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Narrow Syntax and Phonological Form

Gema Chocano

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Narrow Syntax and Phonological Form. Scrambling in the Germanic languages
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Scrambling in the Germanic languages

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A Víctor

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PREFACE

This volume presents a detailed analysis of West Germanic scrambling from the perspective of recent versions of the 'Minimalist Program', especially the one advanced in Chomsky's (2001). It refutes the commonly held view that scrambled structures in West Germanic languages are the result of a phenomenon completely unrelated to North Germanic 'Object Shift'. The claim is not completely new, since there are a small number of studies which, on the basis of the semantic/pragmatic interpretation shifted/scrambled constituents receive, have already defended the idea that there exist similarities between the two constructions. What is new in this study is that the evidence for the unified analysis is strictly syntactic and phonological, which has, in my opinion, interesting consequences, beyond the desirability of the unified analysis itself. First, it provides empirical support for Chomsky's (2001) analysis of Scandinavian 'Object Shift', which, as it stands, is motivated mostly by theoretical considerations. Second, given that my data come primarily from German, it sheds light on several problematic aspects of German grammar, which have traditionally resisted a principled account. Prominent among these are: (a) the inconsistent behaviour of German coherent infinitives with respect to extraction of their internal arguments; (b) the existence of a less 'liberal' type of scrambling within topicalised VPs; (c) the link between reordering possibilities and headfinalness; (d) the asymmetry exhibited by monotransitive and ditransitive structures with respect to the interaction between scrambling and the unmarked word order, and, finally, (e) certain anomalies in the reordering of the lower arguments of ditransitive predicates that assign inherent case. I must add here that German has been chosen as the main focus of research in order to test the validity of the unified approach to Germanic word order variation in one of the West Germanic languages whose type of scrambling, less constrained than the one found in Dutch, appears to be most clearly at odds with the severe restrictions obeyed by North Germanic 'Object Shift'.

The present book is a slightly revised version of my PhD dissertation, which was submitted in December, 2004 at the Universidad Autónoma de Madrid. I owe a great debt of gratitude to my thesis advisor, Carlos Piera, as well as to Esther Torrego. Carlos Piera's work has been an inspiration to me over the years, and I feel very fortunate to have had the immense benefit of his wise

teaching and direction. I am extremely grateful to Esther Torrego for her interest, encouragement and valuable comments.

Special thanks are due to Professor Henk van Riemsdijk for kindness and last minute help, and also to William and Linda Dowling for their generosity, involvement and all the important things I have learnt from them.

The publication of this volume has given me the chance of coming into contact with Elly van Gelderen, whose work I have always admired. I thank her for her time and kindness. I would also like to thank to Kees Vaes for editorial assistance.

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CHAPTER 1
SCRAMBLING: A CROSSLINGUISTIC PERSPECTIVE

The term 'scrambling' was introduced into the technical vocabulary of generative grammar by Ross in 1967. In its non-technical use, scrambling refers to apparently optional alterations in word order. It is especially common in languages with extensive case-marking. From this very broad perspective, scrambling may be seen to apply to any example of word order variation that is not triggered by an overt morphological marker, as opposed to cases, such as interrogatives and passives, in which the linguistic constituents are rearranged for a functional purpose. The technical meaning of scrambling is, however, far more specific, excluding as it does permutations that put medial elements in the final-clause position, as in the English example in (1) below —a'Heavy NP-shift'— or Icelandic examples like (2) —taken from Vikner (1994)— an 'Object Shift', in which the relative positions of nominal objects and adverbials are exchanged:

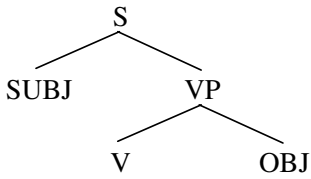
(1) a. I will communicate **the bad news to John**
b. I will communicate to John **the bad news that I heard from Bill today.**

(2) a. *Í gær las Pétur eflaust ekki* ***bókina***
yesterday read Pétur doubtlessly not book-the
"Doubtlessly Peter didn't read the book yesterday"
b. *Í gær las Pétur* ***bókina*** *eflaust ekki*
yesterday read Pétur book-the doubtlessly not
"Doubtlessly Peter didn't read the book yesterday"

There have been a number of attempts to deal in formal terms with the freedom of word order that this more restrictive notion of scrambling entails. Both Ross himself and Chomsky and Lasnik (1977) have taken scrambling to be a stylistic rule that applies optionally. Yet Hale (1980, 1983), on the contrary, takes it to be purely syntactic. The logic behind Hale's analysis involves a division of languages into two groups, which he calls configurational and non-configurational. In his terms, a configurational language pos-

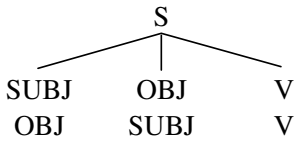
sesses a hierarchical clausal structure, with the object contained in the VP and the subject outside the VP, as in (3):

(3) Configurational language



By contrast, in a non-configurational language the VP node is absent, so that the entire phrase structure is flat, with the subject, object, and other constituents at the same level, as in (4):

(4) Non-configurational language



The point of Hale's analysis is that the syntactic structure in (4) puts subject and object into a symmetrical relation with the verb. No such possibility exists in (3), where the existence of the VP node creates a subject/object asymmetry, with the object being closer to the verb than to the subject. Hale's conclusion is that it is the symmetry of non-configurational languages that permits the freedom for which Chomsky and Lasnik want to account in purely stylistic terms, for in the non-configurational structure the subject may be inserted either as the left-most (SOV) or second (OVS) phrase.

A major point of difference between Hale and Ross is that Hale wants not simply to dismiss stylistic choice as the main factor in scrambling, but to deny that it is optional in all cases. As we have seen, scrambling orders for Ross obeyed a rule that need not be obligatory. On the level of formal analysis, scrambling operations thus involve one more operation than those generating a non-scrambled phrasal order. But for Hale, exactly the same number of obligatory operations are involved in both scrambled and non-scrambled sequences. They are three: lexical insertion of the verb, lexical insertion of the object, and lexical insertion of the subject. On this account, optionality is due

simply to the possibility of a free order of insertion, which is possible in a non-configurational language but not in a configurational language.

The non-configurational approach has gotten good results when applied to some languages, such as Warlpiri (Hale, 1983), Navajo (Hale, Jelinek and Willie, 2003), and Hungarian (É. Kiss, 1994, 2003). The great problem has been that it is unable to account for the data in other languages —Japanese, for instance, as in Saito and Hoji (1983), and German, despite the efforts of Haider (1988)— where subjects and objects are in an asymmetrical relation to the verb. Since the existence of a VP node seems to be fully compatible with scrambling in many such cases, they seem to raise the possibility of optionality once again, although now understood as a purely syntactic rather than a stylistic choice.

The validity of this view has now come into question, however, with the emergence of the 'Minimalist Program' (Chomsky, 1993, 1995, 2000, 2001, 2004). The driving force behind that program is to provide as economical an account of syntactic operations as possible. In rough terms, this involves the principle that there must be a one-to-one relation between the initial set of elements entering the syntactic computation and its output at the other end. As will be seen, this leaves no room whatever for optional operations.

In the literature of the 'Minimalist Program', there has been an attempt to get around the problem of apparent optionality presented by scrambling in several ways. Some researchers, including Chomsky himself (1995), have tried to settle the issue by going back to Ross's original analysis and treating scrambling as a purely stylistic, and therefore non-syntactic, phenomenon. Others have taken their lead from Hale's method of analysis, attempting to make configurationality compatible with a free order of insertion. This group includes Neeleman (1994), Bayer and Kornfilt (1994), and Fanselow (2001, 2003). Finally, there is a third group of researchers that has attempted to solve the problem by showing that the difference between scrambling and 'non-scrambling' strings may be traced to a difference in the members of the initial set. So, for instance, Müller (1998) proposes a [+scrambling] feature and Meinunger (1995) a [+topic] feature to account for the difference between scrambling and 'non-scrambling' types.

As we shall see in Chapter 4, all three types of analysis face serious difficulties. They emerge with particular clarity when each is brought into confrontation with the operations in German syntax.

1. *Scrambling languages*

One of the obvious advantages of Hale's approach was that it made scrambling a direct result of non-configurationality, thus providing a neat solution in terms of the parametric differences of scrambling and 'non-scrambling' languages. It is the fact that such configurational languages as Japanese and German permit scrambling that undermined the neatness of Hale's categories, demanding that some other factor be looked for to account for the process. This factor has been sought in various alternative formulations. For example, Müller and Sternefeld (1993), who treat scrambling as an adjunction to CP, IP, or VP, propose what they call the 'Adjunction Site Parameter':

(5) Adjunction Site Parameter for scrambling positions (Müller and Sternefeld, 1993: 470):
English: —; German: VP, IP; Russian: VP, IP, CP.

