular, I have to find another explanation for the fact that these infinitival VPs may topicalize but cannot undergo scrambling in the matrix clause as is illustrated again in (46).

- (46) a. [zu lesen] hat das Buch keiner versucht
to read has the book nobody tried-PART
'Nobody has tried to read the book'
- b. ??dass [zu lesen] das Buch keiner versucht hat
that to read the book nobody tried has
'that nobody has tried to read the book'

My explanation of the contrast is rather simple. These infinitival VPs are predicates and as such resist scrambling. This explanation is based on the assumption that [Spec,CP], the so-called topicalization position, is a multi-purpose position that can host focused phrases, which are not necessarily referential, as well as discourse topics and sentence topics. While discourse topics are necessarily referential (token topics), sentence topics can be predicates or so-called type topics.

In chapter 2, I have argued that there are two types of triggers for scrambling in German: scope and specificity/familiarity. Thus, the assumption is natural that only quantificational expressions (for reasons of scope taking) and token topics (due to their specificity features) may scramble. In this approach, scrambling of predicates including VPs is ruled out under the assumption that the VP denotes an event-type (with the TP denoting an event-token). That the correct generalization is indeed un-

availability of predicates for scrambling is shown in (47). Example (47) shows that scrambling of a predicate is equally bad whether it is the entire predicate as in (47a) or only a remnant as in (47b) that undergoes scrambling.

- (47) a. ??dass [die Maria geliebt] Hans hat
that the Maria loved Hans has
- b. ??dass [geliebt] Hans die Maria hat
that loved-PART Hans the Maria has
'that Hans has loved Maria'

This observation is corroborated by the following facts. Recall that S-scrambling may also apply to predicates, as is illustrated again by the contrast between (48a) and (48b). Example (48a) involves illicit scrambling of the adjectival predicate across the position of the direct object. Example (48b) involves S-scrambling of a contrastive topic to the top of the middle field and is fine. As (48c) shows, this type of scrambling is also possible for a remnant VP.

- (48) a. ??dass Hans grün den Zaun strich
that Hans green the fence painted
'that Hans painted the fence green'
- b. dass so grün nur der Hans den Zaun streichen würde
that so green only Hans the fence paint would
'that only Hans could paint the fence so green'
- c. dass so geliebt die Maria nur er hat
that so loved the Maria only he has
'that only he loved Maria to such a degree'

4.4 Toward a theory of sentential complementation

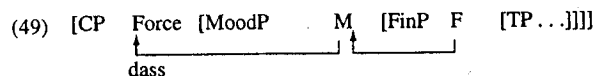
In this section, I propose an account of sentential complementation (see also Boscovic 1993) that will allow us to derive the movement operations argued for in section 4.3. The basic idea is rather simple. I will argue that the complementizer is responsible for licensing both V and T in an embedded clause and if the complementizer is deficient, both V and T have to be licensed in the matrix clause. But let us first see how sentential complementation works in clauses with a non-deficient complementizer.

4.4.1 Basic assumptions about sentential complementation

I assume that there is a licensing dependency between the matrix verb, the complementizer, and the morphological and temporal properties of the embedded verb. The complementizer acts as a placeholder for the c-selectional requirements of the matrix verb. A matrix verb may select a finite or nonfinite indicative or subjunctive complement.

In addition, I assume that the complementizer is essential for rendering a sentential complement (a TP) into an argument. I propose that the complementizer nominalizes the clause and in this way qualifies it as an argument of the higher verb. Given these assumptions, the complementizer *dass* ('that') in German can be assigned the morphological features [+finite, +indicative] and the categorial feature [+N].

Following recent work on the split C-domain (cf. Rizzi [1997] and Haegeman [1996c]), I assume that the C-domain is made up of various functional projections. I assume that the complementizer is inserted in FinP, where it licenses the finiteness of the clause and moves through a Mood Phrase where it licenses the clause as indicative or subjunctive (cf. Roussou [2000]), to Force, constituting the highest head in the C-domain. This is illustrated in (49), where it is assumed that the traditional CP corresponds to ForceP (CP = ForceP). Then the entire CP is moved into [Spec,F3P] of the selecting verb, as I have assumed earlier, to check the features of the complementizer against the c-selectional features of the matrix verb.



As I have stated earlier, I assume that restructuring verbs s-select a proposition. The canonical syntactic representation of a proposition is a CP. The c-selectional features of a CP-complement that I discussed earlier are satisfied or checked by licensing movement of the CP, given that C is specified (or valued) for these features. If the complementizer is deficient, that is to say, is not specified for these features, then the relevant features will be checked by those parts of the embedded clause that are dependent on the complementizer by movement into their licensing positions in the matrix clause. In the following sections, I will argue that these parts are the infinitival AspP and the infinitival TP. This I assume is the reason that the infinitival clause is split up in coherent constructions.

To summarize, the preceding approach is based on the assumption that both V and T are licensed by C in embedded clauses. If the licenser is deficient, then the licensee will move on to the next higher licensing position. This case can be compared to the Infl-head in a raising construction that fails to license the embedded subject. The embedded subject will then undergo (further) licensing movement to a Case-checking position in the matrix clause. In the following, I will present some arguments to show that V and T in an embedded clause are indeed dependent on C.

First, I will develop that the complementizer is essential for rendering a sentential complement (a TP) into an argument. I will argue that the complementizer plays a crucial role in linking the embedded TP to the matrix event time. (cf. Den Besten [1983], Enç [1987], Guéron and Hoekstra [1988], among others). In section 4.4.2, I discuss the temporal interpretation of infinitives and argue that the event denoted by an infinitive is not anchored with respect to a local Tense-predicate but is directly dependent in its interpretation on the matrix verb. This dependency between matrix verb and the infinitival Tense-head is mediated by the complementizer. In section 4.4.3, I argue that the complementizer in general serves as a placeholder for the c-selectional properties of the matrix verb and thus becomes essential for licensing the infinitival verb as well.

Having established that there are two dependency relations, one between C and

T and one between C and V, I will discuss two ways in which these dependencies might be encoded syntactically. In section 4.4.4, I will sketch an account that assumes that these dependencies are established in terms of head movement of V and T to the licensing head C. There I will argue that T-C embodies a control relationship that when disrupted leads to overt raising of the infinitival AspP and the infinitival TP.

In section 4.4.6, I will sketch an account that assumes that these dependencies are established in terms of XP-movement of the infinitival AspP and the infinitival TP into designated licensing positions in the C-layer. This will be the account that I adopt at the end, since it can best handle the complex data posed by VP-topicalization and CP-extraposition.

4.4.2 The temporal interpretation of infinitives

In the following discussion of the temporal properties of infinitives, I follow Reichenbach (1947) in assuming that Tense defines a relation between speaking time and reference time and Aspect a relation between reference time and event time. In syntactic terms, this means that the interpretation/licensing of the Aspect Phrase depends on the interpretation/licensing of the Tense Phrase. This will become important when I talk about the temporal licensing of restructuring infinitives later.

Since the seminal work by Enç (1986, 1987) on the temporal interpretation of linguistic expressions, we know that verbs must be temporally anchored. Since then much research has been conducted on this topic, which reveals that it is the role of Tense to anchor the event denoted by the verb with respect to the "speaking time" in matrix clauses and with respect to the speaking time or the "event time" of the matrix verb in finite complement clauses and relative clauses (see especially the work of Hornstein [1990], Stowell [1993], and Zagona [1990] for a detailed discussion of these issues). Infinitival clauses do not contain a Tense-predicate. Formally, this is immediately obvious from the fact that infinitives are not inflected for Tense. But also from an interpretative point of view, it is clear that infinitives do not contain the abstract Tense-predicates (+/-past) that have been posited for the temporal interpretation of matrix clauses and finite embedded clauses. The temporal properties of infinitives cannot be accounted for by employing these predicates. On the contrary, it seems that the temporal interpretation of an embedded infinitive is highly dependent on semantic properties of the matrix verb. Some verbs that select to-infinitives require a simultaneous interpretation of matrix event and embedded event, like the English verb *try*, while some verbs that select to-infinitives require a posterior interpretation of the embedded event with respect to the matrix event. The English verb *promise* is an example for this class of verbs. Most verbs that select bare infinitives require a simultaneous interpretation of the matrix event and the embedded event, while modal verbs that also select bare infinitives often require a future interpretation of the embedded event with respect to the matrix event.⁸ Thus, it seems that the temporal interpretation of an infinitival complement does not correlate with its syntactic property of being a bare infinitive or a to-infinitive.

However, if we look at the semantics of the German verbs *versprechen* ('promise') and *wollen* ('want'), the former selecting a to-infinitive, the latter selecting a bare infinitive, it becomes clear why their infinitival complements are temporally interpreted alike: One promises to do something in the future as much as one can want to do something in the future.

Pesetsky (1992) notes that under a non-habitual reading, eventive predicates can be embedded under control predicates but not under ECM-predicates and cites the contrast in (50) (cf. also Martin [2001]). This contrast follows, so he argues, if eventive predicates contain a temporal argument that must be bound by Tense. He follows Stowell (1982), who proposes that ECM-infinitives, in contrast to control infinitives, are not specified for Tense. Stowell (1982) argues that the Tense in control infinitives denotes a *possible future* and that it lacks the feature [+/-past] and notes that the time frame of ECM-infinitives is the same as the matrix time frame.

- (50) a. John tried to bring the beer
b. *John believed Peter to bring the beer

Though this particular observation in (50) is valid, the conclusions that Pesetsky (1992) draws from it are too strong. First note that ECM-verbs that select bare infinitives can embed eventive predicates (51a). Furthermore, there are ECM-verbs that select to-infinitives that also allow eventive predicates, like *expect* and *want*. In the case of these verbs the time frame of the matrix also differs from the time frame of the infinitive, as is illustrated in (51b-c).

- (51) a. I saw John bring the beer
b. I expected John to bring the beer
c. I wanted John to come to the party tomorrow

Second, it is not clear what the Tense of control infinitives should be. Gamon (1992) argues that control infinitives have to be divided into three different groups according to their temporal properties. He discusses the temporal properties of the control verbs *remember*, *try*, and *promise* in English. He notes that in the case of *remember* and *promise* the event of the embedded clause follows the event of the matrix clause ($e_2 > e_1$), while in the case of *try* the two events are contemporaneous ($e_2 = e_1$). Only *remember* and *promise*, as opposed to *try*, allow their complements to have a shifted (future) reading (52) and to contain a perfect predicate (53).⁹

- (52) a. At six o'clock, John remembered/promised to take his medicine at seven o'clock
b. *At six o'clock, John tried to take his medicine at seven o'clock
- (53) a. ?John remembered to have done his work ($e_2 < e_1$)
b. John promised to have done his work ($e_2 > e_1$)
c. *John tried to have done his work

Gamon notes, however, that the perfect complements of *remember* and *promise* differ in their temporal interpretation as is indicated in (53): The perfective complement in (53b) has a future-perfect reading, while the perfective complement in (53a) can only have a past-shifted reading with respect to the matrix event. Although Gamon's observations are basically correct, I think that he confounds two meanings

of *remember* in (52) and (53). One can remember a fact or a certain state of affairs or one can remember one's obligation or intention to do something. In the latter meaning the infinitival complement has modal force and its temporal properties are exactly like the temporal properties of the infinitival complement of *promise* in German. The infinitival complement of *remember* in its first (non-modal) reading behaves like the infinitival complement of the ECM-verb *believe*, which allows for a perfect complement that can only have a past-shifted reading (54a).

- (54) a. I believed John to have brought the beer
b. I believed John to be bringing the beer

I argue that according to their temporal properties, infinitival complements fall into two categories: the *promise*-category and the *try*-category, with the properties as discussed earlier. The ECM-verb *believe* and the verb *remember* in its non-modal meaning belong to the *try*-category. The basic interpretation of their infinitival complements is a simultaneous reading with the matrix event, as is shown for the ECM-verb *believe* in (54b). *Try*, like many ECM-verbs, does not allow a perfective infinitival complement. I believe that this fact does not need to be accounted for in syntactic terms but directly follows from what it means to try to do something. The attempt and the attempted event necessarily occur simultaneously. Similarly, it follows from the meanings of these verbs that the ECM-verb *believe* allows for a perfective complement while the control verb *remember* in the relevant sense requires a perfective complement since one cannot remember what has not yet happened. That the ECM-verb *believe* seems to select a stative complement (cf. [50b] and [54b]) I consider an idiosyncratic property of this verb.

According to Pesetsky's (1992) conjecture about Tense in infinitives, the complement of a control verb should not behave like the complement of an ECM-verb. However, if the temporal properties of infinitival complements directly follow from the semantics of the verbs that select them, as I assume, then the parallelism in the interpretation of (53a) and (54a) is not surprising. Again, you may remember that a certain event happened in the past and you may also believe that a certain event happened in the past.