According to (5), therefore, the only difference between a 'non-scrambling' language like English and a scrambling one like German or Russian would be that English and similar languages forbid adjunction to any of the projections that host scrambled phrases, while languages like German and Russian permit it.[1]

Bošković and Takahashi (1998) and Neeleman (1994) have presented alternative views. They are different in detail, but share the notion that scrambling is linked to base-generation and the various mechanisms that individual languages use for theta-role assignment. Bošković and Takahashi contend that in Japanese, a scrambling language, reordered phrases are directly inserted in their surface position, then undergoing subsequent covert or invisible lowering to the sites where they receive theta-role, as in (6) (from Bošković and Takahashi, 1998):

(6) a. Base-generation in the strictly syntactic component:
Sono hon-o *John-ga Mary-ga katta to omotteiru*
that book-ACC John-NOM Mary-NOM bought that thinks
"John thinks that Mary bought that book"
b. Covert movement (at 'Logical Form'):[2]
t_i *John-ga Mary-ga* ***sono hon-o***$_i$ *katta to omotteiru*
John-NOM Mary-NOM that book-ACC bought that thinks

On this account, the asymmetry between scrambling and non-scrambling languages would be due either to the availability or unavailability of base

generation of the object in the pre-subject position, or to the possibility or impossibility of its covert movement. Bošković and Takahashi are content to leave the question open, although they suggest that the second option might be preferable on theoretical grounds —that is, for basic assumptions concerning crosslinguistic variation— for those who, like themselves, are working within the framework of Chomsky's 'Minimalist Program' (Chomsky, 1995).

Like Bošković and Takahashi, Neeleman (1994) assigns a prominent role to theta-roles in his analysis of scrambling, but unlike them, does so in relation to the 'Head Parameter' of Chomsky (1981) and Stowell (1981). The notion of a 'Head Parameter' divides languages into two types, those capable of generating verbal arguments on the right of V (VO) and those that generate them to its left (OV). Since Neeleman, like Weerman (1989), assumes that adverbs and adjuncts are crosslinguistically inserted on the left, the result is that they share domain with objects in OV, but not in VO, languages. An example adapted from Neeleman (1994):

(7) Du a. *dat Jan **snel** **het paper** schreef*
that Jan-NOM quickly the paper-ACC wrote
"that Jan wrote the paper quickly"
En b. John **quickly** wrote **the paper**

To sustain this position, Neeleman is compelled to argue that theta-roles are not assigned to specific positions, which puts him in opposition to Chomsky's 'Sisterhood Condition' (Chomsky, 1986), according to which argumental objects may receive a thematic role only when sisters to the lexical verb. Neeleman proposes, alternatively, that the theta-domain of the verb is the entire VP, with adjuncts freely attached. This has the consequence that structures such as (8a) below are as well-formed as those like (7a), since the intervention of the adverb does not block theta-role assignment to the object. But the counterpart of this structure in a VO language like English is impossible, since the only way *quickly* and *the paper* could appear close to each other would be to undergo rightward movement to a position putting them outside VP, where the object cannot be theta-marked:

(8) Du a. *dat Jan **het paper** snel schreef*
that Jan-NOM the paper-ACC quickly wrote
"that Jan wrote the paper quickly"
En b. *John wrote quickly **the paper**

The 'Head Parameter' is the major factor distinguishing scrambling from non-scrambling languages in the work of a number of other linguists: Fukui (1993), Saito and Fukui (1998), and Haider and Rosengren (1998, 2003). Fukui (1993) argues for its importance on the considerations of economy urged by Chomsky (1991), his point being that there is no loss of theoretical economy so long as syntactic operations yield a structure that is consistent with the parameter values of any given language. On this account, there would be no theoretical cost in accounting for the preverbal domain as permitting movement in OV languages, or for the postverbal domain as doing so in VO languages. Saito and Fukui account for adjunction sites in relation to the 'Head Parameter', proposing that adjunction on the left —i.e. scrambling— is permitted only in OV languages, while adjunction on the right —'Heavy NP-shift'— is permitted in VO grammars. I shall discuss the proposal of Haider and Rosengren in detail in Chapters 4 and 5.

Even so sketchy a summary of the various factors proposed in the theoretical literature as being responsible for the division between scrambling and non-scrambling languages will have made it clear that none is wholly satisfactory. Some are not in accord with accepted models of linguistic explanation, while some fail when made to confront relevant empirical data. In the first category we may place Müller and Sternefeld (1993), Fukui (1993), and Saito and Fukui (1998), for all are committed to giving an account of scrambling as a more or less optional operation, which clearly conflicts with Chomsky's now widely-accepted 'Minimalist Program' (Chomsky, 1993, 1995, 2000, 2001, 2004). In addition, a number of studies have called into question the optionality of scrambling even in these cases —e.g. Diesing (1992), de Hoop (1992), Neeleman and Reinhart (1998), Ishihara (2000), Karimi (2003), Kornfilt (2003), etc.— where there can be shown to be clear semantic differences between scrambled and unscrambled constituents. In the second category, we find 'Head Parameter' interpretations such as those of Neeleman (1994), Fukui (1993), and Saito and Fukui (1998), which have no way of account for the existence of VO languages that appear to permit scrambling, such as Russian (Müller and Sternefeld, 1993) and Polish (Haegeman, 1995).

Finally, analyses like those of Neeleman (1994) or Bošković and Takahashi (1998) also appear to raise serious problems. In Chapters 4 and 5, I will show in detail how accounts of scrambling as base-generation fail on several grounds, such as their conflict with the 'Minimal Link Condition' so central to Chomsky's 'Minimalist Program', and their failure to yield a suitable analysis of German data. There remains the question of whether the lowering operation posited by Bošković and Takahashi (1998) represents a theoretical gain in this situation. Johnston and Park (2001) have shown that Korean, a scrambling lan-

guage, does not support conclusions drawn from Japanese. In Korean, scrambling can create possibilities of interpretation that do not exist in the unscrambled variant. These options are just the same ones that would exist if the scrambled element remained in its surface position at LF.

2. *Types of scrambling*

Extensive research on free word order in the last two decades has shown that a simple differentiation between scrambling, in its technical usage, and other reordering processes is not sufficient, and that scrambling itself is not a uniform crosslinguistic phenomenon. Evidence for this lack of uniformity arises from the different structural positions the scrambled constituent may occupy, leading linguists to distinguish at least three types of scrambling: VP-internal, clause-internal, and long-distance scrambling. The following paragraphs give a general characterisation of each of these classes.

The term VP-internal scrambling refers to those cases in which co-arguments are reordered within the limits of the maximal projection of the head selecting for them, a process clearly evident in such languages as Japanese (Hoji, 1985; Saito, 1992; Tada, 1993; Takano, 1998, and Yatsushiro, 1998, 2003, among others), and Persian (Karimi, 2003) (Japanese examples in (9) based on Miyagawa and Tsujioka, 2004; Persian examples in (10) from Karimi, 2003):

(9) a. *Taroo-ga kinoo Hakano-ni* ***nimotu-o*** *okutta*
Taro-NOM yesterday Hakano-DAT package-ACC sent
"Taro sent Hakano a package yesterday"
b. *Taroo-ga kinoo* ***nimotu-o*** *Hakano-ni okutta*
Taro-NOM yesterday package-ACC Hakano-DAT sent
"Taro sent a package to Hakano yesterday"

(10) a. *Kimea aghlab barâ mâ* ***she'r*** *mi-xun-e*
Kimea-NOM often for us poem-ACC reads
"It is often the case that Kimea reads poetry for us"
b. *Kimea aghlab* ***hame-ye she'r-â-ye tâza-sh-ro***
Kimea-NOM often all-PART poems-PART fresh-her-PART
barâ mâ mi-xun-e
for us reads
"It is often the case that Kimea reads all her new poems for us"

Given the assumption that adverbs like *kinoo* in (9) and *aghlab* in (10) mark the VP-boundary in many languages (Jackendoff, 1972; Holmberg, 1986;

Webelhuth, 1992; Karimi, 2003), and that both Japanese and Persian generate DAT above ACC, the examples in (9b) and (10b) are regarded as a product of a scrambling operation applying to the accusative within the boundaries of the ditransitive VP.

The second type, clause-internal scrambling, described in recent research, derives its name from the position in which the scrambled constituent appears. Like VP-scrambling, clause-internal scrambling appears within the clause to which the selecting predicate belongs, but differs crucially by remaining VP-external, as may be seen by the fact that it precedes a VP-adjoined adverb, or even the nominative subject. The Japanese examples in (11) (from Ishihara, 2000) and the Persian sentences in (12) (from Karimi, 2003) illustrate these two possibilities:

(11) a. *Taroo-ga* ***hon-o*** *kyoo katta*
Taro-NOM book-ACC today bought
"Taro has bought a book today"
b. ***Hon-o*** *Taroo-ga kyoo katta*
book-ACC Taro-NOM today bought
"Taro has bought a book today"

(12) a. *Kimea* ***in ketâb-e dâstân-ro*** *aghlab barâ*
Kimea-NOM this book-PART story-PART often for
bachche-hâ mi-xun-e
children reads
"As for this story book, Kimea often reads (it) for the children"
"Kimea reads THIS STORY BOOK often for children"
b. ***In ketâb-e dâstân-ro*** *Kimea aghlab barâ*
this book-PART story-PART Kimea-NOM often for
bachche-hâ mi-xun-e
children reads
"As for this story book, Kimea reads (it) often for children"
"Kimea reads THIS STORY BOOK often for children"

A third type, long-distance scrambling, is characterised by the presence of the reordered constituent in a hierarchically higher clause. This type appears in unrelated languages like Japanese or Russian ((13a) from Saito, 1985; (13b) from Bailyn, 2003):

(13) a. ***Sono hon-o*** *[John-ga Mary-ga katta to] omotteiru*
that book-ACC John-NOM Mary-NOM bought that thinks
"John thinks that Mary bought that book"
b. *Ja* ***Borisu*** *xotel, [čtoby Ira pozvonila]*
I Boris-DAT wanted that Ira-NOM phone
"I wanted Ira to phone Boris"

As the examples in (9)-(13) will suggest, it is thus impossible to reduce scrambling to a unique structural position. One possible approach to reconciling the empirical evidence with the view that, despite differences in the places they occupy, scrambled constituents undergo the same process, might be to adopt an analysis along the lines of Müller and Sternefeld's (1993) 'Adjunction Site Parameter'. As we saw in the preceding section, the existence of such a parameter allowed Müller and Sternefeld to account for the possibility of scrambling in both OV and VO languages. In addition, this approach would have the advantage of depicting (9)-(13) as the product of a single operation, adjunction, and tying the different scrambling types to an independent factor (i.e. the number of available adjunction positions in a given language). Some studies seem to indicate, however, that proposals of the kind found in Müller and Sternefeld (1993) are inadequate to the problem, and that the data appearing in (9)-(13) constitute similar surface manifestations of completely unrelated phenomena. For the sake of illustration, we will briefly discuss the facts in Japanese and Russian. Recent work on Russian and Japanese will provide useful illustrations for our purpose.