In this book, I cannot undertake the interesting task of further exploring the exact nature of the interaction between certain semantic properties of verbs and the temporal properties of their infinitival complements. What I have tried to argue for is that the temporal properties of infinitival complements follow from semantic properties rather than from syntactic distinctions like control infinitive versus ECM infinitive or to-infinitive versus bare infinitive.

To summarize, I conclude that the event denoted by an infinitive is not anchored by Tense but directly dependent on the matrix verb. I assume that verbs may select two different types of infinitival complements, the *try*-category and the *promise*-category.

Though an event denoted by an infinitive is not directly dependent on a Tense-predicate, it is clear that infinitival complements do contain a syntactic Tense-head. This head is relevant for licensing PRO, clitics, and temporal adverbs. This head, being semantically empty must be identified somehow in order to meet the Condition of Full Interpretation. In section 4.4.4, I propose that the temporal dependency of an infinitive on the matrix verb is syntactically encoded by a control relation that is also responsible

for the identification of the infinitival Tense-head. Before I do that I want to discuss another condition of the matrix verb that seems to be encoded in C.

4.4.3 Morphological selection

A complementizer not only serves as a placeholder for properties like finiteness or modality that can be taken to be selected by the matrix verb but also represents features that define the morphological type of the selected infinitive that cannot be derived from the semantic properties of the matrix verb. For instance, whether a verb selects a bare infinitive or a to-infinitive is arbitrary and cannot be determined on semantic grounds. In German, the verb *wünschen* ('wish') selects a to-infinitive and the verb *wollen* ('want') selects a bare infinitive. I do not see how this can be made to follow from a semantic distinction between the two verbs, since there does not seem to be any. So complementizers also represent next to the finiteness feature and the modal feature discussed earlier, features pertaining to the morphological category of the infinitival selected by the matrix verb. I propose that movement of the infinitival VP to the selecting verb is related to a deficient complementizer that lacks this type of morphological feature.

4.4.4 An X⁰-movement account of sentential complementation

In this section, I propose that the temporal dependency of an infinitive on the matrix verb is syntactically encoded by a *control relation*, which ensures that a temporal index is assigned to the infinitival Tense-head. This control relation is mediated by C⁰ in the following way: I propose that control is a (local) coindexing relation between heads (see also chapter 5 for further discussion of control in infinitives). This mechanism ensures that the matrix event time is assigned to C⁰ in the infinitival clause. I have argued earlier that a matrix verb may select two different types of infinitival complements: the *try*-category and the *promise*-category. I propose that this is syntactically encoded by allowing the matrix verb to select one out of two different types of complementizers: A verb may select a complementizer with a [+modal] or with a [-modal] feature. A complementizer with the feature [+modal] will assign a temporal index to T⁰ that follows the matrix event time assigned to C⁰ by control, yielding the interpretation that the embedded event follows the matrix event, disregarding the aspectual information in the infinitival clause ($e_2 > e_1$). A complementizer with the feature [-modal] will assign a temporal index to T⁰ that overlaps with the temporal index assigned to C⁰ by control, yielding the interpretation that matrix event and embedded event occur (partially) simultaneously ($e_2 = e_1$). The assignment of a temporal index by the complementizer to the infinitival Tense-head requires that the infinitival Tense-head enters into a checking relation with the complementizer. I propose that this checking relation is normally established via head movement of T to C. The event denoted by the infinitive is then anchored to the index assigned to T⁰ in the infinitival complement (by a dependency that involves the Tense-head and the Aspect-head).

4.4.5 The licensing of VR- and VPR-complements

I propose that in VR- and VPR-infinitives the control relation is disrupted due to a defective complementizer and that the temporal dependency between matrix verb and infinitive is fixed by a movement relation. If the infinitival complementizer can-

not transmit a temporal index to the infinitival Tense-head due to its deficiency, the infinitival T⁰ becomes inert and the event denoted by the infinitive must be directly anchored to the matrix verb by moving the infinitival VP (its Aspect Phrase) into [Spec,CP] of the infinitive and further up into the licensing domain of the selecting verb. In the licensing domain of the matrix verb, the infinitival Aspect Phrase is then assigned a temporal index. Since with infinitives the temporal relation between matrix verb and embedded verb follows from the semantic properties of the selecting verb, as I have argued in section 4.4.2, it is sufficient that the infinitival AspP simply enters into a checking relation with the selecting verb.

To summarize, the infinitival event, denoted by the infinitival AspP, is normally temporally located via the infinitival TP. In restructuring infinitives, due to the deficiency of the complementizer, the infinitival TP fails to specify a temporal index for the local AspP. Hence the infinitival AspP undergoes movement into the domain of the selecting verb to be linked to the matrix event time directly. The rationale behind this scenario is the following idea: Next to the control relation in the nominal domain, there is also a control relation in the temporal domain in infinitival clauses. If the control relation is disrupted due to a deficient complementizer, the control relation is fixed by raising the *temporal* argument of the infinitival clause, that is, the infinitival AspP, into a checking position of the temporal licenser, that is, the selecting verb. The nature of this functional head in the V-domain that is responsible for temporal licensing of infinitival verbs will be discussed in chapter 6, where the formation and structure of verb clusters is dealt with in detail.

Movement of the infinitival VP into [Spec,CP] is necessary in order to license the deficient complementizer. I propose that complementizers have either an [N] (most embedded clauses) or a [V] feature (matrix clauses and embedded V2-clauses). The [N] feature is checked by the insertion of a complementizer. If the complementizer is absent or deficient, C must be licensed with a [V] feature via verb movement.

If the infinitival TP is not assigned a temporal index, it fails to denote an event-token (with the VP denoting an event-type) and thus will not qualify as an argument of the selecting verb and will have to restructure as predicate by moving into [Spec,PredP] of the selecting verb.

As I have argued at the end of section 4.3, VPR differs from VR only in the amount of structure that can be pied-piped by movement of the infinitival AspP into [Spec,CP] of the infinitival clause.

One final comment is in order: If the abstract dependencies between C and T, and C and V, were syntactically encoded via head movement, then it would follow from considerations of locality that there must be head movement of V to T in German at some point in the derivation and that there is no direct relationship between V and C in embedded clauses.

4.4.6 An XP-movement account of sentential complementation

The XP-movement account, however, assumes that there is such a direct relationship between V and C (unmediated by T). This relation involves the morphological properties of the dependent verb selected by the matrix verb.

In section 4.4.2, I argued that it is an idiosyncratic feature of the matrix verb whether it selects for a to-infinitive or a bare infinitive. I want to generalize this ob-

servation and assume, following Bech (1955/1983), that the matrix verb may select for the *status* of its sentential complement. Bech distinguished three statuses of the nonfinite verb. The first status is the bare infinitive. The second status is the to-infinitive, and the third status represents the participle of the verb.

We can subsume all different forms of the verb in one paradigm if we treat finite verbs as representing zero-status. In this manner, Rizzi's (1997) finiteness-feature in C can be related to a lexical entity, namely, the paradigm of the different morphological categories of the verb. Bech conceived of the different morphological categories of the verb as verbal "Cases." If Cases need to be licensed, then also the specific verbal form selected by the higher verb needs to be licensed.

I propose, following Rizzi (1997), that this inflectional category should receive independent syntactic status. I also propose, generalizing Rizzi's FinP, that the verb form, its status, is checked by movement of the extended VP (the Aspect Phrase) into the Status Phrase in the C-layer of the clause, as illustrated in (55).

- (55) a. [_{CP} \bar{C} [_{SP} S(tatus) [_{TP} T [_{AspP} V]]]] checking of the selected status →
 b. [_{CP} C [_{SP} AspP S(tatus) [_{TP} T t_{AspP}]]]

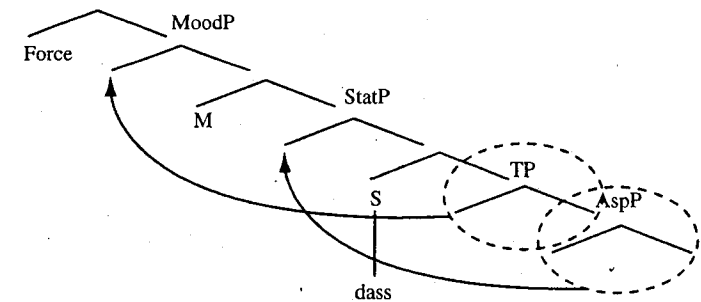
In section 4.4.2, I have argued that the temporal interpretation of an infinitival clause depends on the modality of the complementizer selected by the matrix verb. I have assumed that there are [+/- modal] complementizers that can modify the temporal interpretation of the infinitival Tense-head. Now I would like to propose that the modal feature of complementizers is projected in a separate functional head, Mood, in the C-layer (cf. Roussou [2000]).

Furthermore, I assume that the modality of a complement is checked by TP-movement into [Spec,MoodP], as illustrated in (56). TP- and AspP-movement could be taken to occur in embedded as well as in matrix clauses, modulo V2, that is, head movement of the verb to an empty C head. In matrix clauses, Mood and Status are not determined by a higher verb but by the (speech-act intentions of the) speaker and the direct dependencies that exist between Mood and Status (cf. the imperative mood requiring specific finite/nonfinite forms in the languages of the world).

- (56) a. [_{CP} C [_{MP} Mood [_{SP} S(tatus) [_{TP} T [_{AspP} V]]]]] Status Checking →
 b. [_{CP} C [_{MP} Mood [_{SP} AspP S(tatus) [_{TP} T t_{AspP}]]]] Temporal Anchoring →
 c. [_{CP} C [_{MP} TP Mood [_{SP} AspP S(tatus) t_{TP}]]]

As outlined earlier, the complementizer is inserted into the head position of the Status Phrase (the former FinP) and checks the morphological form of the dependent verb, its finite or nonfinite status. Then it moves on to the head of the Mood Phrase to check the modal category of the embedded clause. Depending on the value of the Mood-head, the embedded TP in its Specifier will be assigned a value for the reference time that either equals or follows the matrix event time. Finally, the complementizer moves into the highest head position in the C-domain, possibly to check the force of the clause. For illustration consider (57) below in conjunction with (49) earlier.

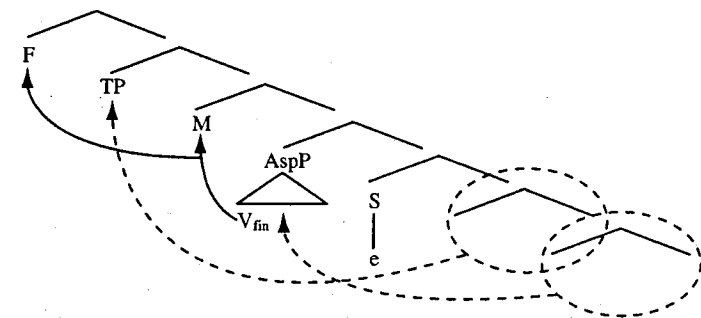
- (57) licensing movements in an embedded clause



Under these assumptions, there is no stage in the derivation in which the verb would move to T. We could assume that the relationship between V and T is established indirectly. In embedded clauses, movement of the complementizer creates a chain between SP and MP, the Specifiers of which are occupied by AspP and TP, respectively. In matrix clauses, the finite verb can be taken to move from [Spec,SP] to the Mood-head, establishing a Spec-head relation between the finite verb and the TP.

If this approach is correct, then Verb Second can be characterized as a very local operation that involves movement of M to C that pied-pipes the finite verb and the V2-property can be assumed to follow from a requirement that the highest Specifier in the C-domain, [Spec,ForceP] must be filled with lexical material (phonological EPP), as is illustrated in (58). However, I will not venture into providing a full-fledged account of V2 in a split C-domain. Restricting myself to the syntax of nonfinite verbs, I will leave this issue for further research.

- (58) licensing movements in a V2-clause



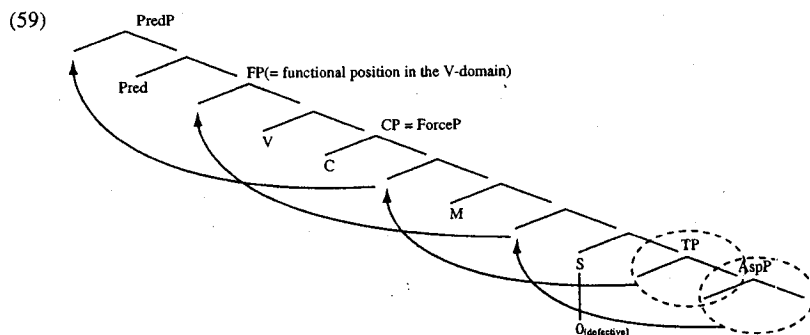
Alternatively, we may assume that the infinitival AspP moves through TP to check Tense on its way to [Spec,SP]. It remains to be seen whether this presumed type of VP-movement is the same as the type of VP-preposing that Kayne (1998) proposed for English in order to account for the distribution and interpretation of negative phrases. Hroarsdottir (2001) argues that verb movement to a clause-medial

position was in fact VP-movement (to T or to a functional head just below T) throughout the history of Icelandic. Also, Haegeman (2001, 2002b) argues on the basis of the position of the negative marker in WF that the verb moves to Tense in West Germanic. In her account, though, the presumed movement operation is head movement.