The latest research on Japanese free word order suggests that VP-internal, clause-internal, and long-distance scrambling must be understood as the product of distinct syntactic operations. Miyagawa and Tsujioka (2004) demonstrate that VP-internal scrambling can be reduced to the simple fact that Japanese goals may occur in two alternative positions, thus explaining why the accusative may precede or follow the dative. While the high position hosts goals that are interpreted as possessors, the low one is reserved for those interpreted as locatives, as in (14):

(14) high goal (possessive) ..... theme ..... low goal (locative)[3]

Thus, according to Miyagawa and Tsujioka, the structure in (9b), conventionally attributed to scrambling, parallels (9a) in that both are base-generated. However, they crucially differ in the site where the goal is inserted, that preceding the theme in (9a), and that following it in (9b).

Mahajan (1990) argues that long-distance scrambling is crosslinguistically the result of a movement operation that displaces an object from an embedded clause to a higher clause. He provides evidence that such an operation is 'A-bar-movement', the kind of process responsible for fronting topics and *wh*-elements to clause-initial position.[4] Mahajan's conclusions are largely uncontroversial, and accepted for Japanese by most authors (Saito, 1992; Tada, 1993; Yoshimura, 1992; Müller, 1995; Grewendorf and Sabel, 1999; Miyagawa, 2003; among others). However, clause-internal scrambling seems to behave differently, insofar as it parallels 'A-movement', the operation responsible for subject displacement in passives and raising structures[5] (Grewendorf and Sabel, 1999; Miyagawa, 2003, etc). The contrast between the Japanese examples in (15), discussed in Miyagawa (2001, 2003), provides evidence for this distinction:

(15) a. ***Syukudai-o*** *zen'in-ga [sensei-ga dasu to]*
homework-ACC all-NOM teacher-NOM assign that
omowa-nakat-ta
think-not-PAST
"Homework, all did not think that the teacher will assign"

b. ***Sono tesuto-o*** *zen'in-ga isoide uke-nakat-ta*
that test-ACC all-NOM quickly take-not-PAST
"That test, all didn't take quickly"

Technical details aside, Miyagawa's argument is based on the standard view, going back to Klima (1964), that for negation to take scope over α, negation must c-command α. For the examples here, in which the relevant relation is between negation and the quantifier *zen'in* 'all', this entails a 'partial negation' interpretation: "Not all thought that the teacher will assign homework" in (15a), and "Not all took the test quickly" in (15b). The 'partial negation' interpretation is completely inadmissible in (15a), whose reading is exclusively "All did not think that the teacher will assign homework", but it is possible in (15b), along with "All did not take the test quickly". In other words, (15b) is ambiguous. Thus two different questions arise: (i) what is the factor allowing for 'partial negation' in (15b), and disallowing it in (15a)?; and (ii) what is the source for the ambiguity in (15b)? Miyagawa's answer to the first problem capitalises on the position the quantified subject and the scrambled object occupy in each of the structures. He contends that, while (15a) re-presents an ordinary case with the subject in the specifier of the T(ense) projection, hence c-commanding negation, in the 'partial negation' reading of (15b) this position is occupied by the scrambled *sono tesuto-o*. In consequence, the subject must

appear in a lower site, from which it cannot c-command negation. The relevance of Miyagawa's hypothesis for scrambling is that it amounts to equating it with the movement operation that displaces the subjects of passives and raising constructions to Spec, T. Simply put, it amounts to equating clause-internal scrambling with 'A-movement'.

The problem raised by the double interpretation in (15b) is solved by Miyagawa by resorting to the Japanese structure in (16) below, where, unlike the case in (15b), clause-internal scrambling targeting the pre-subject position results in only one reading:

(16) ***Sono tesuto-o*** *zen'in-ga saiwaini uke-nakat-ta*
that test-ACC all-NOM fortunately take-not-PAST
"All did not take that test"
*"Not all took the test"

Miyagawa attributes the opposition between (15b) and (16) to the type of adverb that follows the quantified subject. In the first case, it is a manner adverb that, by assumption, occurs within the VP; in the second case, it is a sentence adverb that typically occurs high in the structure (Cinque, 1999). The result is that subjects may precede manner adverbs even if they are not hosted by Spec, T and, instead, occupy a lower position. But there is only one place for subjects that appear before a sentence adverbial, namely TP, from which they necessarily have scope over negation (the only reading in (16)).

For Miyagawa, the presence of the subject in Spec, T requires the scrambled object to occur in an A-bar-position, i.e. a position reached by 'A-bar-movement'. This entails a double characterisation of clause-internal scrambling as targeting either an A-bar or A-position. Whether or not this is a tenable interpretation, long-distance scrambling is consistently A-bar, which prevents a uniform treatment of the two.

The facts in Russian are also more complex than they may appear at first sight. Recall that Müller and Sternefeld claim that scrambling in Russian is 'A-bar-movement', and that the different positions the scrambled item occurs in are the result of the alternative adjunction sites Russian grammar allows for. However, Bailyn (2002, 2003) convincingly shows, as Miyagawa (2001, 2003) does for Japanese, that some instances of clause-internal scrambling exhibit properties typical of structures derived by 'A-movement'. Such instances, which Bailyn labels 'General Inversion' constructions, are characterised by the obligatory presence of the verb after the 'scrambled' constituent, which, although sometimes marginally, may bind a c-commanded anaphor (indicated by co-indexing) (examples from Bailyn, 2003):

(17) a. ??***Ètu firmu*$_{\mathbf{i}}$** *rekomendujut svoi*$_{\mathrm{i}}$ *direktora*
this firm-ACC recommend self's directors-NOM
"This firm is recommended by self's directors"
b. ***Maše*$_{\mathbf{i}}$** *nravitsja svoja*$_{\mathrm{i}}$ *rabota*
Masha-DAT pleases self's work-NOM
"Masha likes her own work"

Since, on standard assumptions, binding is possible only from A-positions, Bailyn's conclusion is that 'General Inversion' must target a position of this kind, namely Spec, T. Nevertheless, in the scrambling strings where there is no adjacency between the scrambled constituent and the verb, the former exhibits properties traditionally assigned to elements on A-bar positions. One of these properties is that binding is impossible:

(18) a. ***Ètu firmu*$_{\mathbf{i}}$** *svoi*$_{\mathrm{i}}$ *direktora rekomendujut*
this firm-ACC self's directors-NOM recommend
b. ***Maše*$_{\mathbf{i}}$** *svoja*$_{\mathrm{i}}$ *rabota nravitsja*
Masha-DAT self's work-NOM pleases

On the other hand, Bailyn (1995, 2001) demonstrates that long-distance scrambling in Russian is subject to the same constraints as *wh*-movement, which, following Mahajan (1990), makes him characterise it as an instance of 'A-bar-movement'. If the distinction he draws between 'General Inversion' in (17) and the process in (18) is correct, the situation in Russian would parallel that in Japanese, and at least two different classes of scrambling should be posited: 'General Inversion', if the scrambled constituent appears in an A-position (17), and 'Dislocation', if the position is A-bar, independently of the clause that contains it ((13b) and (18)).

Miyagawa's (2001, 2003) and Bailyn's (2002, 2003) analyses are simply examples of how recent studies of certain scrambling languages question the claim that all instances of reordering attested in the so-called scrambling language are the product of a single process. From this perspective, the different ordering options Japanese or Russian exhibit are linked not only to the structural positions the scrambled constituent occupies, but also to well-defined syntactic operations that cannot be subsumed under a general label. In the next section we will consider whether the same assumption may be true of Germanic scrambling.

3. *Scrambling in the Germanic languages*

The most common assumption about Germanic scrambling in the literature is that it is amenable to accounts invoking a single syntactic operation. This assumption, in turn, rests on two fundamental claims: (i) the systematic absence of long-distance scrambling in Germanic allows for a unified treatment of reordering sequences; and (ii) there is a strict differentiation between West Germanic scrambling and North Germanic 'Object Shift'. The present work contends that, while (i) is basically correct, (ii) is not completely accurate. The fact is that both processes share important properties usually disregarded, and even unnoticed.

There are two reasons for considering (i) as essentially right. The first is, as in the standard view, the general absence of long-distance scrambling. This is illustrated below for German (19a), Dutch (19b), and Yiddish (19c) (Dutch examples from Neeleman, 1994; Yiddish examples from Diesing, 1997):

(19) a. **dass Hans* ***das Buch*** *sagt dass er gelesen hat*
that Hans-NOM the book-ACC says that he read has
"that Hans says that he has read the book"

b. **dat Kees* ***dat artikel*** *dacht dat hij gelezen had*
that Kees-NOM that article-ACC thought that he read had
"that Kees thought that he had read that article"

c. **az Maks hot* ***Avromen*** *gezogt az Rifke*
that Max-NOM has Abraham-ACC said that Rebecca-NOM
hot gezen
has seen
"that Max has said that Rebecca has seen Abraham"

Thus, clause-internal scrambling seems to be the only option in Germanic languages.