Given that rich morphology implies that German has overt V to T (cf. Vikner [1995]) and assuming, for the time being without argumentation, that this operation is XP-movement, I have to slightly change our assumptions about the licensing position of the infinitival subject. Under these assumptions, I analyze PRO as occupying the Specifier of an Agreement Phrase directly above TP rather than [Spec,TP] itself. The Tense-head would move to this Agreement-head to license PRO, and this Agreement Phrase would then move to [Spec,MP] in the CP-layer.

In this account, the very same movements that I argued constitute restructuring, namely, movement of TP and AspP, already occur in the simple clause. Restructuring verbs then differ from non-restructuring verbs only in that they fail to license the infinitival TP and the infinitival AspP in the embedded clause. The reason again is a deficient complementizer that is not (fully) valued for the features checked in MP and SP. The deficiency of the complementizer can be thought of in two ways. First, it can be taken to fail to license the syntactic heads M(ood) and S(tatus), implying that the infinitival TP and the infinitival AspP cannot be licensed in the embedded clause (cf. Haegeman [2002a], and Starke and Cardinaletti [1999]) for different applications of this idea). In this account, the infinitival AspP first moves into [Spec,ForceP] in order to license the deficient complementizer and then into a licensing position of matrix verb to check its status, while the infinitival TP, not denoting an event-token, moves into PredP of the matrix verb to be licensed as a predicate.

Alternatively, if the comparison with a defective Infl-head in raising constructions is indeed relevant, the syntactic heads Mood and Status can be taken to be projected but remain partially inert due to the failure of the complementizer to value them completely (cf. the essays in Mauck and Mittelstaedt [2002]). In this scenario, the infinitival TP and AspP would just pass through these positions, which, with a non-defective complementizer, also constitute the final Spell-out positions of TP and AspP in embedded clauses. This is illustrated in (59).



We may assume that the Status-head just checks the nonfinite status of the embedded Aspect Phrase but fails to check whether it is a to-infinitive, a bare infinitive, or a participle, while the Mood-head can be taken to check whether the infinitival clause is subjunctive or indicative but fails to assign a temporal index to the infinitival TP.¹⁰ Thus, the infinitival TP and the infinitival AspP move on into their licensing positions in the matrix clause, as is illustrated in (59).

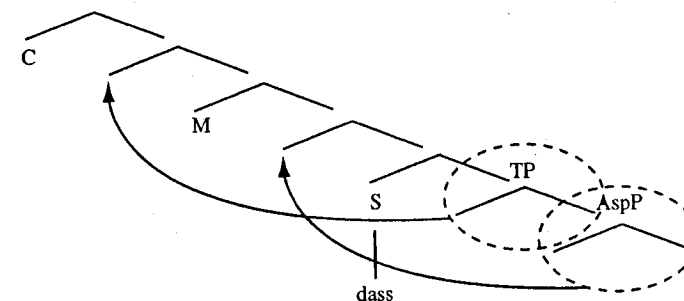
In both versions, independently of whether we assume that the Mood Phrase and Status Phrase are projected or not, the defective CP cannot be taken to constitute a strong phase, since otherwise the infinitival TP, not being in the left edge of the phase head, that is, [Spec,CP], could not move to [Spec,PredP] of the matrix verb. I will introduce the phase condition and its relevance for verb cluster formation and VP-topicalization in chapter 6.

In the following, I will adopt the XP-movement account in the version where both MP and SP are projected, since as I will discuss later, it will allow us to provide a relatively simple account of CP-extraposition.

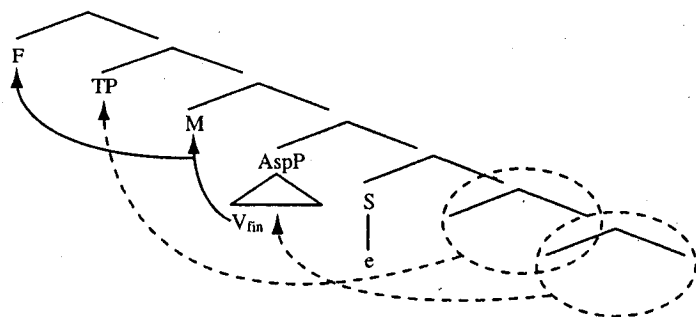
4.4.7 Generalized licensing

I have outlined an account of sentential complementation from which the movements necessary in restructuring contexts, namely, AspP- and TP-movement, fall out naturally. In this account, the movements of AspP and TP are not special movements anymore that just occur in restructuring contexts but are regular licensing movements that occur in a parallel fashion in every clause in German. Furthermore, the account sketched earlier allows us to treat the movements that occur in restructuring constructions in a parallel way to the movement of subjects in raising constructions: The functional structure of the embedded clause is deficient in a way that forces elements that depend on it to move to respective licensing positions in the matrix clause. All the relevant structures and movements are illustrated again in (60a-c).

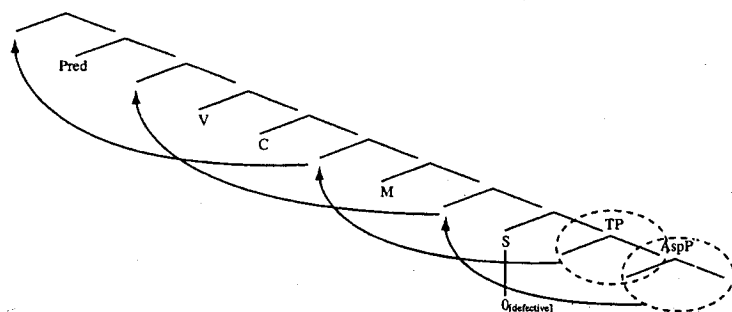
(60) a. licensing movements in an embedded clause



b. licensing movements in a V2-clause



c. licensing movements in a restructuring clause



Coherent Infinitives in German

Because of their peculiar properties, coherent infinitives have been extensively studied within modern German linguistics. The list of German linguists who have contributed descriptions and analyses of coherent infinitives is rather long (cf. Bierwisch [1990], Fanselow [1989], Geilfuß [1991], Grewendorf [1987], Haegeman and van Riemsdijk [1986], Haider [1991], Höhle [1989], Lötscher [1978], Kroch and Santorini [1991], Olsen [1981], Reis [1976], Rosengren [1992], Stechow [1990], Sternefeld [1989]).

As Rosengren (1992) points out, despite all this research on coherent constructions, German linguists so far have failed to provide an intuitively convincing and a theoretically consistent description and definition of what coherent verbs are. Recent advances in theory, in particular the proliferation of functional categories (cf. Cinque [1999]), have allowed us to take a complete new perspective on restructuring verbs, opening up the possibility of treating them as occupying functional heads in the clause (cf. especially Cinque [2001] for an interesting proposal that restructuring verbs in Italian are “functional” verbs). Wurmbrand (2004) draws an important distinction between lexical and functional restructuring verbs, arguing that restructuring in German “exploits” lexical restructuring verbs, since the order restrictions between several restructuring verbs, which are typical for functional restructuring verbs in Italian, do not obtain in German.

For many years now the debate has been centered on the question of whether coherent constructions are monosentential structures that involve complex verbs or bisentential structures that involve an embedded infinitive. Recently, Wurmbrand (2001) proposed a new account of restructuring, building largely on Haider’s (1991)

empirical arguments for the monoclausal nature of coherent to-infinitives in German. Within the proponents of the biclausal approach the question was put forward of whether the embedded infinitive in coherent constructions is a CP, an IP, or a mere VP (cf. Sabel [1996] and Roberts [1997] for a more recent treatment of restructuring infinitives in this paradigm).

In the previous chapter, I argued in favor of a biclausal approach that assumes that infinitival complements even in coherent constructions are full CPs. In this chapter, I will provide two empirical arguments against a monoclausal account of restructuring. (1) I will show in 5.1.1 that adverbs in restructuring contexts can co-occur in an order that is impossible in simple sentences, as is schematized in (1).

- (1) a. [_{CP} Adv1 Adv2 V2 V1]
 b. *[_{CP} Adv1 Adv2 V1/V2]
 c. [_{CP} Adv2 Adv1 V1/V2]

In (1a), the first adverb (Adv1) modifies the matrix verb (V1), while the second adverb (Adv2) modifies the embedded verb, which has been restructured (V2). As (1b) indicates, there are cases in which two adverbs can modify neither the matrix verb nor the embedded verb in the given order. In these cases, a grammatical monoclausal sentence is only possible if the order of the two adverbs is reversed, as shown in (1c).

This disparity between the possible orders of adverbs in simple clauses and in restructuring contexts follows straightforwardly in my account, which assumes that the middle field in structuring infinitives comprises more than one TP, that is, more than one licensing domain for adverbs.

(2) I show that the binding properties in restructuring infinitives differ from the binding properties of simple clauses. In section 5.1.2, I will demonstrate that the binding properties of coherent infinitives of ECM-verbs differ from the binding properties of ditransitive verbs. I will argue that the binding properties of ECM-infinitives follow directly if it is assumed that ECM-infinitives comprise more than one TP.

In section 5.2, I will compare my approach with Haider's (1986, 1987, 1991) monoclausal account in terms of complex verbs and take issue with his claim that a biclausal approach fails to account for the essential properties of to-infinitives in German. Coherent to-infinitives in German allow for the so-called *long passive*, as is illustrated in (2), and have rather idiosyncratic binding properties.

- (2) Der Zaun wurde zu reparieren versprochen
 the fence was to repair promised
 'Someone promised to repair the fence'

In, for example, an object control structure without restructuring, the matrix subject can be coreferent with an embedded object pronoun (3a). The fact that this option disappears in its restructuring variant (3b), together with the availability of long passives, has been taken as evidence for the monoclausality of restructuring to-infinitives. Note that (3b) becomes ungrammatical if the embedded object pronoun is replaced with an anaphor (4a). The fact that the Accusative anaphor in (4a) cannot

be bound by the Nominative subject *Hans* is problematic for the monoclausal approach, since this binding relation is, of course, available in a clearly monoclausal structure projected by a triadic verb, as is shown in (4b). I will show in section 5.2 that the binding properties of both pronouns and anaphors can be accounted for straightforwardly in a biclausal approach.

- (3) a. weil Hans_i ihr_j geraten hat, [PRO_j ihn_{vk} zu waschen]
 since Hans her recommended has him to wash
 b. weil Hans_i ihn_{vk} ihr zu waschen geraten hat
 since Hans him her to consult recommended has
 'since he recommended to her to wash him'
- (4) a. *weil sich_{ij} ihr_j der Hans_i zu waschen geraten hat
 since herself/himself her the Hans to wash recommended has
 'since Hans recommended to her to wash herself/himself'
 b. weil sich_i ihr der Hans_i vorgestellt hat
 since himself her the Hans introduced has
 'since Hans introduced himself to her'

To summarize, I will demonstrate in this chapter that, on the one hand, a biclausal approach can account for the properties of the infinitival complements of modals and ECM-verbs as well as for the rather idiosyncratic properties of to-infinitives in coherent constructions and argue that, on the other hand, Haider's treatment of coherent to-infinitives is incapable of accounting for the properties of coherent constructions of modals and ECM-verbs.

5.1 Evidence for biclausality

5.1.1 Modal verbs

In this section, I want to argue that infinitival constructions of modal verbs have biclausal properties. First, note that coherent constructions of modal verbs allow for two distinct time references. This is illustrated in (5).

- (5) a. weil sie der Hans gestern morgen besuchen wollte
 since her the Hans yesterday tomorrow visit wanted
 b. weil der Hans gestern sie morgen besuchen wollte
 since the Hans yesterday her tomorrow visit wanted
 'since Hans wanted yesterday to visit her tomorrow'

If there are two adverbial modifications, some speakers prefer the order in (5b), where the pronoun has not scrambled into the matrix clause, over the order in (5a). But this preference is immaterial for my argument here.¹ In general, a simple clause allows for only one independent time reference.² Time adverbials are standardly assumed

to modify the reference time in a Reichenbachian system of Tense. The reference time is located with respect to the speaking time by a temporal predicate in TP. Thus, it seems that two independent time modifications require two independent TPs.

It has been observed that in certain complex tenses a time adverbial can modify two time points in the temporal structure. For instance, in the past perfect a time adverbial may specify the event time (6b) or the reference time (6c). However, as (6d) shows, it is not possible to specify the event time and the reference time with a separate time adverbial.³ Compare in this respect (6d) with (7). Example (7) contains two time adverbials, each of which specifies the temporal location of a distinct event denoted by an independent clause.

- (6) a. He had visited her at two o'clock
 b. the visiting took place at two o'clock
 c. at two o'clock he was in a state of having visited her earlier
 d. *At four o'clock he had visited her at two o'clock
- (7) Um 2 Uhr hat er sie um 4 Uhr besuchen wollen
 at two o'clock has he her at four o'clock visit want-IPP
 'At two o'clock he wanted to visit her at four o'clock'

Another argument in favor of a biclausal analysis is the observation that coherent constructions of modals can host two adverbials that cannot co-occur in a single clause with the same meaning or in the same order. As (8) shows, two adverbs can occur in an order in a coherent infinitival construction (8a) that is unavailable in the simple clauses made up of either of the two verbs that appear in the coherent construction (8b–c). As (8d) shows, these adverbs can only co-occur in a single clause in the opposite order.

- (8) a. weil Peter mich schon lange heute besuchen wollte
 since Peter me already for-a-long-time visit wanted
 'Already for a long time has Peter wanted to visit me today'
- b. *weil mich Peter schon lange heute besucht hat
 since me Peter already for-a-long-time today visited has
- c. *weil das Peter schon lange heute wollte
 since that Peter already for-a-long-time today wanted
- d. weil mich Peter heute schon lange besucht hat
 since me Peter today already for-a-long-time visited has

It is important to note that the preceding tests for biclausality can be combined with other diagnostics of transparency that will be introduced in section 5.2. Example (9) shows that multiple time reference is possible in sentences with a topicalized infinitive (9a) and long extraposition, which are two of the diagnostics held relevant for coherent infinitives.

- (9) a. besuchen hat sie der Hans schon gestern morgen wollen
 visit has her the Hans already yesterday tomorrow want-IPP
 'as for visiting her, this is something that John has already yesterday wanted to do tomorrow'
- b. weil er die Tür gestern morgen öffnen wollte, die zur Gruft führt
 since he the door yesterday tomorrow open wanted that leads to the grave

5.1.2 ECM-verbs

It is often observed that the vast majority of restructuring verbs that take bare infinitival complements do not allow for distinct time references. These are the modals *können* ('can'), *sollen* ('shall'), *müssen* ('must'), *dürfen* ('may'), the ECM-verbs *hören* ('hear'), *sehen* ('see'), *fühlen* ('feel'), and the causative/permissive verb *lassen* ('let'). For instance, Wurmbrand (2001) takes this property, namely, the possibility of only a single temporal reference, as a defining characteristic of restructuring verbs. From this semantic observation Wurmbrand believes to be allowed to directly deduce the syntactic structure of the complements of restructuring verbs. In her analysis, the complements of restructuring verbs lack a CP- and a TP-layer. Restructuring verbs in her system only take Aspect Phrases as complements and the modal verb *wollen* is treated as an exception.

My take on this particular view is the following: The observation is correct, but the conclusion drawn from it is wrong. That the vast majority of these verbs do not allow for two (or several) distinct temporal references is a lexical semantic property of these restructuring verbs and should not be made a syntactic characteristic of restructuring itself. To draw a comparison, PRO in contexts of obligatory control is anaphoric. But this observation has not led people to assume that PRO is missing in these contexts. However, if Tense is anaphoric, people tend to take this as evidence that the embedded clause lacks a TP.

In my opinion, this conclusion is completely unwarranted. I will later argue that the temporal interpretation of infinitives is established via control, which is a lexical property of the selecting verb. That in "see X come" or in "have X come" matrix and embedded event obligatorily overlap follows from what it means to directly perceive an event happening and from what it means to directly cause an event to happen. I will later give a list of *syntactic* characteristics that define all restructuring verbs that take bare infinitival complements, including *wollen* ('want'), plus all restructuring verbs that take to-infinitives as complements that do or do not allow for more than one distinct temporal reference.

In the following, I want to investigate the binding properties of ECM-infinitives. This brief investigation will reveal that coherent constructions of ECM-verbs embody two (distinct) binding domains. In the following examples, the order of arguments, if not indicated otherwise by coindexed traces, is always matrix subject > ECM-subject > ECM-object.

Example (10) shows that in a typical coherent construction all arguments, the matrix subject as well as the embedded subject and object, can appear in the matrix clause. Since the negation in (10a–b) can have matrix scope (the most natural reading),

the embedded subject and object must have moved into the matrix TP, after restructuring has moved the embedded TP into [Spec,PredP] of the matrix verb (10c). I will take this characteristic as the defining property of a coherent construction.

- (10) a. weil er sie ihn nicht waschen ließ
since he her him not wash let-Past
- b. weil er sie ihn nicht waschen sah
since he her him not wash saw
- c. [CP weil [TP₁ er sie_i ihn_j [nicht [PredP [TP₂ t_i t_j] waschen ließ/sah]]]]

Note that the arguments in a coherent ECM-construction behave very differently from the arguments of a triadic verb. With triadic verbs both object pronouns have to be disjoint from the subject, as expected (11c). In coherent constructions with ECM-verbs, the embedded subject must be disjoint from the matrix subject, while the embedded object can be coreferent with the matrix subject (11a–b). Example (12) shows that the matrix subject cannot license an anaphoric embedded object (12a) but can license an embedded anaphoric subject (12b). An embedded anaphoric object can, however, be licensed by the embedded subject (12c).

- (11) a. weil er_i ihn_{vj} sie nicht waschen ließ
since he him her not wash let-Past
- b. weil er_i sie ihn_{vj} nicht waschen ließ
since he her him not wash let-Past
- c. weil der Hans_i ihn_{vj} ihm_{vk} vorstellte
since the Hans him-ACC him-DAT introduced
- (12) a. *weil er_i sie sich_i nicht waschen sah
since he her himself not wash saw
- b. weil er_i sich_i sie nicht waschen sah
since he himself her not wash saw
- c. weil er sie_i sich_i nicht waschen sah
since he her herself not wash saw

The examples in (11) and (12) clearly show that there are two distinct binding domains in coherent infinitives of ECM-verbs, which are constituted by the embedded TP and the matrix TP. The binding properties of the DPs in (11) and (12) can be given a coherent explanation if we assume that the ECM-subject is Case-licensed in the matrix TP, but the object is Case-licensed in the embedded TP. The facts of pronominal binding, that is, the facts in (12), follow from the following principle.⁴

- (13) Pronouns and anaphors are interpreted in their Case-licensing positions (i.e., they must be reconstructed into their Case-licensing position before the Binding Theory applies at LF).

The respective LFs of (12a–b) are given in (14a–b) after reconstruction has applied. If the pronominal embedded subject in (12a) could reconstruct into its base position in the embedded TP, (12a) should be grammatical. However, if the embedded object in (12b) could not reconstruct into its Case-position in the embedded TP, it could not be coreferent with the matrix subject. After reconstruction of the anaphors into their Case-positions has applied, it follows that they must be bound by the subject of their respective TP in (12).

- (14) a. *[CP weil [TP₁ er_i ihn_j [nicht [PredP [TP₂ t_i sie_j] waschen liess/sah]]]]
- b. [CP weil [TP₁ er_i sie_i [nicht [PredP [TP₂ t_i ihn_j] waschen liess/sah]]]]

Grewendorf (1988) points out that the distribution of weak pronouns in ECM-constructions differs considerably from their distribution in other coherent constructions. We have seen that in coherent constructions of modal verbs an embedded object pronoun can move in front of the matrix subject. In ECM-constructions, the embedded subject can cliticize to the matrix subject but not the embedded object. Example (15c) can only express the meaning of (15a), not the meaning of (15b).

- (15) a. weil der Vater ihn den Lehrer grüssen ließ
since the father him the teacher greet let-Past
'since the father had him greet the teacher'
- b. weil der Vater den Lehrer ihn grüssen ließ
since the father the teacher him greet let-Past
'since the father had the teacher greet him'
- c. weil ihn_{vj} der Vater t_i den Lehrer t_j grüssen ließ
since him the father the teacher greet let-Past

Grewendorf (1988) further observes that only an object pronoun *es* ('it'), no other pronoun, can move in front of the embedded subject but not in front of the matrix subject (cf. [16b] versus [16c]). However, I do not agree with Grewendorf's judgment in (16c). An object pronoun *es* can quite naturally cliticize in front of the matrix subject, as shown in (16d).

- (16) a. weil die Mutter den Vater es (das Baby) wickeln ließ
since the mother the father (it) (the baby) wrap let-Past
- b. weil die Mutter es den Vater wickeln ließ
- c. *weil es die Mutter den Vater wickeln ließ
- d. weil es die Mutter den Vater lesen/sehen ließ
since it the mother the father read/see let-Past

It seems that the word order in ECM-constructions is rather frozen, probably because of the Case syncretism. The embedded subject and object are marked with

Accusative in the vast majority of the cases (only if the embedded verb governs a lexical Case, for instance, the Dative, can the embedded subject and object be distinguished formally). In my account of scrambling given in chapter 2, it follows from the Minimality Condition that the ECM-subject blocks movement of embedded object pronouns. However, the ECM-subject can move in front of the matrix subject, because the Case distinction between those arguments circumvents a violation of minimality, as is argued in chapter 2. Thus, ECM-verbs display a hallmark of what Haider (1991) considers as constitutive of coherent constructions, as we will see in the following section: They allow both of their arguments to move into the matrix domain and the argument that is Case-distinct from the matrix subject can scramble across the matrix subject. Thus, I argue that the embedded object could in principle move across the matrix subject in ECM-constructions but is prevented from doing so by the embedded subject due to minimality. In this account, we can assume that the clitic pronoun *es* can escape a violation of minimality by undergoing head movement across the non-distinct embedded subject.

To summarize, I have shown that coherent infinitivals of ECM-verbs comprise two binding domains. If the constitution of a binding domain involves the notion "structural subject" and if the notion "structural subject" is identified with [Spec,TP], then the data discussed earlier could be taken to show that coherent constructions of ECM-verbs are biclausal. Since small clauses also constitute separate binding domains, the preceding take would force us to assume that small clauses, too, are minimally TPs. While it is certainly possible to analyze small clauses as full CPs that restructure—after all, they are licensed in [Spec,PredP] of the selecting verb—it would go beyond the scope of this book to decide whether small clauses really are restructuring clauses or are better analyzed as lexical complements. Thus, I conclude this section with the weaker claim that the binding properties of ECM-infinitives receive a simple and straightforward explanation if we assume that ECM-infinitives contain (at least) two TPs. Furthermore, I have argued that in order to explain the binding and licensing properties of pronouns and anaphors in coherent constructions one needs to assume the principle in (13).

5.2 Verbs that take to-infinitives as complements

I will center the discussion of the properties of coherent constructions with to-infinitives on Haider's seminal work on coherent infinitives. In a number of publications, Haider (1986, 1987, 1990, 1991) put forward the claim that restructuring (coherent) infinitives in German display a number of syntactic peculiarities that cannot be properly accounted for by approaches that assume that infinitival complements must be sentential and that derive coherent infinitives from sentential ones (Haider 1991, 1). In the latter publication, he argues that there are a number of facts, little understood and mostly overlooked in the literature on restructuring, that decisively speak for a monosentential analysis of coherent infinitives.

I want to take up this challenge and have a good look at these peculiarities. Before I do this, I would like to list the properties that Haider considers to be characteristic

for coherent to-infinitives. Haider claims that these properties define a monosentential structure and tries to derive them from his theory of base generated verbal complexes. I will later show that most of these *descriptive* properties also hold of the other coherent constructions, including those that clearly have biclausal properties, that is, of coherent ECM-constructions and of coherent constructions of modal verbs, including *wollen*.

(17) Properties of restructuring to-infinitives (Haider 1991, 2)

- a. verbal complex
- b. "monosentential" middle field
- c. restricted to a subset of control verbs

The properties in (18) are taken to follow from the characteristics of verbal complex-formation (17a). I have already discussed the properties (18a–c) in chapter 1. The property in (18d) will be discussed in detail in the following chapter on the properties of verbal complexes and property. (18e) will be addressed later. To refresh our memories, the properties (18a–d) are illustrated in (19). Statement (18b) is meant to say that, for instance, negation in (19b) can modify either the embedded verb or the matrix verb. Example (19c) shows that the infinitive in a coherent construction cannot scramble across an adverb.

- ### (18) a. The verbal complex can be topicalized.
- b. The scope of a scopal element affects all verbs.
 - c. The verbal complex cannot be split up.
 - d. The finite verb can be inverted with IPP-complements.
 - e. (Marginal) *long passive* is available.

(19) a. [zu traktieren verstanden] hätte er die Mägde schon (Bech 1955/1983, 121) to disturb understood would-have he the maids very well

- b. dass er das nicht zu behalten vermochte
that he that not to retain able-was
'that he was unable to retain that'
'that he was able to not retain that'
- c. *dass sich Max zu konzentrieren kaum vermochte
that himself Max to concentrate hardly able-was
- d. dass er sie nicht erst hat zu überreden versuchen müssen
that he her not first has to convince try must-IPP

Important are the properties that Haider considers as indicative of a monosentential middle field. These are listed in (20).