The second reason relates to the structural position in which scrambled constituents may appear. In this respect, Germanic languages are divided into two main types, those in which there is only a scrambling site (intervening between VP-adjoined material and subjects), and those in which there are two (the one intervening between the VP-adjoined material and subjects, plus another located above the subject position). Dutch seems to belong to the first type (20),[6] while German and Yiddish are clear instances of the second —(21), (22)— (Dutch examples based on Neeleman, 1994; Yiddish examples from Diesing, 1997):

(20) a. *dat Jan* ***het boek*** *op zontag leest*
that Jan-NOM the book-ACC on sunday reads
"that Jan reads the book on Sunday"
b. **dat* ***het boek*** *Jan op zontag leest*
that the book-ACC Jan-NOM on sunday reads
"that Jan reads the book on Sunday"

(21) a. *dass Hans* ***das Buch*** *gestern gelesen hat*
that Hans-NOM the book-ACC yesterday read has
"that Hans read the book yesterday"
b. *dass* ***das Buch*** *Hans gestern gelesen hat*
that the book-ACC Hans-NOM yesterday read has
"that Hans read the book yesterday"

(22) a. *Nekhtn hot Maks* ***dos bukh*** *nit geleyent*
yesterday has Max-NOM the book-ACC not read
"Max did not read the book yesterday"
b. *Nekhtn hot* ***dos bukh*** *Maks nit geleyent*
yesterday has the book-ACC Max-NOM not read
"Max did not read the book yesterday"

On the uncontroversial assumption that a unified syntactic treatment of reordering options in a given language necessarily requires the existence of a unique position for reordered elements, the facts in Dutch seem to support the frequent claim that Germanic scrambling may be considered as a single process. On the other hand, the data from German or Yiddish might seemingly be interpreted to mean that pre-subject and post-subject scrambling were two distinct phenomena. This possibility is, however, clearly disallowed by the fact that scrambled constituents seem to exhibit an identical syntactic behaviour, irrespective of their appearance before or after subjects. Using German as my example, I shall argue in Chapter 3 that it is impossible to establish for that language any syntactic distinction between pre-subject and post-subject scrambling, if the latter takes place past VP-adjoined adverbials.

Things may be different with respect to (ii) above —that is, the strict separation between scrambling and 'Object Shift'. At first glance, both might seem to be generally characterised as reordering processes that allow VP-internal material to occupy a higher, VP-external position, insofar as the string created by 'Object Shift' (23) is identical to that produced by clause-internal scrambling (24) (Icelandic example from Thráinsson, 2001):

(23) a. *Nemandinn las ekki* ***bókina***
student-the-NOM read not book-the-ACC
"The student did not read the book"
b. *Nemandinn las* ***bókina*** *ekki*
student-the-NOM read book-the-ACC not
"The student did not read the book"

(24) a. *Der Student hat gestern* ***das Buch*** *gelesen*
the student-NOM has yesterday the book-ACC read
"The student read the book yesterday"
b. *Der Student hat* ***das Buch*** *gestern gelesen*
the student-NOM has the book-ACC yesterday read
"The student read the book yesterday"

However, extensive research has revealed that the syntactic properties they exhibit differ in several respects. Among them are:
(a) 'Holmberg's Generalisation' (Holmberg, 1986) (see Chapter 5). 'Object Shift' is dependent on verb movement, while scrambling is not. In other words, while the presence of a shifted object is barred in Icelandic if the lexical verb remains in the VP (25), scrambled constituents are freely allowed in German (26) (Icelandic examples from Thráinsson, 2001):

(25) a. *Af hverfu lásu nemendurnir* ***bækurnar*** *ekki?*
why read students-the-NOM books-the-ACC not
"Why didn't the students read the books?"
b. **Af hverfu hafa nemendurnir* ***bækurnar*** *ekki lesið?*
why have students-the-NOM books-the-ACC not read
"Why haven't the students read the books?"

(26) a. *Warum las der Student gestern* ***das Buch****?*
why read the student-NOM yesterday the book-ACC
"Why did the student read the book yesterday?"
b. *Warum hat der Student* ***das Buch*** *gestern gelesen?*
why has the student-NOM the book-ACC yesterday read
"Why did the student read the book yesterday?"

(b) 'Object Shift' is possible only with DPs, while there are no categorial restrictions on scrambling (Chapters 3 and 5). Thus, shifting of a PP in Icelandic results in an ungrammatical structure (27), but scrambling of a complement

non-finite clause in German is well-formed (28) (Icelandic examples from Thráinsson, 2001):

(27) a. *Jón talaði ekki* ***við Maríu***
John-NOM spoke not with Mariu
"John didn't speak with Mary"
b. **Jón talaði* ***við Maríu*** *ekki*
John-NOM spoke with Mariu not
"John didn't speak with Mary"

(28) a. *dass er gestern* ***das Buch zu lesen*** *versucht hat*
that he yesterday the book-ACC to read tried has
"that he tried to read the book yesterday"
b. *dass er* ***das Buch zu lesen*** *gestern versucht hat*
that he the book-ACC to read yesterday tried has
"that he tried to read the book yesterday"

(c) In contrast to scrambled constituents, which may precede subjects in languages like German or Yiddish (see above, and also Chapter 3), shifted objects must obligatorily follow them, as shown in the Icelandic examples in (29) (from Thráinsson, 2001) and the German examples in (30):

(29) a. *Þá máluðu allir strákarnir stundum* ***bílana*** *rauða*
then painted all boys-the-NOM sometimes cars-the-ACC red
"Then all the boys sometimes painted the cars red"
b. *Þá máluðu allir strákarnir* ***bílana*** *stundum rauða*
then painted all boys-the-NOM cars-the-ACC sometimes red
"Then all the boys sometimes painted the cars red"
c. **Þá máluðu* ***bílana*** *allir strákarnir stundum*
then painted cars-the-ACC all boys-the-NOM sometimes
rauða
red
"Then all the boys sometimes painted the cars red"

(30) a. *dass Peter gestern* ***das Buch*** *gelesen hat*
that Peter-NOM yesterday the book-ACC read has
"that Peter read the book yesterday"
b. *dass Peter* ***das Buch*** *gestern gelesen hat*
that Peter-NOM the book-ACC yesterday read has
"that Peter read the book yesterday"

c. *dass* ***das Buch*** *Peter gestern gelesen hat*
that the book-ACC Peter-NOM yesterday read has
"that Peter read the book yesterday"

(d) In the case of ditransitive predicates, in which the dative is base-generated higher than the accusative (DAT > ACC), the accusative shifts only if the dative shifts as well ((31c) vs (31d)), with DAT > ACC as the only possible order ((31d) vs (31e)). However, there is no ban on scrambling an accusative across a dative (32c), and, if both are scrambled, DAT > ACC as well as ACC > DAT are permitted ((32d), (32e)) (Icelandic examples from Thráinsson, 2001):

(31) a. *Ég skilaði ekki* ***mannínum bókinni***
I returned not man-the-DAT book-the-ACC
"I didn't return the book to the man"
b. *Eg skilaði* ***mannínum*** *ekki* ***bókinni***
I returned man-the-DAT not book-the-ACC
"I didn't return the book to the man"
c. **Eg skilaði* ***bókinni*** *ekki* ***mannínum***
I returned book-the-ACC not man-the-DAT
"I didn't return the book to the man"
d. *Eg skilaði* ***mannínum bókinni*** *ekki*
I returned man-the-DAT book-the-ACC not
"I didn't return the book to the man"
e. **Ég skilaði* ***bókinni mannínum*** *ekki*
I returned book-the-ACC man-the-DAT not
"I didn't return the book to the man"

(32) a. *dass die Firma gestern* ***meinem Önkel***
that the company-NOM yesterday my uncle-DAT
die Möbel *zugestellt hat*
the furniture-ACC delivered has
"that the company delivered the furniture to my uncle yesterday"
b. *dass die Firma* ***meinem Önkel*** *gestern*
that the company-NOM my uncle-DAT yesterday
die Möbel *zugestellt hat*
the furniture-ACC delivered has
"that the company delivered the furniture to my uncle yesterday"

c. *dass die Firma* ***die Möbel*** *gestern*
that the company-NOM the furniture-ACC yesterday
meinem Önkel *zugestellt hat*
my uncle-DAT delivered has
"that the company delivered the furniture to my uncle yesterday"

d. *dass die Firma* ***meinem Önkel*** ***die Möbel***
that the company-NOM my uncle-DAT the furniture-ACC
gestern zugestellt hat
yesterday delivered has
"that the company delivered the furniture to my uncle yesterday"

e. *dass die Firma* ***die Möbel*** ***meinem Önkel***
that the company-NOM the furniture-ACC my uncle-DAT
gestern zugestellt hat
yesterday delivered has
"that the company delivered the furniture to my uncle yesterday"

The conclusions suggested by these examples obviously argue against a unified account of Germanic reordering, supporting the common claim that scrambling and 'Object Shift' are unrelated phenomena. Furthermore, they tie in nicely with the view that scrambling is dependent on the 'Head Parameter', insofar as West Germanic languages are, probably with no exception,[7] OV. They also make it possible to avoid the empirical and theoretical complications that would result from trying to explain both processes as deriving from a single source. In conclusion, preserving a strict differentiation between scrambling and 'Object Shift' solves a number of problems posed by such structures. At the same time, however, it raises other difficulties.