- (20) a. Cliticization in front of the matrix subject is possible.
 b. No scrambling of the embedded infinitival is possible.
 c. *Long extraposition* is possible.
 d. Only one domain of negation is available.

Haider considers the property in (20a), which is illustrated in (21a), to be essential for a coherent, that is, for him, monosentential structure. We have seen that in ECM-constructions the embedded object can generally not cliticize in front of the matrix subject, but that the embedded subject can do so. The properties given in (20a-c) I have already discussed in chapter 1. They are illustrated once again in (21a-c).

- (21) a. weil **ihn** ihr der Hans zu konsultieren geraten hat
 since him her the Hans to consult recommended has
 'since Hans recommended her to consult him'
 b. *weil [**ihn zu kennen**] Hans nicht scheint
 since him to know Hans not seems
 'since Hans does not seem to know him'
 c. weil er die Tür t_i zu öffnen zu versuchen wagte [**die zur Gruft führt**]_i
 since he the door to open to try dared which to the crypt leads
 'since he dared to try to open the door that leads to the crypt'

The criterion in (20d) is in need of some explication. Haider acknowledges that negative expressions are generally ambiguous in coherent constructions but denies that coherent constructions contain more than a single domain of negation.

So, for instance, the negative elements in (22) are ambiguous between a matrix scope ('not dare') and an embedded scope ('not annoy') construal. But for Haider, the sentences in (22) contain only one domain of negation, with the ambiguity arising from the fact of whether we are dealing with sentence negation or constituent negation.

He claims it is impossible to have two separate clausal domains within a coherent construction and cites examples like (23c), where he claims that the two combined negations only cancel each other but cannot scope in different domains. Hence the low acceptability of (23c).

- (22) a. weil er damit niemanden zu belästigen wagte
 since he there-with nobody to annoy dared
 'since he didn't dare to annoy anybody with it'
 'since he dared to annoy nobody with it'
 b. weil er sie nicht zu belästigen wagte
 since he her not to annoy dared
 'since he did not dare to annoy her'
 'since he dared not to annoy her'

- (23) a. weil das kein vernünftiger Mensch leugnen kann
 since that no reasonable person deny can
 'since no reasonable person can deny that'
 b. weil das ein vernünftiger Mensch nicht leugnen kann
 since that a reasonable person not deny can
 'since a reasonable person cannot deny that'
 c. ??weil das kein vernünftiger Mensch nicht leugnen kann
 since that no reasonable person not deny can

I do not agree with Haider's judgment. Example (23c) already improves, if we simply change the word order to that in (23d). Example (23d) can mean that 'a reasonable person must deny that', indicating that the two negations can scope in distinct domains (not [possible that not P] = necessary that P). I agree that this reading is hard to get, but it is definitely available. With some carefulness better examples can be constructed. Example (23e) can have the reading that it is possible that a man does not love women. Example (23f) can mean that it is not possible that a man does not love any women. This reading is even more readily available in (23g). It may be objected that with changing the word order as in (23d) one cannot be sure that we are really dealing with a coherent construction in (23d-g). This objection is irrelevant since modal verbs, other than control verbs, do not allow for a non-coherent construction, as is evidenced by the fact the presumptive sentential complement of a modal cannot be extraposed, as is illustrated in (23h).

- (23) d. ?weil kein vernünftiger Mensch das nicht leugnen kann
 since no reasonable person that not deny can
 e. weil ein Mann keine Frauen lieben kann
 since a man no women love can
 f. weil kein Mann keine Frauen lieben kann
 since no man no women love can
 g. weil kein Mann Frauen nicht lieben kann
 since no Mann women not love can
 h. *weil kein Mann kann [Frauen nicht lieben]
 since no man can women not love

Next, Haider argues that in non-coherent constructions each clause can be negated separately, leading to easily distinguishable, distinct interpretations (24a-c). In the coherent construction in (24d), however, he argues, the distinct interpretations evoked by more than one negation not only disappear, but the structure also becomes unacceptable, in a similar fashion as is the case with stranded constituent negation in a simple clause (25). Once again, the verbal complex in (24d) has been topicalized to ensure the sentence is constructed coherently.

- (24) a. Hans hat nicht gelobt, sie zu besuchen
Hans has not vowed to visit her
- b. Hans hat gelobt, sie nicht zu besuchen
Hans has vowed not to visit her
- c. Hans hat nicht gelobt, sie nicht zu besuchen
Hans has not vowed not to visit her
- d. *zu besuchen gelobt hat er sie nicht nicht
to visit vowed has he her not not
- (25) a. Ich habe sie nicht nicht geküsst
I have her not not kissed
- b. *Geküsst habe ich sie nicht nicht
Kissed have I her not not

I am not sure whether (24d) in conjunction with (25b) really shows what Haider wants it to show. Example (25b) can also be taken to show that it is simply bad in any structure, hence also in (24d), to strand a double negation. Also, note that the relevant reading is available in the coherent construction without topicalization (26a). Though (26a) is not the most elegant German sentence and is a bit hard to process, the reading is clearly available with an intonational break (#) between the two negative markers. Furthermore, I would like to point out with respect to (24d) that, in general, a stranded adverb cannot modify an *embedded* topicalized verb. The frequency adverb *oft* ('often') in (26b) can only have matrix scope, giving rise to the (sole) interpretation that 'he often promised to read the book'.

- (26) a. ?weil er sie nicht (#) nicht zu besuchen gelobte
since he her not not to visit vowed
- b. [[zu lesen] versprochen] hat er das Buch oft (only matrix scope)
to read promised has he the book often
- c. [zu lesen] versprach er das Buch oft (ambiguous)
to read tried he the book often

The contrast between (26b) and (26c) in conjunction with (26a) shows that the unavailability of the relevant reading in (24d) is a property of topicalized verb phrases rather than an inherent property of the coherent construction itself. Given the observation in (27), it follows that both negative markers must be construed with the matrix verb in (24d), explaining why the grammatical status of (24d) is on a par with (25b).

- (27) Observation
An adverb stranded in the middle field cannot modify a verb that is embedded in a topicalized verb cluster

Of course, (27) is just an empirical generalization and should be derived either from the theory of coherent to-infinitives or from a restrictive theory of VP-topicalization. One way to explain (27) in terms of restrictions on topicalizability, pointed out to me by an anonymous reviewer, is to assume that PredP may be affected by topicalization rather than the local Aspect Phrase. If the entire PredP is topicalized in a restructuring infinitive, it contains the adverb that modifies the dependent infinitive, while an adverb that modifies the matrix verb would be stranded by topicalization. This assumption makes the prediction that an adverb that modifies a dependent infinitive can be topicalized with it. As (28) shows, this prediction is indeed borne out.

- (28) a. oft zu lesen versucht hat er das Buch nicht
often to read tried has he the book not
- b. ?nicht zu besuchen gelobt hat er sie gerade nicht
not to visit vowed has he her indeed not
- c. nicht zu besuchen gelobt hat er keine der Frauen
not to visit vowed has he none of the women
'for none of these women he did vow to not visit them'

The examples in (28) are rare and hard to process, since they require a very specific context, but are definitely grammatical and thus do show (cf. especially [28b-c]) that there are two domains of negation in coherent to-infinitive. More research is to be done on the restrictions of topicalization of coherent infinitives. For this reason, I will disregard criterion (20d).

Finally, let us look at property (17c), or rather, the question of which verbs allow for a coherent construction with to-infinitives. First of all, note that all Subject Raising verbs require a coherent infinitival complement. With control verbs, the coherent construction is always optional.

Bech (1955/1983) defines the class of verbs that can take either coherent or non-coherent infinitival complements as those *subject control verbs* that do not have a nominal argument of their own (their sole internal argument is the infinitive). However, as Haider (1991, 250) points out, Bech's definition of the class of restructuring verbs specifies neither the necessary nor the sufficient conditions for coherency. Haider notes that, on the one hand, there are verbs that satisfy Bech's definition but do not allow coherent infinitival complements (29). On the other hand, there are subject control verbs and object control verbs with nominal arguments that quite readily allow for a coherent construction (30). The verbs in (29) all take factive complements. The verbs in (30) all take Dative DPs as additional arguments (next to the infinitival complement). Haider argues that control verbs with an additional direct nominal argument, an Accusative DP, do not allow for coherent constructions. I believe that Haider's observation is correct and adopt (31) as a working hypothesis. If we exclude verbs that take factive complements, the definition in (31) is particularly interesting if it turns out to be tenable, since it allows for a purely syntactic characterization of restructuring verbs with to-infinitives.

- (29) a. *weil sie der Hans noch nie geheiratet zu haben bedauert hat
since her the Hans yet never married to have regretted has
b. *weil sie der Hans nicht zu besuchen fortfuhr
since her the Hans not to visit continued
c. *weil sie der Hans nicht wiedersehen zu wollen vorgab
since her the Hans not again-see to want pretended
- (30) a. weil ihn uns jemand nicht auszukosten erlaubte (object control)
since him us somebody not to enjoy allowed
b. weil ihn mir jemand zu konsultieren geraten hat (object control)
since him me somebody to consult recommended has
- (31) With the exception of verbs that take factive complements, control verbs without a direct (Accusative) object allow for a coherent construction.

5.3 The idiosyncratic properties of coherent to-infinitives

Coherent to-infinitives differ from their non-coherent counterparts in terms of Case-assignment and in their binding properties. Höhle (1978) observed that coherent to-infinitives allow for the so-called long passive. In the long passive, the object of the embedded verb appears as the subject of the passivized matrix verb. In the following examples, taken from Haider (1991, 8), the nonfinite verbs have been topicalized (property [18a] earlier) to ensure that we are dealing with a coherent construction.

- (32) Zu reparieren versucht wurde der Wagen/* den Wagen schon dreimal
to repair tried was the car-NOM/* the car-ACC already three times
'Someone tried already three times to repair the car'

Haider (1991) notes that the surprising property of this construction is not so much the (marginal) acceptability of the Nominative but the complete unacceptability of the variant with Accusative. He argues that the Passivization of the matrix verb should not have any impact on the Case-licensing of the arguments of the embedded verb, as is the case in the non-coherent variant of (32), exemplified in (33).

- (33) weil schon dreimal versucht wurde, den Wagen/* der Wagen zu reparieren
since already three times tried was, the car-ACC/* the car-NOM to repair

Haider calls the property illustrated in (32) "Case-conversion" and argues that it should not be considered an exceptional peripheral phenomenon, possibly due to a peculiarity of Passivization in German, but constitutes a core property of coherent constructions. Assuming that coherent constructions are monosentential, he reasons that coherent constructions with an unaccusative matrix verb should also display Case-conversion. As (34) shows, his prediction is borne out. *Gelingen* is an unaccusative

verb whose experiencer is marked with Dative Case and whose theme-argument appears as Nominative subject (34a). Its theme-argument can also be realized as an infinitival complement, which is non-coherently constructed in (34b). In the coherent version in (34c), the embedded argument cannot be realized as an Accusative DP but must be spelled out as a Nominative phrase.

- (34) a. Der Brief ist mir gelungen
the letter-NOM is me succeeded
'I did well with (writing) the letter'
b. es ist mir auf Anhieb gelungen, den Brief/* der Brief zu entziffern
it is me immediately succeeded the letter-ACC/the letter-NOM to decipher
c. ?zu entziffern gelungen ist mir der Brief/* den Brief auf Anhieb
to decipher succeeded is me the letter-NOM/* the letter-ACC immediately
'I succeeded immediately in deciphering the letter'

Another peculiarity of coherent to-infinitives concerns the interpretation of pronouns and the licensing of anaphors. In a non-coherent infinitival construction of an object control verb, the matrix subject can be coreferent with the embedded object (35a). This option disappears in its coherent variant. In (35b), the embedded object pronoun has cliticized in front of the matrix subject, indicating that we are dealing with a coherent construction. If the embedded object pronoun is replaced with an anaphor, the result is ungrammatical (36).

- (35) a. weil der Hans_i ihr_j geraten hat, [PRO_j ihn_{i,k} zu konsultieren]
since her the Hans recommended has him to consult
b. weil ihn_{?i,k} ihr der Hans_i zu konsultieren geraten hat
since him her the Hans to consult recommended has
- (36) a. weil der Hans ihr_i geraten hat [PRO_i sich_i zu waschen]
since he her recommended has PRO herself to wash
b. weil (?? sich) ihr (* sich) der Hans zu waschen geraten hat
since (herself) her (herself) the Hans to wash recommended has

Haider (1991, 9) also observes that the coherent construction with an unaccusative matrix verb is ungrammatical if the direct argument of the infinitive is an anaphor. Compare the non-coherent construction in (37a) with its coherent counterpart in (37b). This follows if the object of the to-infinitive in a coherent structure with an unaccusative matrix verb must be licensed as a Nominative DP: German does not have Nominative anaphors.