The first difficulty concerns the fact that none of the properties above, except for 'Holmberg's Generalisation' in (a), can be said to be privative of either scrambling or 'Object Shift'. For instance, it is not completely true, as the reader will see in Chapters 3 and 5, that 'Object Shift' is general with DPs, or that scrambling is absolutely unrestricted. In fact, as Diesing (1997) convincingly argues, the two processes seem to obey constraints related to the semantic reading of the shifted/scrambled constituent, which, in general terms, must be interpreted as discourse-linked. From this perspective, the asymmetry found between West Germanic scrambling and North Germanic 'Object Shift' parallels, in some sense, that manifested in North Germanic itself, where the vast majority of languages (Swedish, Norwegian, Danish, Faroese) allow

reordering to apply only to pronominal DPs, which makes the Icelandic shift of nominal DPs an exception. It is true that there does not exist any account in the literature that derives the categorial differences between scrambled and shifted constituents in a satisfactory way. But it is not less true that the factor responsible for the asymmetry between Mainland Scandinavian and Icelandic has not been properly identified yet, mainly due to the facts in Faroese, a language with morphological case of the kind manifested in Icelandic, where, nevertheless, 'Object Shift' is restricted to pronominal DPs, as in Mainland Scandinavian.

Similar complexities arise with respect to (c) above, that is, the claim that scrambling permits two alternative clause-internal positions for reordered constituents, while 'Object Shift' is tied to only one. Such a statement is partially right, insofar as shifted objects never precede subjects in any of the North Germanic languages. But this is also the behaviour of scrambled constituents in Dutch (see (20) above), which has forced linguists to attribute the possibility of pre-subject scrambling in German to properties independent of the reordering process itself (see Chapter 3). The argument may be extended to the issue of the ordering restrictions with ditransitive predicates, usually considered as a hallmark of 'Object Shift' (31). Again, although it is true that neither German (32) nor Yiddish (Diesing, 1997:402) observe such restrictions, they are strictly obeyed in Dutch, as shown in (33) (from Thráinsson, 2001):[8]

(33) a. **dat de vrouw* ***de film*** *waarschijnlijk*
that the woman-NOM the picture-ACC probably
de mannen *toont*
the men-DAT shows
"that the woman probably shows the picture to the men"

b. **dat de vrouw* ***de film*** ***de mannen***
that the woman-NOM the picture-ACC the men-DAT
waarschijnlijk toont
probably shows
"that the woman probably shows the picture to the men"

c. *dat de vrouw* ***de mannen*** ***de film***
that the woman-NOM the men-DAT the picture-ACC
waarschijnlijk toont
probably shows
"that the woman probably shows the picture to the men"

If the objections to (b), (c), and (d) above are tenable, we are left with only two reliable criteria for deciding about the issue of how many reordering

processes are manifested in Germanic languages: the semantic constraints that, according to Diesing (1997), reordered constituents seem to exhibit, and 'Holmberg's Generalisation' in (a). Diesing's semantic constraints support the view that, despite remarkable differences, both scrambling and 'Object Shift' may constitute basically the same phenomenon. 'Holmberg's Generalisation' argues for the common opinion that they must be strictly kept apart.

The present work aligns itself with the few studies that have emphasized the similarities between scrambling and 'Object Shift', considering them as apparently different manifestations of a single syntactic phenomenon, i.e. Germanic reordering. My analysis will focus on German scrambling, which, as shown in the previous discussion, seems to be more problematic for the unified account, because it allows for alternative clause-internal positions for scrambled constituents (c), and it does not impose ordering restrictions on ditransitive predicates (d). I shall argue that:

(i) German(ic) scrambling is restricted with respect to the semantic/pragmatic nature of the scrambled constituent, as has been frequently noted in the literature (de Hoop, 1992, Neeleman and Reinhart, 1998, for Dutch; Diesing, 1992, Meinunger, 1995, for German; Diesing, 1997, for Yiddish; among others). Scandinavian 'Object Shift' is restricted in the same way (Diesing, 1997; Holmberg, 1999; Chomsky, 2001; among others).

(ii) The link between Scandinavian 'Object Shift' and verb movement in 'Holmberg's Generalisation' must be replaced by a link between the shiftable object and any phonologically realised constituent c-commanding it within the VP-projection (Holmberg, 1986; Holmberg, 1999; Chomsky, 2001). This would explain (a) why verb movement is irrelevant for reordering in West Germanic languages, where head-finalness would systematically prevent the clause-final verb from c-commanding the 'scrambable' constituent; and (b) why scrambled co-arguments of ditransitive structures must appear in a fixed order in Dutch. It will be argued in these pages that 'Holmberg's Generalisation' also holds true for German, as may be seen by the availability of discourse-linked readings for unscrambled accusatives following VP-internal datives, by some anomalies in the reordering of arguments bearing inherent case in ditransitive constructions, and by the asymmetry between head-initial and head-final projections as far as scrambling of their internal constituents is concerned. The claim that 'Holmberg's Generalisation' applies in German, however, leaves us with the problem of accounting for those cases in which a VP-internal element may be reordered across phonologically realised material. This study will suggest a solution along the lines proposed for VP-internal scrambling in such languages as Japanese (Miyagawa and Tsujioka, 2004) and Persian (Karimi, 2003). It will defend a relatively flexible view of base

generation in German on the basis of VP-topicalisation constructions, while admitting the need for more research on this point.
(iii) German(ic) scrambling entails the same kind of special 'Spell-Out' procedure Chomsky (2001) proposes for Scandinavian 'Object Shift'. This is empirically corroborated by some systematic contrasts between fronting and scrambling of constituents base-generated in reordered non-finite clauses (Grewendorf and Sabel, 1994; Müller, 1998). If the account of such asymmetries proposed in this study is tenable, it would constitute an additional proof for the unified approach to reordering in Germanic languages, and lend support to Chomsky's insight, which, as it stands, is exclusively based on requirements derived from the theoretical model it adopts (the 'Minimalist Program').

To summarise, the present work will contend that German(ic) scrambling strings are the product of a single syntactic process and, moreover, that Germanic reordering (i.e. scrambling and 'Object Shift') are essentially the same.

The overall development of the argument proceeds as follows. Chapter 2 presents some general properties of the syntax of German, focusing on those structures that are relevant to the subsequent discussion of the scrambling data. Chapter 3 surveys the properties that characterise German scrambling, according to the vast and frequently contentious literature on the topic. Chapter 4 critically reviews the different analyses that have tried to account for such properties within a generative framework, showing their main advantages and deficiencies. Chapter 5 devotes itself to discussing in detail the claims in (i)-(iii) above, which, if tenable, would demonstrate the adequacy of a unified treatment of both North Germanic 'Object Shift' and West Germanic scrambling. Finally, Chapter 6 summarises the main conclusions of the study as a whole.

CHAPTER 2
A SURVEY OF SOME BASIC PROPERTIES OF GERMAN

This chapter presents an overview of some phenomena in German that will be relevant to our discussion of scrambling: clausal structure, coherent infinitival constructions, remnant movement, weak pronominals, and focus scrambling. Although the specific reasons for their importance to the larger argument about reordering processes presented here will soon become apparent in the chapters that follow, it will be useful to give a brief preliminary outline.

With respect to clausal structure, I shall argue that scrambling is invariably restricted to the German *Mittelfeld*, a fairly uncontroversial assumption. A descriptive characterisation of the *Mittelfeld*, as well as the *Vorfeld* and *Nachfeld*, will be given in Section 2.1, where we will also treat one of the most pervasive Germanic properties, the 'verb second constraint'.

Coherent infinitival constructions have been traditionally distinguished from incoherent ones with regard to several properties (Haider, 1986a, 1987, 1990, 1991, 1993). One of those properties relates to scrambling facts: reordering of elements thematically linked to the embedded infinitive may appear in the matrix clause only in the case that the infinitive at stake is coherent. Such structures will be the topic of Section 2.2. Regarding remnant movement, its inclusion obeys to two observations on which the present work capitalises: (i) languages such as German allow for a kind of remnant movement which is the direct result of scrambling (Thiersch, 1985; Den Besten and Webelhuth, 1987; 1990); and (ii) remnant constituents cannot be reordered (Müller, 1998). Section 2.3 will focus on such incomplete categories.

In their seminal work on crosslinguistic deficiency, Cardinaletti and Starke (1996, 1999) argue that the German pronominal system cannot be reduced to the bipartite division that is traditionally assumed for Romance languages (full vs clitic forms), and that the existence of a third type of pronoun must be posited, namely weak pronouns. For Cardinaletti and Starke, these elements are endowed with special phonological, semantic, and syntactic properties, as will be shown in Section 2.4. Their connection to scrambling is due to the claim that (i) the syntactic position they occupy (the so-called 'Wackernagel position') is, in fact, a scrambling site (Gärtner and Steinbach, 2003) and (ii) their phonological behaviour is the source for the well-formedness of some instances of reordering with remnant constituents (Chapter 5). Finally, Section 2.5 will

be devoted to 'focus scrambling' (Neeleman, 1994), in order to clarify the ways in which the conclusions of the present study do not apply to it. Although both processes are, in fact, very similar as far as their locus is concerned (the *Mittelfeld*), they differ greatly with respect to syntactic behaviour, as Neeleman (1994) convincingly demonstrates.

The approach in the following sections is mainly descriptive, and the only theoretical assumptions are those derived from a very general generative framework: clauses are the product of the combination of lexical and functional heads, which project into lexical and functional phrases. With respect to functional phrases, I shall follow a simplified design, in which the only functional projections are TP (tense phrase) and CP (complementiser phrase). Both heads and phrases may be displaced to higher (head and phrasal) positions by movement operations, whose trigger and requirements will be completely disregarded here.[1]

1. *The structure of the German clause*

One of the most relevant syntactic characteristic of German is the so-called 'verb second constraint', which also holds in the rest Germanic languages (except English).[2] The term refers to the position occupied by the finite verb, main or auxiliary, in root declarative clauses, which is, almost without exception,[3] the second position. In other words, whatever category appears as the initial constituent of a main clause, the finite verb will immediately follow it. This is illustrated in (1), where a DP subject (1a), an adverbial phrase (1b), and a secondary adjectival predicate are the first elements in the string:

(1) a. *Peter sah einen Vogel*
Peter-NOM saw a bird-ACC
"Peter saw a bird"
b. *Gestern hat Peter einen Vogel gesehen*
yesterday has Peter-NOM a bird-ACC seen
"Yesterday Peter saw a bird"
c. *Grün hat er gestern den Zaun gestrichen*
green has er yesterday the fence-ACC painted
"He painted the fence green yesterday"

Describing 'verb-second' as the obligatory second position of a finite verbal form in declarative main clauses entails that, in the relevant languages, there must exist an asymmetry with respect to verb placement between root and non-root structures. This asymmetry is straightforward in the case of those Germanic languages characterised as OV languages (among them, German),

where the position of the finite embedded verb is undoubtedly demonstrated to be clause-final (Koster, 1975):

(2) a. *weil Peter einen Vogel sah*
because Peter-NOM a bird-ACC saw
"because Peter saw a bird"
a'. [*Einen Vogel zu sehen*] *wäre angenehm*
a bird-ACC to see would-be fun
"It would be fun to see a bird"
b. *Mein Bruder steht immer sehr früh auf*
my brother-NOM gets always very early up
"My brother always gets up very early"
b'. *weil mein Bruder immer sehr früh aufsteht*
because my brother-NOM always very early up-gets
"Because my brother always gets up very early"

In (2a), the finite verb *sah* is the last element of the embedded clause, paralleling the non-finite *zu sehen* in the topicalised VP of (2a'). On the other hand, the final particle of root (2b) forms a unit with the finite verb in (2b'), which argues not only for the OV nature of German, but also for an account of the 'verb second constraint' in terms of a derived structure. And, in fact, this is the common treatment it has received in the literature.

Thiersch (1978) proposed that 'verb-second' is the result of two different operations, one displacing the finite verb, and the other fronting the preceding XP. It was Den Besten's (1983) hypothesis that the verb position should be related to the C(omplementiser) position, on the basis of the absence of verb second in embedded clauses,[4] and the apparent complementary distribution of finite verbs and complementisers. According to him, what both types of elements have in common is that they are phonological realisations of tense (T), hosted by C in Germanic, as such phenomena as complementiser agreement and cliticisation onto C demonstrate.[5] Thus, verb movement is rendered as V-to-T. The trigger for XP-fronting is more controversial. Nevertheless, it is generally assumed that its syntactic behaviour argues for a characterisation of the position it occupies as a derived position too. Grohmann's (2000b) study on the Germanic left periphery summarises the main arguments:

(i) The displaced element is theta-selected by the verb.

(3) *An seinen Freund hat Martin den ganzen Tag gedacht*
of his friend has Martin-NOM the whole day thought
"Martin thought of his friend the whole day through"

(ii) The moved element is case-marked by the verb:

(4) *Den Martin hat der Peter gesehen*
Martin-ACC has Peter-NOM seen
"Peter saw Martin"

(iii) The movement dependency may be long-distance, even unbounded:

(5) *Den Martin hat der Peter gesagt hat Maria gesehen*
Martin-ACC has Peter-NOM said has Maria-NOM seen
"Peter said that Maria saw Martin"

(iv) The movement of the constituent shows island-sensitivity, that is, it cannot take place from a phrase which is opaque for extraction, a complex DP in the example below (Ross, 1967; see Chapter 3, Section, 3.1.6):

(6) **Den Martin glaubt Maria die Tatsache hat Peter*
Martin-ACC believes Maria-NOM the fact-ACC has Peter-NOM
gesehen
seen
"Maria believes the fact that Peter saw Martin"

(v) The structure derived by movement of the constituent exhibits reconstruction effects, that is, it behaves as if it were in its original position for coreference relations (coreference indicated by coindexing):

(7) *Seinen$_i$ besten Freund sollte jeder$_i$ gut behandeln*
his best friend-ACC should everyone well treat
"Everyone should treat his best friend well"

Recall that, as stated above, the 'verb second constraint' does not impose any restriction on the moved XP with regard to category. However, the process seems to obey other kinds of constraints (examples (8a,a') and (8b,b') from Grohmann, 2000b; (8c,c') and (8d,d') from Schwartz and Vikner, 1996):

(8) a. *Viele Bücher hat Peter gestern gelesen*
many books-ACC has Peter-NOM yesterday read
"Peter read many books yesterday"
a'. **Wenige Bücher hat Peter gestern gelesen*
few books-ACC has Peter-NOM yesterday read
"Peter read few books yesterday"
b. *Warscheinlich/Gestern hat das Buch Peter gelesen*
probably / yesterday has the book-ACC Peter-NOM read
"Peter (probably) read the book (yesterday)"
b'. **Kaum/Komplett hat Peter das Buch gelesen*
barely / completely has Peter-NOM the book-ACC read
"Peter barely/completely read the book"
c. *Das Kind hat das Brot gegessen*
the kind-NOM has the bread-ACC eaten
"The child ate the bread"
c'. *Das Brot hat das Kind gegessen*
the bread-ACC has the child-NOM eaten
"The child ate the bread"
d. *Es hat das Brot gegessen*
it-NOM has the bread-ACC eaten
"He (the child) ate the bread"
d'. **Es hat das Kind gegessen*
it-ACC has the kind-NOM eaten
"The child ate it"

The (a) pair shows that increasing quantifiers are grammatical as initial elements, but decreasing ones are not. In the (b) pair, the grammaticality of fronted sentential and event-related adverbs contrasts with the ungrammaticality of displaced manner adverbials. The examples in (c) demonstrate that movement of a nominal DP to Spec, C is well-formed irrespective of syntactic function. However, there is an asymmetry between (d) and (d'), which clearly indicates that pronominal objects such as *es* are not permitted in the initial position. While the oppositions in (a)-(a') and (b)-(b') may be amenable to an analysis in semantic terms, (d)-(d') is clearly not, which some researchers have taken to indicate that, in fact, the 'verb second constraint' is the surface manifestation of two different structures, the one in (8d), and that in (8d'). Such a group of proposals was labelled as the 'asymmetric approach to V-2'. The traditional idea that verb second reflects a single structure was, in turn, re-labelled as the 'symmetric approach'.

The most important 'asymmetric' contributions are those developed in Travis (1984) and Zwart (1993, 1997, and subsequent work). The main claim is that the displacement of the verb and of the initial constituent pictured in verb second constructions targets the COMP projection only in the case that the XP at stake is not a subject. However, subject-initial root clauses simply result from movement to TP. This straightforwardly accounts for the contrast in (8d) and (8d') above: for reasons related to their inherent nature (see Section 4 below), pronominals like *es* cannot be fronted to Spec, C, independently of syntactic function (8d'). But nothing prevents them from appearing in Spec, T, the subject position, which explains the grammaticality of (8d).

Such an analysis is, nevertheless, refutable, as demonstrated in the work of the defenders of the 'symmetric' view, most notably in Schwartz and Vikner (1989, 1996). Their conclusions are based on three different pieces of evidence:

(i) Adverbial adjunction to TP is possible in embedded clauses and root (yes/no) questions, while it is completely deviant in subject-initial declarative clauses (examples from Schwartz and Vikner, 1996):

(9) a. *Ich weiss, dass* $_{TP}$[*letzte Woche* $_{TP}$[*Peter* [*ein Buch*
I know that last week Peter-NOM a book-ACC
gelesen hat]]]
read has
"I know that Peter read a book last week"

b. *Hat* $_{TP}$[*letzte Woche* $_{TP}$[*Peter* [*ein Buch gelesen?*]]]
Has last week Peter-NOM a book-ACC read
"Did Peter read a book last week?"

c. *$_{TP}$[*Letzte Woche* $_{TP}$[*Peter hat* [*ein Buch gelesen*]]]
last week Peter-NOM has a book-ACC read
"Peter read a book last week"

(ii) Extraction of a constituent out of a verb second embedded clause[6] is forbidden irrespective of the function of the initial constituent; that is, movement out of subject-initial clauses is as illicit as that from non-subject initial ones.[7] This seems to indicate that both fronted elements and subjects occupy the same position, namely Spec, C:

(10) a. **Welchen Film$_i$ hat sie gesagt in der Schule haben*
which film-ACC has she said in the school have
die Kinder t_i *gesehen?*
the children-NOM seen
"Which film did she say that the children saw at school?"
b. **Welchen Film$_i$ hat sie gesagt die Kinder haben*
which film-ACC has she said the children-NOM have
t_i *gesehen?*
seen
"Which film did she say that the children saw?"

(iii) Weak expletive pronouns are possible sentence-initially, but are barred in the subject position of non subject-initial and embedded clauses. If subject-initial root clauses require an expletive in Spec, C (11a), the question is why this is not so in the other two types, where the presence of the expletive rules out the structure (11b,c).