- (37) a. weil es Max_i nicht gelungen ist, [PRO_i sich_i zu befreien]
since it-NOM Max-DAT not succeeded is himself to free
b. *zu befreien gelungen ist sich Max nicht
to free succeeded is himself Max-DAT not

For Haider these peculiarities of coherent to-infinitives are indicative of the monoclausality of coherent to-infinitives. He assumes that the arguments in a coherent to-infinitival are arguments of a single (complex) verb. If coherent constructions contain only one (complex) verb, then it follows that an internal argument will be realized as a Nominative DP if this verb is passivized (long passive) or inherently unaccusative. If coherent constructions contain only one (complex) verb, then it also follows (trivially) that object pronouns must be disjoint from the subject (cf. [35]). And finally, if coherent constructions contain only one (complex) verb, then it follows that they must be monosentential and hence cannot contain PRO. From the latter fact and from the fact that Dative arguments cannot license non-oblique anaphors in German (probably a language-specific property) it follows that direct object anaphors cannot be licensed in coherent constructions with object control verbs (cf. [36]).

Haider (1991) proposes that not only simple heads can project phrases but also complex heads, that is, base-generated adjunction structures of heads. If the complex head is verbal, then the argument structures of two verbs are unified in that the argument structure of the adjoined verb replaces the internal argument of the "matrix" verb. In his system, the argument structure of a verb is represented by a Lambda-expression, in which Lambda operators bind variables in a predicate formula that represents the conceptual structure of the verb. The unification of argument structures in complex heads corresponds to the operation of *functional composition* in categorial grammar. In this process, the external argument of the adjoined verb is identified with an argument position of the "matrix" verb as determined by its control properties. After identification, one Lambda operator binds two variables in the newly formed predicate formula, the variable corresponding to the controller and the variable corresponding to the controllee, such that one syntactic DP can be evaluated in two positions in the conceptual representation after *functional application* has applied.

I do not want to describe this account in its details but hope that the preceding exposition suffices to show that a very specific mechanism of argument identification that is geared by the control properties of the matrix verb is needed to account for the idiosyncratic properties of coherent to-infinitives. These properties are thus stipulated rather than explained. We may wonder why it is that the external argument of the dependent infinitive is identified with the controller rather than simply always with the external argument of the matrix verb. Be that as it may, such stipulations may be needed if there is no biclausal analysis of coherent to-infinitives. In the next section, I will argue that there is a relatively elegant biclausal solution to the problems posed by the idiosyncratic properties of coherent to-infinitives. Before I do that, I want to have another look at coherent ECM-infinitives. It should be obvious that Haider's account of coherent to-infinitives is inapplicable to coherent ECM-infinitives, since I have shown in section 5.1.2 that ECM-infinitives comprise two binding domains. It is not clear to me how to differentiate in Haider's system the binding properties of a complex ECM-verb and a simplex triadic verb. Furthermore, I have shown in section 5.1.1 that coherent constructions of modals clearly have biclausal properties.

In the following, I will show that coherent to-infinitives, ECM-infinitives, and coherent infinitives of modal verbs all share the properties that Haider considers to

be characteristic for a monoclausal structure. The properties in (18), repeated here as (38) for convenience, which Haider considers indicative for the presence of a verbal complex, are illustrated for ECM-verbs in (39) and for modal verbs in (40).

- (38) a. The verbal complex can be topicalized.
 b. The scope of a scopal element affects all verbs.
 c. The verbal complex cannot be split up.
 d. The finite verb can be inverted with IPP-complements.
 e. A (marginal) *long passive* is available.
- (39) a. lesen lassen/sehen hat mich der Hans das Buch nicht (cf. [19a])
 read let/see-IPP has me the Hans not
 'Hans has not seen/let me read the book'
 b. weil mich der Hans das Buch nicht lesen liess/sah (cf. [19b])
 since me the Hans the book not read let-Past/saw
 'since Hans did not see/let me read the book'
 'since Hans saw/let me not read the book'
 c. *weil der Hans mich das Buch lesen oft sah (cf. [19c])
 since the Hans me the book read often saw
 d. weil der Hans mich das Buch nicht hat lesen lassen (cf. [19d])
 since the Hans me the book not has read let-IPP

The test with long passives is not directly applicable to ECM-verbs that display the IPP-effect in coherent constructions, since IPP-infinitives are incompatible with a passive meaning. Those verbs that display the IPP-effect only optionally allow a slightly marked long passive with the participle, as is indicated in (39e).

- (39) e. ?Er wurde die Maria küssen gesehen (cf. [32])
 he-NOM was the Maria-ACC kiss see-PART
 'He was seen kissing Maria'
- (40) a. schlafen wollen hat der Hans nicht
 sleep want-IPP has the Hans not
 'Hans has not wanted to sleep'
 b. weil der Hans nicht schlafen wollte
 since the Hans not sleep wanted
 'since Hans did not want to sleep'
 'since Hans wanted not to sleep'
 c. *weil der Hans schlafen oft wollte
 since the Hans sleep often wanted

- d. weil der Hans nicht hat schlafen wollen
since the Hans not has sleep want-IPP
- e. Not applicable, since modals do not passivize

The properties in (20), repeated here as (41) for convenience, which Haider considers indicative for the presence of a monosentential middle field, are illustrated for ECM-verbs in (42) and for modals in (43). Property (20/41a) holds generally only for ECM-subjects but not for ECM-objects, as we have seen in section 5.1. Property (20/41d) is not illustrated because I have disputed its validity earlier.

- (41) a. Cliticization in front of the matrix subject is possible.
b. No scrambling of the embedded infinitival is available.
c. "Long extraposition" is possible.
d. Only one domain of negation is available.
- (42) a. weil mich der Hans sie nicht küssen liess
since me the Hans her not kiss let-Past
'since Hans did not allow me to kiss her'
- b. *weil [mich sie küssen] der Hans nicht liess
since me her kiss the Hans not let-Past
- c. weil er uns sagen t_i lassen müssen wird [was zu tun ist]_i
since he us say let must shall what to do is
'since he will have to allow us to say what is to be done'
- (43) a. weil sie der Hans nicht küssen wollte
since her the Hans not kiss wanted
- b. *weil [sie küssen] der Hans nicht wollte
since her kiss the Hans not wanted
- c. weil er uns sagen t_i will [was zu tun ist]_i
since he us tell wants what to do is
'since he wants to tell us what is to be done'

To summarize, I have shown that ECM-infinitives, coherent to-infinitives, and infinitives selected by modals share all the properties that are taken to be defining characteristics of restructuring. For example, to take a criterion for verb cluster formation, ECM-verbs, modal verbs, and verbs that take coherent to-infinitives do not differ in their ability to topicalize their dependent infinitive.

Moreover, to take the important criterion of moving an embedded argument across the matrix subject, the three verb classes do not differ in this property, either. Verbs that take coherent to-infinitives and modal verbs alike allow the embedded object to move across the matrix subject. With ECM-verbs, only the embedded sub-

ject can scramble across the matrix subject, while the embedded object cannot do so. This difference, however, was argued to be immaterial for the criterion in question. The criterion is relevant insofar as it provides a "safe" test for whether embedded arguments can occur in the matrix clause (monoclausal middle field). I have shown with an independent test that also with ECM-verbs the embedded arguments occur in the matrix clause: In section 5.1.2 I have shown that the embedded subject as well as the embedded object precede matrix negation. Then I provided a reason for why the embedded subject and the embedded object differ in their scrambling abilities in the matrix clause, the reason being that the embedded object is blocked by the embedded subject from undergoing further scrambling due to a minimality violation caused by Case-syncretism.

Since ECM-infinitives, infinitives selected by modals, and coherent to-infinitives share all these properties, they are in need of a unitary account, and since I provided good arguments that the former two are biclausal, this uniform account can only be biclausal.

Before I move on to a biclausal account of coherent infinitives, let me address a crucial difference between coherent to-infinitives and coherent constructions formed with bare infinitives. Note that the long passives with ECM-verbs and with to-infinitives are not strictly parallel. In the former case it is the embedded subject that is raised to the matrix subject position, while in the latter case it is the embedded object that is raised to the matrix subject position.⁵ This difference follows from the Case-licensing properties of coherent bare infinitives and to-infinitives. Bare infinitives Case-license their direct object, while (coherent) to-infinitives fail to do so. We will see in the following sections that this difference in Case-licensing follows from the [-verbal] character of the infinitival marker in coherent to-infinitives. Thus, this difference between long passives with ECM-verbs and verbs that take coherent to-infinitives follows from an independent property within the biclausal approach that I am going to develop in the next section.

5.4 A biclausal account of coherent to-infinitives

It is evident that the idiosyncratic properties of to-infinitives sketched earlier, namely, the availability of the long passive, the pattern of pronominal binding, and the inability of licensing embedded anaphors with object control verbs, at first sight all speak against a biclausal structure of coherent to-infinitives.

The binding facts in (34) and (35) seem to directly militate against the presence of PRO. If PRO were present in coherent to-infinitives, one might ask, how can it be that an embedded direct object pronoun must shy away from being coreferent with the matrix subject and, more important, how can it be that an anaphoric argument of the infinitive fails to be licensed?

With long passives, the argument is more indirect but seems to lead to the very same conclusion. Haider (1991) argues that coherent to-infinitives must be monosentential since Passivization of the matrix verb should not affect the licensing of the arguments of the embedded verbs. Note that this conclusion is not entirely warranted, since we know of cases where an embedded argument becomes the Nominative

subject of the passivized matrix verb, namely, in passives with ECM-verbs in English, as is illustrated in (44). It is generally assumed that in ECM-constructions the embedded subject moves into the higher clause to be assigned Case by the matrix verb. If the matrix verb is passivized, as in (44), then the embedded subject will be realized as matrix Nominative subject.

(44) John_i was (t_i) expected [t_i to come to the party]

If we take (44) as a model for the biclausal approach to long passives in coherent to-infinitives, then we have to assume that in this construction it is the embedded object that moves into the matrix clause for reasons of Case-assignment. But how is Case-licensing movement of the object out of the embedded clause possible, one might ask, if an embedded subject, that is, PRO, is present? All this seems to indicate that PRO is missing in coherent to-infinitives. And this conclusion would militate decisively against a biclausal approach.

My take on this is that the earlier conclusion that PRO is missing in coherent to-infinitives is too fast and unwarranted. I think that all that the preceding data show is that PRO, if present, is not in a position to block movement of the embedded object or to license an embedded anaphor, and so on. At the end of this section, I will provide empirical evidence to show that PRO is present in coherent to-infinitives.

I need exactly one assumption to explain all the properties of coherent to-infinitives within my alternative biclausal approach. This assumption is given in (45) and will be motivated later.

(45) A to-infinitive in a coherent context cannot license (structural) Case.

Let us look at the derivation of the coherent sentence in (46b) from its non-coherent version in (46a). Given (45), the embedded pronoun/anaphor must be Case-licensed in the matrix clause. Haider is certainly right that a standard biclausal approach of restructuring in terms of VR and long-distance scrambling of individual DPs cannot derive the coherent version of a sentence like (46) with the stipulation in (45). Scrambling of the direct object in (46) into the matrix clause should be blocked, despite the availability of head movement of the embedded verb, by the presence of PRO.

However, I have argued that arguments do not move individually into the matrix clause but rather are pied-piped by the movement of two larger constituents, an extended verb projection and the infinitival TP, into the matrix clause.

- (46) a. weil der Hans_i ihr_j empfahl [PRO_j ihn_i /sich_j zu waschen]
since the Hans_i her recommended him/herself_j to wash
- b. weil ihn_i /sich_j ihr_j der Hans_i zu waschen empfahl
since him/herself_j der Hans_i to wash recommended

The derivation proceeds in the following way: The embedded object pronoun/anaphor contained within the Agreement Phrase is pied-piped by movement of the AspP via the C-domain of the infinitival into [Spec,AspP] of the matrix verb, while

PRO contained within the embedded TP is moved into [Spec,PredP] of the matrix verb. Note that in this first step the embedded object does not move across PRO. In the second step, the embedded object moves out of AspP to its Case-licensing position in the matrix clause. Movement of the embedded object is again unhampered by PRO, since PRO in the matrix clause is contained in a larger phrase, namely, the embedded TP.