(11) a. *Es ist ein Junge gekommen*
EXPL has a boy-NOM come
"There came a boy"
a'. *pro *ist ein Junge gekommen*
EXPL has a boy-NOM come
"There came a boy"
b. **Gestern ist es ein Junge gekommen*
yesterday has EXPL a boy-NOM come
"There came a boy yesterday"
b'. *Gestern* pro *ist ein Junge gekommen*
yesterday EXPL has a boy-NOM come
"There came a boy yesterday"
c. **dass es ein Junge gekommen ist*
that EXPL a boy-NOM come has
"that there came a boy yesterday"
c'. *dass* pro *ein Junge gekommen ist*
that EXPL a boy-NOM come has
"that there came a boy yesterday"

Irrespective of the question whether a single process is responsible for displacing subjects and non-subjects constituents in declarative verb second, the alternative positions the verb occupies in root and non-root declarative clauses have been traditionally used to describe the structure of the German

clause in terms of three different fields: the *Vorfeld*, the *Mittelfeld*, and the *Nachfeld*. The *Vorfeld* ("pre-field") is composed by those syntactic elements that precede C, but its presence is tied to that of the finite verb: in other words, no constituent may precede C if C hosts the complementiser. The *Mittelfeld* ("middle field") extends from the finite verb (or the complementiser) in C to the position typically occupied by verbal forms in embedded clauses. This latter position is, in turn, the left boundary of the *Nachfeld* ("post-field"). The distribution of the three fields is shown in (12):

(12) *Vorfeld* C *Mittelfeld* V *Nachfeld*

The kind of syntactic positions contained in each of the fields is controversial. With respect to the *Vorfeld*, the debate is tied to the adoption of the 'symmetric' or the 'asymmetric' view: in light of the 'symmetric' view, topicalised material and also subjects (including expletives) are *Vorfeld* elements; in light of the 'asymmetric' view, the *Vorfeld* is restricted to topicalisation. The source of the disagreement with respect to the *Mittelfeld* and *Nachfeld* is different, and derives from two distinct approaches to the phenomenon of head-finalness. The first one starts with the generative grammatical model in Chomsky (1965), where the VO/OV distinction is attributed to the existence of different phrasal rules for forming VPs in SVO and SOV languages, as shown in (13):

(13) SVO language: VP→ V NP
SOV language: VP→ NP V

This analysis is essentially maintained in the subsequent 'Principles and Parameters' framework, where it is reformulated in terms of a directionality parameter (Chomsky, 1981; Stowell, 1981):

(14) SVO language: the head (V in VP) precedes its complements
SOV language: the head (V in VP) follows its complements

In this approach, the German *Mittelfeld* hosts elements which have been either generated there, or moved from those base generation positions to others crucially located below C. In the same vein, the *Nachfeld* is the locus for extraposed material, that is, constituents that have left their base position in the *Mittelfeld* and have undergone rightward movement:

(15) The structure of the German clause I

Vorfeld	C	*Mittelfeld*	V	*Nachfeld*
	finite V complementiser	direct licensing (base-generation) indirect licensing (movement)	finite V	extraposition

Kayne's (1994) 'Antisymmetry' framework proposes an alternative way to handle the crosslinguistic variation involved in VO and OV orders. Omitting technical details, the basic idea is that all languages are underlyingly SVO (that is, the verb precedes its complements), and that SOV is the product of a movement operation that displaces the object to the left of the verbal head. Therefore, the only difference between VO and OV languages would be whether they require such an operation to be implemented. If, as argued by Kayne, German complements must move, the *Mittelfeld* would comprise only non base-generated elements, while the *Nachfeld* would contain only stranded material, that is, material left there after all other constituents have targeted a position within the *Mittelfeld*:

(16) The structure of the German clause II

Vorfeld	C	*Mittelfeld*	V	*Nachfeld*
	finite V complementiser	indirect licensing (movement)	finite V	stranding

In the remainder of this work, I will adopt (15) instead of (16), due to the theoretical framework that my account of German scrambling depends upon, namely Chomsky's (1993, 1995, 2000, 2001, 2004) 'Minimalist Program'. Although a full discussion of the fundamental tenets of such a framework will be deferred until Chapters 4 and 5, it may be noted here that one of the most important tenets is that requiring all movement operations to be strictly triggered. Attempts to prove that all the elements that appear in the German *Mittelfeld* must move there, however, have not proven completely successful (for instance, Hinterhölzl, 1999; 2000). For this reason, my analysis will follow (15), and assume that both base generated and scrambled elements in German occupy a *Mittelfeld*-internal position. In other words, German scrambling, however it is rendered,[8] will be regarded here as a process strictly pertaining to the *Mittelfeld*.

2. *Coherent infinitival constructions*

Bech (1955) offers one of the first detailed studies of infinitival complements in German. It argues that infinitives in that language are divided into two main classes: infinitives that form their own independent clausal domain, and infinitives that do not exhibit clausal behaviour. Bech terms the first class *inkohärente Infinitive* (incoherent infinitives), and the second class *kohärente Infinitive* (coherent infinitives). Evers (1975) re-expresses Bech's findings within a generative framework, and contends that the distinction between the two classes lies in the availability of verb raising: the infinitive raises to the matrix verb selecting for the embedded clause in coherent constructions, while they remain completely separate in incoherent ones. Aissen and Perlmutter (1976) and Rizzi (1976), among others, notice that Bech's original division is also attested in Italian and Spanish, which leads them to invoke processes reminiscent of Evers' verb raising: clause union (Aissen and Perlmutter), and restructuring (Rizzi).

However, the class of coherent predicates is not crosslinguistically uniform. For example, modal, motion, aspectual, and causative verbs allow for restructuring in Italian, Spanish and German, as well as in other languages such as Dutch or Japanese. The same is true for predicates like *try, forget,* or *manage*. But *dare, seem* undergo clause union only in German and Dutch, and the possibility with *allow, permit* is solely confined to German. The defenders of restructuring as the product of semantic/thematic properties of the selecting predicate capitalise on the classes that all languages share; those that contend that the process is due to an arbitrary lexical property parametrically restricted to certain grammars support their claim by resorting to the irregularities mentioned above.

Drawing on previous studies, Hinterhölzl (1999) contends that coherent constructions differ from non-coherent ones in the following:
(i) Coherent constructions, as opposed to non-coherent ones, cannot be extraposed:

(17) a. **dass Hans* t_i *schien* [*sich zu rasieren*]$_i$
that Hans-NOM seemed himself to shave
"that Hans seemed to shave"

b. *dass Hans* t_i *versprach* [*sich zu rasieren*]$_i$
that Hans-NOM promised himself to shave
"that Hans promised to shave"

(ii) Coherent infinitives, unlike non-coherent infinitives, cannot appear in a scrambling position (i.e., a high position within the *Mittelfeld*). In the examples below, such a scrambling position precedes the subject:

(18) a. **weil* [*sich zu rasieren*] *Hans schien*
because himself to shave Hans-NOM seemed
"because Hans seemed to shave"
b. *weil* [*sie morgen zu besuchen*] *Hans gestern*
because her-ACC tomorrow to visit Hans-NOM yesterday
noch nicht versprechen wollte
yet not promise wanted-to
"because Hans didn't want to promise yesterday to visit her tomorrow"

(iii) Coherent infinitives, as opposed to non-coherent ones, are transparent for the purposes of certain extraction processes, among them scrambling.

(19) a. *dass der Maria*$_i$ *das Buch*$_j$ *Hans gestern*
that Maria-DAT the book-ACC Hans-NOM yesterday
[t_i t_j *zu geben*] *versucht*
to give tried
"that Hans tried to give the book to Maria yesterday"
b. **dass uns das Buch*$_i$ *Hans gestern* [*der Maria*
that us-DAT the book-ACC Hans-NOM yesterday Maria-DAT
t_i *zu geben*] *bat*
to give asked
"that Hans asked us yesterday to give the book to Maria"

(iv) Coherent infinitives, as opposed to non-coherent ones, allow for long extraposition.

(20) a. *dass der Lehrer* [*die Kinder* t_i *zu bestärken*]
that the teacher-NOM the children-ACC to encourage
versucht [*die Aufgaben zu lösen*]$_i$
tries the tasks-ACC to solve
"that the teacher tries to encourage the kids to solve the tasks"

b. **dass der Lehrer die Kinder* [t_i *zu versuchen*]
that the teacher-NOM the children-ACC to try
bestärkt [*die Aufgaben zu lösen*]$_i$
encourages the tasks-ACC to solve
"that the teacher encourages the kids to try to solve the tasks"

(v) Coherent infinitives, unlike non-coherent ones, may display the IPP *(infinitivus pro participio)* effect, which appears when a verb selecting a coherent infinitive is put into a perfect tense (present perfect or past perfect). In this case, the verb does not show up in its expected past participial form, but is realised as a bare infinitive (the IPP-infinitive). The IPP-effect is restricted to bare infinitives.