(47) [_{CP} Hans ihr empfahl [_{CP} [_{TP} PRO [_{AgRP} ihn/sich zu waschen]]]]

Step 1: i) AgrP (the extended AspP) moves via [Spec,StatP] into [Spec,CP]

a) [_{CP} Hans ihr empfahl [_{CP} [_{AgRP} ihn/sich zu waschen] [_{TP} PRO t_{AgRP}]]]

ii) AgrP moves to [Spec,AspP] in the matrix clause

b) [_{CP} Hans ihr [_{AspP} [_{AgRP} ihn/sich zu waschen] empfahl [_{CP} t_{AgRP} [_{TP} PRO t_{AgRP}]]]]]

iii) TP moves to [Spec,PredP] in the matrix clause

c) [_{CP} Hans ihr [_{PredP} [_{TP} PRO t_{AgRP}] [_{AspP} [_{AgRP} ihn/sich zu waschen] empfahl [_{CP} t_{AgRP}]]]]]

Step 2: the embedded direct object moves into its Case-position without crossing PRO

d) [_{CP} Hans ihr [_{AgRO} ihn/sich_k] [_{PredP} [_{TP} PRO t_{AgRP}] [_{AspP} [_{AgRP} t_k zu waschen] empfahl]]]]]

In an additional step the embedded object pronoun/anaphor may cliticize (like the matrix pronoun) in front of the matrix subject. This is essentially the derivation of a coherent to-infinitive. It should be obvious that the derivation is essentially the same, differing only in Step (47d), if the matrix verb is passivized. In this case, the embedded object will be assigned Nominative Case in an Agr-position in the matrix clause.

Note that in the account described here it is crucial that the object is moved via movement of the Aspect Phrase, while PRO is moved via movement of the infinitival Tense Phrase. It is a separate issue and ultimately an empirical question whether the direct object moves to AgrO in the absence of Case-licensing in the embedded clause. In (47), I have assumed it does. Then it is crucial that AgrOP is pied-piped by movement of the Aspect Phrase. However, if it turns out that the direct object cannot be taken to move to AgrOP in the embedded clause in this case, then no problem arises, either, since in any case it would be moved by the containing AspP into the matrix domain. The issue that is at stake here is the question of whether AgrO can be taken to have an EPP-feature in the absence of Case-licensing, as is generally assumed for AgrS in cases of Subject Raising. In (47), I have assumed object movement to AgrO in the embedded clause also to make this analysis parallel to my treatment of movement of TP and AspP to the respective Specifiers in the C-domain in restructuring contexts, as discussed at the end of chapter 4. The underlying assumption here is that licensing projections can be defective but are still present in the derivation. The empirical argument for this approach is that we need an A-position in the embedded clause to account for scope reconstruction in coherent infinitives,

as will be discussed later. If strong quantifiers cannot be taken to reconstruct into their Theta-position (cf. Lechner [1998]), there must be another argument position in the embedded clause to account for narrow scope readings of strong quantifiers in coherent infinitives. This position must be AgrO in (47) earlier.

Let us now look at the binding properties of the embedded object. From the binding properties of pronouns and anaphors in ECM-constructions I derived the principle in (13), repeated here as (48).

- (48) Pronouns and anaphors are interpreted in their Case-licensing positions (i.e., they must be reconstructed into their Case-licensing position before the Binding Theory applies at LF).

Because of (48), the embedded object pronoun/anaphor cannot be reconstructed back into the embedded clause, although the moved TP and AspP may very well be reconstructed. Following (48) the embedded object pronoun/anaphor is interpreted in the position it occupies in (47d) earlier, that is, its Case-position in the matrix clause.

It should be obvious from the structure in (47d) that the embedded object pronoun must be disjoint from both DP arguments of the matrix verb, in particular, from the matrix subject (cf. [46b]), and that the embedded object anaphor cannot be bound by PRO. It cannot be bound by PRO, neither in the matrix clause nor in the embedded clause.

In the matrix clause, it cannot be bound by PRO because PRO being contained within TP in [Spec, PredP] does not c-command the anaphor. In the embedded clause, it cannot be bound by PRO, where PRO would be in a c-commanding position after reconstruction has applied to TP and AspP, simply because the anaphor fails to reconstruct together with AspP. The anaphor could be bound by the indirect argument of the matrix verb that controls PRO, but since this argument is marked with Dative Case and since Dative DPs in German (idiosyncratically) cannot bind Accusative anaphors, an embedded object anaphor is ungrammatical in a coherent to-infinitive of an object control verb (I will come back to the issue of why the anaphor cannot be licensed with a different indexing in [47d] later).

While pronouns and anaphors seemingly have to be interpreted in their Case-licensing positions (at least for the purposes of the Binding Theory), there is independent evidence that quantificational expressions and presumably also names can be reconstructed into non-Case-positions, which comes from Subject Raising verbs in English. It is well-known that (49a) can have the interpretation given in (49b). This interpretation is only possible if the subject QP can reconstruct from its Case-position in the matrix clause to its subject or base position in the infinitival clause.

- (49) a. Someone seems to love everyone
 b. It seems that for everyone there is someone who loves him
 c. seems [every y [some x [x loves y]]]

The negative quantifier in the coherent to-infinitive in (50a) is ambiguous in the usual manner as given in (50b-c). The interpretation in (50c), where the negative

quantifier is interpreted in the embedded clause, follows if it can reconstruct in the same fashion as the existential quantifier in (49a).

- (50) a. weil niemanden der Hans seiner Frau zu konsultieren riet
 since nobody the Hans his wife-DAT to consult recommended
 b. for no person x [Hans recommended his wife to consult x]
 c. Hans recommended his wife to consult no person x

We see that by adopting (45) and (48), an empirical generalization derived from the binding properties of pronouns and anaphors in ECM-constructions, we do not lose anything while gaining a lot that was thought to be unexplainable in a biclausal approach. That is to say, by adopting (45) and (48) I can explain both the idiosyncratic properties of coherent to-infinitives (their binding properties and their passivizability) as well as the properties typical of all coherent structures, namely, the ambiguity of operators and quantified expressions with respect to the matrix verb.

All we have to assume is that pronouns and anaphors, on the one hand, behave differently with respect to reconstructability from quantifiers and names, on the other hand. At first sight, it seems that the reconstructability of a syntactic element follows from economy principles. For a pronoun or anaphor, lacking both descriptive and quantificational content, it does not matter whether it is interpreted in the matrix clause or in the embedded clause (after reconstruction). In both cases it is interpreted *de re*. However, for a quantified expression or a name, it matters whether it is interpreted inside (*de dicto*) or outside (*de re*) of the scope of an intensional verb like *recommend*. From this we may conclude that reconstruction is possible if it gives rise to a distinct interpretation. However, this view of reconstruction is wrong, since reconstruction of the pronoun in (47d) would also give rise to a distinct interpretation, not available without reconstruction, namely, the coreferent interpretation with the matrix subject. It thus seems that something like (51) holds.

- (51) A DP can be reconstructed if reconstruction does not alter its binding properties as determined by its Case-licensing properties (cf. note 4 earlier)

For a name or a quantifier it does not matter whether it is licensed in the embedded clause or in a higher clause as far as its binding properties are concerned. They must be free in every domain. Since the binding domain of names and quantifiers is not determined as the minimal TP/DP in which they are Case-licensed, reconstruction may freely apply to them. For pronouns and anaphors, due to their locality condition, it really matters where they are Case-licensed: The binding domain for pronouns and anaphors is the minimal TP/DP in which they are Case-licensed and (for anaphors) which contains an accessible SUBJECT. This fact seems to be at the core of the apparent difference in reconstructability of Principle C-expressions and elements viable to BT as determined by Case-licensing. The principle in (51) is rephrased in (52).

- (52) Reconstruction must preserve the binding domain of an element as determined by its Case-licensing properties

5.5 Explaining the properties of coherent to-infinitives

It is important to note that the PRO subject in coherent to-infinitives has referential properties. In fact, its reference is supplied by the controlling argument of the matrix verb, that is, the subject with a subject control verb and the object with an object control verb, as is indicated in (53).

- (53) a. weil das Buch Hans_i (PRO_i) zu lesen versprach
since the book Hans to read promised
- b. weil das Buch der Hans der Maria_i (PRO_i) zu lesen empfahl
since the book Hans-NOM Maria-DAT to read recommended

In German, this control relation is preserved under Passivization with both subject and object control verbs, where with subject control verbs PRO is interpreted as coreferential with the passive implicit argument, as is illustrated in (54). The very same interpretations we find in long passives, as is illustrated in (55).

- (54) a. weil von Hans_i (Agens_i) versprochen wurde, PRO_i das Buch zu lesen
since by Hans promised was the book to read
- b. weil der Maria_i (Agens) empfohlen wurde, PRO_i das Buch zu lesen
since Maria-DAT recommended was the book to read
- (55) a. weil (von Hans) das Buch zu lesen versprochen wurde
since (by Hans) the book-NOM to read promised was
- b. weil der Maria das Buch zu lesen empfohlen wurde
since Maria-DAT the book-NOM to read recommended was

5.5.1 A note on passivization in German

I do not assume that Passivization detransitivizes the underlying verb.⁶ In the previous chapter, I have argued that the projection of argument-licensing heads is a function of the lexical and semantic properties of the verb. Thus, the presence of *v* implies that both Agr1 and Agr3 are projected (cf. [8] and [10] in section 4.2.1 of the previous chapter). However, the Case-assigning properties of Agr3 depend not only on the presence of *v* but also on the aspectual properties of the verb in many languages (cf. the assignment of Partitive Case or Accusative Case in Finnish). I assume that Agr3 assigns Accusative if there is a local Agreement relation between Agr3, little *v*, and the relevant Aspect-head (cf. Kratzer's [1996] Voice-head). In this scenario, we can assume that in passive sentences a passive morpheme is inserted in the head of the Aspect Phrase (in the form of the participle morphology) that prevents agreement between Agr3 and *v*. Therefore, the direct object cannot be assigned Accusative in Agr3. In this case, the direct object is licensed with default Nominative Case.⁷ The agent argument is licensed as implicit argument in Agr1 (as empty impersonal pronoun, cf. Hinterhölzl [1995]). In this position, the agent argument is capable of exerting control of an infinitival subject (see [60] later).

While in German also intransitive verbs quite generally passivize and form the so-called impersonal passive, these impersonal passives differ in whether they allow for a referential interpretation of the implicit argument. Many intransitive verbs only allow for an existential or generic interpretation of the implicit argument, as is illustrated in (56).

- (56) a. weil hier getanzt wird (in general, habitually and in high numbers)
since here danced gets
'since a lot of dancing is going on here'
- b. *weil hier von John Travolta getanzt wird
since here by John Travolta danced gets
- c. weil in Afrika weiter gehungert und gestorben wird
since in Africa still hungered and died gets
- d. *weil von Hans gehungert wird
since by Hans hungered gets

Whether the ungrammaticality of the a-examples in (57)–(59) should be explained with the assumption that a bound implicit argument cannot serve as a controller for the embedded PRO argument I will leave open here. While the impersonal passive is fine if no control relation is involved (cf. the b examples), examples (57)–(59) show that the status of long passives is on a par with the (control) status of impersonal sentential passives.

- (57) a. ?*weil (von Hans) geglaubt wurde, die Maria zu lieben
since (by Hans) believed was to love Maria
- b. weil allgemein geglaubt wurde, dass Hans die Maria liebt
- c. ?*weil (von Hans) die Maria zu lieben geglaubt wurde
- (58) a. ??weil (von Hans) gehofft wurde die Maria zu treffen
since (by Hans) hoped was to meet Maria
- b. weil gehofft wurde, dass der Hans die Maria trifft
- c. ??weil (von Hans) die Maria zu treffen gehofft wurde
- (59) a. ?weil (von Hans) vergessen wurde, die Maria einzuladen
since (by Hans) forgotten was to invite Maria
- b. weil vergessen wurde, dass der Hans die Maria einladen soll
- c. ?weil (von Hans) die Maria einzuladen vergessen wurde

Summing up, the examples in (57)–(59) show that the grammaticality of a long passive depends on the grammatical status of the sentential impersonal construction, implying that the long passive is to be derived from a sentential construction via restructuring, as argued for earlier.

5.5.2 Control and the licensing of anaphors in coherent to-infinitives

Now the question arises how the relevant control relation is established in a coherent to-infinitive. To answer this question I must first explicate how control works in sentential infinitives. I assume that control involves a co-indexing relation between the relevant Agr-head of the matrix verb and the Tense-head of the embedded infinitive that is mediated by the complementizer, that is to say, that the semantics of the matrix verb determines which of its agreement heads is co-indexed with the complementizer that is itself co-indexed with the embedded T-head. The coreferential interpretation of the controller and PRO is then simply an effect of Spec-head agreement, as is illustrated in (60).

- (60) with x being an index variable and i being the referential index transferred to PRO
 $[_{AgrP} \text{Controller}^i \text{Agr}_x [_{VP} V [_{CP} C_x [_{TP} \text{PRO}^i T_x \dots]]]]$

In restructuring infinitives the complementizer is defective and thus fails to transmit a referential index to the embedded Tense-head, leaving the PRO argument without an interpretation. In this case the missing control relation is fixed in that the embedded T-head undergoes head movement to the respective Agreement-head after restructuring. In other words, after the embedded TP has been moved into PredP of the matrix verb, the Tense-head moves to the relevant Agreement-head as determined by the control properties of the matrix verb. The coreferential interpretation of controller and PRO again is a consequence of Spec-head agreement.

With this implementation of control in coherent infinitives in mind, I would like to take up the issue of why the anaphor in (47d) cannot be licensed by another DP, in particular by the subject, within its local domain. Example (47d) is repeated here as (61).

- (61) $[_{CP} \text{Hans} \text{ ihr } [_{AgrO} \text{ sich}_k [_{PredP} [_{TP} \text{PRO}^i t_{AgrP}] [_{AspP} [_{AgrP} t_k \text{ zu waschen}]] \text{ empfahl}]]]]]$

The question arises why the structure in (61) cannot be interpreted as meaning 'John recommended to her to wash him, John'. It seems that the licensing domain of the anaphor in (61) is restricted to the domain of the indirect object. What we see at play here is the remnant vestiges of PRO. It cannot bind its local anaphor, but it holds it within the orbit of its antecedent. But how can PRO achieve this effect? Earlier I have argued that after the infinitival TP has been moved into [Spec, PredP] of the selecting verb, its Tense-head undergoes head movement to the relevant Agreement-head to identify PRO. In the case of (61), an object control verb, we have to assume that the infinitival Tense-head moves to AgrIO, as is indicated in (62).

If we then assume, following Chomsky (1993), that an anaphor is licensed by moving to the local Tense-head with its binding domain being restricted to the local Specifier, then it follows that the subject that occurs higher in the structure is not a possible binder for the anaphor in (61). Note that for this account to work it is crucial that the embedded T that is adjoined to AgrIO c-commands the anaphor. Only then will it count as a closer licenser than the matrix T-head. It is thus crucial that we adopt Kayne's (1994) definition of antisymmetric c-command, in which a head c-commands

out of its adjoined position. Thus, in order to explain the binding effects in coherent to-infinitives, Chomsky's (1993) proposal about anaphoric licensing must be combined with Kayne's (1994) treatment of head movement.

- (62) $[_{CP} \text{Hans } [_{AgrIO} \text{ ihr } [T_i \text{-AgrIO } [_{AgrDO} \text{ sich } [_{PredP} [_{TP} \text{PRO} t_i \dots] \dots]]]]]]$

Note that the explanation of the binding properties of the anaphor in (61) as given in (62) is strong support for Chomsky's (1993) proposal that anaphors are licensed by undergoing (local) movement to Tense. No other theory of anaphoric licensing can explain so neatly why the binding domains of anaphors and pronouns may differ in this manner. Thus, I will assume the following pre-theoretic definitions of the binding properties of pronouns and anaphors.

- (63) a. After reconstruction, an anaphor is licensed by moving (and adjoining) to the closest Tense-head.
 b. After reconstruction, a pronoun is licensed if it is unbound within its local TP.

Since adjunction of the embedded Tense-head to AgrIO in (62) does not make AgrIOP a Tense Phrase, a pronoun in place of the anaphor in (61) will still have to be disjoint from the matrix subject.

It should be obvious that the restriction on the antecedent of the anaphor in (62) is a huge problem for Haider's account of coherent infinitives in terms of complex verbs as well as for any monoclausal account. In fact, this restriction may prove to be detrimental to this whole approach. I don't see how Haider can distinguish, in a non-stipulative manner, between a complex verb of the sort of *zu waschen-empfehlen* and a triadic verb like *vorstellen*, where, the subject can, of course, bind a direct object anaphor (64). Similar problems arise for Wurmbrand's (2001) account.

- (64) weil der Hans_i sich_i ihr vorstellte
 since the Hans himself her introduced
 'since Hans introduced himself to her'

I conclude that the idiosyncratic binding properties of coherent to-infinitives that Haider has brought to the attention of the linguistic community (though he does not discuss the restriction shown in [61]) do not support a monoclausal account of coherent to-infinitives. While at first sight the binding facts seem to indicate that PRO is absent in coherent to-infinitives, they, if viewed with scrutiny, provide in their totality, including the restriction discussed in (61), evidence for the presence of PRO in coherent to-infinitives.

5.5.3 Case-assignment in coherent to-infinitives

What remains to be done is to motivate the assumption in (45) that this analysis hinges on. The question that arises is why to-infinitives in coherent constructions cannot Case-license their direct objects, while to-infinitives in a sentential construction do

not fail to Case-license them. Moreover, this property cannot be ascribed to restructuring itself, since bare infinitives in restructuring contexts do Case-license their direct object. The relevant property must be ascribed to the syntax of *zu* in coherent constructions. In fact, there are other occurrences of *zu* in which the corresponding infinitive fails to Case-license its direct object, as is illustrated in (65b–d).

- (65) a. weil das Buch der Hans zu lesen versprach
since the book the Hans to read promised
'since Hans promised to read the book'
- b. Das Buch ist zu lesen
the book is to read
'the book must/can be read'
- c. Das Buch ist leicht/schnell zu lesen
the book is easy/fast to read
- d. *ein [schnell das Buch zu lesender] Mann
a quickly the book to read-Agr man
'a man who must read the book quickly'
- e. ein [das Buch schnell lesender] Mann
a the book quickly read-Agr Mann
'a man who reads the book quickly'

What the to-infinitives in (65a–d) have in common is that they fail to Case-license their direct object. I have assumed earlier that the direct object of coherent to-infinitives is Case-licensed in the matrix clause (65a). In the modal infinitive in (65b) and in the so-called *tough*-construction in (65c), the direct object of the to-infinitive is realized as Nominative subject of the auxiliary. The ungrammaticality in (65d) follows if we assume that the to-infinitive fails to Case-license an argument that is assigned Accusative by the bare infinitive constructed in a parallel fashion in (65e).

In this section, I want to propose that coherent to-infinitives (65a) and the infinitives in so-called modal infinitives (65b) and *tough*-constructions (65c) are nominal infinitives. In this context, it is interesting to note that to-infinitives have replaced bare infinitives in more and more environments in the history of German. According to Demske (2001), modal verbs, ECM-verbs, and raising verbs were restricted to bare infinitives while control verbs allowed both forms in Old High German. Originally, infinitive and so-called to-infinitive were quite different both formally and functionally. The *zu* in the to-infinitive goes back to a preposition that took a nominalized predicate as a complement. *Zu* in this context required a Dative complement that was still formally realized in Old and Middle High German times, as is illustrated for OHG in (66a). Also, the predecessor of the modern modal infinitive was built with a nominalized verb carrying Dative Case, as is illustrated in (66b).

- (66) a. Sie gerotun al bi manne inan zi rianne (Otfried II.14.24)
sie begehrten alle, ihn zu berühren
'they all desired to touch him'

- b. Dhar ist auh in dhemu gotes nemin fater zi firstandanne (Isidor 4.14)
da ist auch in dem Namen Gottes der Vater zu verstehen
'in this (case) one has to understand the father also in the name of god'

In the German traditional literature the *Gerundium*, as the nominalized infinitive is called, and the infinitive are distinguished, even though some scholars argue that the infinitive should be analyzed as a frozen Accusative form of a nominalized verb as well.⁸ At least formally, *gerundium* and infinitive were distinct in their past, since only the *gerundium* displayed gemination of the final *n*, a process that is probably due to the loss of the phoneme *j*. After nominalized verbs lost their Case-endings, the morphological distinction between infinitive and *gerundium* slowly eroded and they became completely homophonous in Early New High German. In the following, I use the term *gerund* to refer to nominalized infinitives in German.⁹

Gerunds in OHG could be used as both nouns and verbs. In their verbal use, gerunds probably could license Accusative Case, as can be seen in (66), in which an argument that belongs to the gerund is realized as the Accusative pronoun *inan* ('him'). The element *zu* in (66) can thus be analyzed as a prepositional complementizer that selected a nominal complement, the gerund, that in turn selected a TP-predicate, as is illustrated in (67), with the gerund head attracting the VP and TP moving into a higher functional projection, possibly MoodP, in the C-domain (cf. Kayne [1999]). Later, when infinitive and gerund became indistinguishable morphologically, the *zu* was probably reanalyzed as an infinitival marker and to-infinitives replaced more and more occurrences of bare infinitives in the complements of control verbs.

- (67) a. [zi [G [TP [VP]]]] base structure
b. [TP zi [VP G] [t_{TP} [t_{VP}]]] surface structure

However, I would like to propose that nominalized infinitives have not completely disappeared from the language. As stated earlier, I propose that the inability of to-infinitives to license structural Case in (65a–c) is connected with the fact that these to-infinitives are in fact nominal verbs. In this account, the gerund is analyzed as a zero phrasal affix. The Case properties of nominal verbs are taken to depend on the level of the clause structure at which the affix attaches to syntactically, that is to say that they depend on whether the nominal-affix attaches to the VP or to a higher projection (AgrOP, TP, etc.).

I have argued that due to the deficiency of the complementizer the embedded TP is not temporally linked to the matrix predicate. Let us assume that the infinitival Tense-head in this case fails to transfer a temporal index to the local Aspect-head. Next, I assume that the infinitival marker *zu* that occupies the Aspect Phrase has the selectional property in (68). Since the gerund affix must attach low, it follows that a "to-infinitive" cannot license structural Case in this context.

- (68) The infinitival marker *zu* that is not assigned a temporal index selects a gerund.

Because of the reanalysis of the prepositional complementizer as infinitival marker that occupies the head of AspP, a synchronic coherent to-infinitive will have

the structure in (69). The gerund is inserted as a zero-affix whose selectional properties are satisfied via XP-movement of the infinitival verb into its Specifier. The embedded TP and AspP cannot be licensed in their own C-domain and undergo restructuring movement into their licensing positions in the matrix clause in the known fashion.

(69) [CP [TP [AspP *zu* [GP 0 [F2P V]]]]]

However, the infinitival marker in a non-coherent construction is temporally linked and selects an infinitive that as a verbal category does not fail to license structural Accusative. The gerund as a category with nominal properties fails to license structural Case but, as the modal infinitive in (65c) shows, seems to be capable of licensing adverbial modification. *Zu lesen* in (65c) fails to assign Accusative Case to its argument (which is realized with Nominative Case) but can be modified by the adverb *schnell* ('fast').

More work on the syntax of nominalized verbs is necessary to shade light on this mixture of verbal and nominal properties that they do display. The standard way of accounting for the mixed properties of gerunds is to divide the properties according to the attachment site of the gerund. Structure below the attachment site of the gerund has verbal properties, and structures above it have nominal properties. The fact that the to-infinitives in (65) can license adverbs speaks in favor of a high attachment site of the gerund. In this scenario, we cannot make the presumed nominal properties of gerunds responsible for the inability of licensing structural Case.

There is, in fact, a simpler solution that assumes that *zu* is directly (rather than indirectly via selection of a gerund) involved in blocking Case-assignment to the direct object. From the discussion of Case-assignment in passives we know that the presence of a little *v* itself is not sufficient to license Accusative Case (rather it implies the projection of Agr1). Instead, I argued that the Case-assigning properties of Agr3 depend on the aspectual properties of the verb, that is to say, on the properties of material in the Aspect-head. Along these lines, it is plausible that *zu* in the Aspect-head blocks the Agreement relation between the Agr3 head and little *v* when it is not temporally linked. I will evaluate these two options when I discuss the syntax of gerunds in more detail in chapter 7.

To conclude, the Case-assigning properties of coherent to-infinitives differ from the Case-assigning properties of a sentential to-infinitive because in one case we are dealing with an infinitival marker plus infinitive and in the other case we are dealing with a preposition-like element that selects a gerund. I think this proposal contains enough immediate plausibility as to render this account of coherent to-infinitives an interesting new contribution to the discussion of the proper treatment of coherent infinitives.

Having motivated the assumption in (45), it becomes clear why the class of verbs that take coherent to-infinitives is restricted in the way it is. The matrix predicate must provide a controller for the embedded PRO-Subject as well as a Case-licenser for the embedded direct object. Thus, only subject control verbs where the object position is free and object control verbs with a Dative controller can license coherent to-infinitives (cf. [31] earlier).

5.6 Conclusions

To summarize the chapter, I have shown that a biclausal approach can account for all the idiosyncratic properties of coherent to-infinitives in a rather elegant manner. I have also shown that explaining the totality of the binding facts within coherent to-infinitives requires (1) the presence of the full functional structure on the part of the infinitival complement—in particular, it must be assumed that the infinitival complement contains a TP and PRO—and (2) a fairly sophisticated theory of restructuring, as I have put it forward in terms of movement of the infinitival AspP and of the infinitival TP and head movement of the infinitival Tense-head, as well as a sophisticated theory of reconstruction. To explain the Case-licensing properties of coherent to-infinitives I have proposed that these infinitives are in fact nominalized verbs that fail to license structural Case.