(21) a. *dass sie Hans nicht treffen wollen hat*
that her-ACC Hans-NOM not meet want-INF has
"that Hans didn't want to meet her"
b. **dass sie Hans nicht treffen gewollt hat*
that her-ACC Hans-NOM not meet wanted has
"that Hans didn't want to meet her"

However, while properties (iii)-(v) are regarded as quite uncontroversial, properties (i)-(ii) have been contested in the literature. With respect to (i), it seems that extraposition of a coherent infinitive is possible in the so-called 'Third Construction' (Den Besten et al, 1988; Den Besten and Rutten, 1989; Bayer and Kornfilt, 1990, etc), which is attested in both German and Dutch. The 'Third Construction' combines scrambling out of the embedded infinitive into the matrix clause and extraposition of the infinitive itself. If only coherent structures are transparent for scrambling, the existence of the 'Third Construction' seems to suggest that restructuring is not incompatible with extraposition, which leaves the ungrammaticality of Hinterhölzl's example unaccounted for (example from Wurmbrand, 2001a):

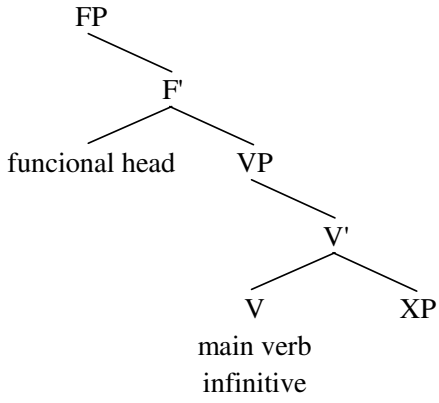
(22) *weil der Hans den Zaun$_i$ versucht hat* [t_i *zu streichen*]
because Hans-NOM the fence-ACC tried has to paint
"because Hans tried to paint the fence"

As for (ii), Müller (1998) adduces examples like (23), where the pronominal complement of the embedded predicate appears preceding the matrix subject, and so does the infinitive:

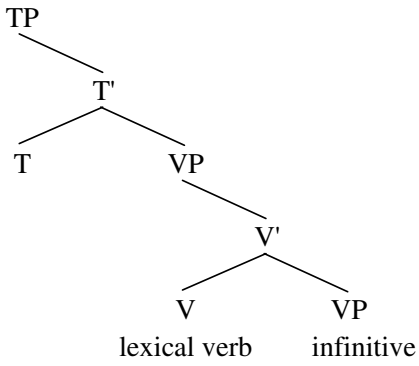
(23) *dass* [t_i *zu lesen*] *es$_i$* *keiner* *versucht hat*
that to read it-ACC no one-NOM tried has
"that no one tried to read it"

Wurmbrand (2001a) argues that the apparent contradiction between (17a) and (22) can be accounted for on the basis of two different assumptions: (i) restructuring infinitives uniformly lack a complete clausal structure; (ii) verbs selecting for restructuring infinitives are either auxiliaries/functional heads or full lexical verbs. (i) rejects the so-called 'bi-clausal approach' to the phenomenon, according to which restructuring infinitives are CPs that undergo either a special structure changing process that transforms them into VPs (Evers, 1975; Rizzi, 1976; Aissen and Perlmutter, 1976, etc) or raising of their heads to the matrix verb (Roberts, 1993, Grewendorf and Sabel, 1994, etc). Instead, it sides with the 'mono-clausal approach', which defends that restructuring infinitives are categories smaller than CPs (typically VPs) (Haider 1986, 1991, 1993; Cinque 1997a, 1997b, 2000; Wurmbrand, 1998, among others). (ii) distinguishes between two distinct restructuring constructions, those Wurmbrand considers as the product of 'functional restructuring', and those generated by 'lexical restructuring'. 'Functional restructuring' takes place when a structurally incomplete infinitive combines with an auxiliary/functional head, making the former become the main predicate of the clause. But if the selecting predicate is instead a full lexical verb, the resulting complex is, according to Wurmbrand, a 'lexical restructuring' configuration. The two constructions are illustrated in (24):

(24) a. 'Functional restructuring'



b. 'Lexical restructuring'



For Wurmbrand, the structures above share several properties that separate them from non-restructuring ones, among which is their transparency for extraction (Hinterhölzl's (iii)). However, they also differ in several respects: 'functional restructuring', but not 'lexical restructuring', is subject to the IPP-effect; conversely, 'lexical restructuring', but not 'functional restructuring', allows for extraposition of the infinitive. In other words, Wurmbrand reduces the contrast between (17a) and (22) to the type of restructuring configuration involved: in (17a), the infinitival VP 'restructures' with *scheinen*, a functional head, which obviously results in 'functional restructuring'; in (22), *versuchen* is a full lexical verb, which makes its combination with the selected infinitive an instance of 'lexical restructuring'.

Wurmbrand does not explicitly deal with the problem raised by the opposition between (18a) and Müller's (1998) example in (23). Nevertheless, she argues that, as far as 'lexical restructuring' is concerned, the division between restructuring and non-restructuring must include the notions of optionality and grading. With respect to optionality, she adopts the standard view that (lexical) restructuring predicates may appear in non restructuring contexts, which would straightforwardly account for (25), where the presence of the infinitival clause preceding the matrix subject (i.e. in a scrambling position) correlates with the absence of extraction. In other words, (25) pictures a non-restructuring configuration:

(25) *dass* [*den Wagen zu reparieren*]$_i$ *der Hans* t$_i$ *versucht hat*
that the car-ACC to repair Hans-NOM tried has
"that Hans tried to repair the car"

With respect to grading, Wurmbrand's main contribution, it entails the introduction of a third type of restructuring construction, which is half-way between full 'lexical restructuring' and non-restructuring: 'graded' non-restructuring. According to Wurmbrand, this kind of pattern is characterised by properties linked to the other two types. One of them, shared with full lexical restructuring, is a sort of reduced transparency, which allows for the presence of pronouns selected for by the infinitive in the matrix clause, barring that of nominal DPs. On the assumption, which Wurmbrand does not make, that graded non-restructuring behaves like its full counterpart as far as reordering of the infinitive is concerned, Müller's example would not contradict the traditional claim in Hinterhölzl (1999) that restructured infinitives cannot scramble, since it would reduce to a simple, 'graded' non-restructuring configuration, hence exhibiting at the same time restructuring and non-restructuring properties, with restructuring properties responsible for the pre-subject pronominal, and non-restructuring properties responsible for scrambling of the infinitive itself (our example in (23), repeated here as (26)):

(26) *dass* [t_i *zu lesen*] *es$_i$* *keiner* *versucht hat*
that to read it-ACC no-one-NOM tried has
"that no one tried to read it"

As discussing Wurmbrand's proposal in detail lies beyond the scope of the present work, I will confine myself to giving some of the reasons why any account of (26) in terms of her tripartite classification will be unsatisfactory. First of all, the theoretical framework adopted here, namely Chomsky's (1993, 1995, 2000, 2001, 2004) 'Minimalist Program', requires movement operation to be strictly triggered. Yet the trigger for pronoun movement is mysterious in German, given that, as Abraham and Molnárfi (2001) and Gärtner and Steinbach (2003) contend, pronouns display a clear NP-like behaviour (see Section 2.4 below). Secondly, there is no reason why graded non-restructuring should be prevented from occurring in cases such as (27), where the subject intervenes between the displaced pronoun and the scrambled infinitive:[9]

(27) **dass* [t_i zu lesen] *keiner/der Peter* *es$_i$* *versucht hat*
that to read no-one/Peter-NOM it-ACC tried has
"that no one/Peter tried to read it"

Therefore, in the following pages I will adhere to the traditional view that the presence of a pronominal DP in the matrix clause qualifies the relevant structure as a restructuring configuration, in the same way as that of a nominal

DP does. However, I will depart from the conventional viewpoint with respect to the incompatibility between restructuring and reordering of the infinitive in a higher position in the *Mittelfeld*, for both theoretical and empirical reasons. Theoretically, the ban on scrambling of the infinitive is a welcome consequence in analyses which envisage restructuring as obtained in the course of the derivation, since the mechanisms they propose often require strict adjacency between the matrix and embedded predicates (for example, head movement). But I will adopt a mono-clausal approach of the kind developed in Wurmbrand (1998, 2001a), where adjacency is completely irrelevant: infinitives are VPs at the moment they combine with the lexical restructuring verb; hence, once they have been base generated in that position, they should be able to move as other constituents do. Empirically, data such as (28) show that, among the different types of displacement operations, only those targeting the *Mittelfeld* must be prohibited, insofar as those targeting the *Vorfeld* result in well-formed strings (example from Müller, 1998):

(28) [t_i *Zu lesen*]$_j$ *hat das Buch*$_i$ *keiner versucht*
to read has the book-ACC no-one-NOM tried
"No one tried to read the book"

Notice that (28) constitutes a restructuring configuration, even according to Wurmbrand's restricted version: a nominal (not pronominal) DP appears preceding the matrix subject. But fronting of the remnant infinitival VP is still possible. Furthermore, that the ban on scrambling cannot be due to semantic/pragmatic reasons is shown by the fact that both movement to Spec, C and scrambling in the *Mittelfeld* are frequently associated to the status of the fronted or scrambled constituent as topic, discourse-given (see Chapter 3, Section 3.2). Therefore, the null hypothesis is that the ungrammaticality of Hinterhölzl's (18a) must be derived in some other way, a task to which part of Chapter 5 will be devoted.

Before turning to the next section, I would like to address two questions that Wurmbrand's account of lexical restructuring poses. The first one relates to the full characterisation of the infinitival VPs at stake in her discussion. I will follow her in assuming that their basic property is that they do not contain a position for structural Case assignment; thus, their internal arguments receive Case from the matrix predicate. The main support for this assumption comes from the existence of the so-called 'long passive', or 'Case Conversion' in Haider's (1991) terms, where the object of the embedded verb appears as the subject of the passivised matrix verb:

(29) *dass der Wagen zu reparieren versucht wurde*
that the car-NOM to repair tried was
"that someone tried to repair the car"

That *der Wagen*, the internal argument of *zu reparieren*, is sensitive to the voice of *versuchen* seems to indicate that it receives its Case from it. This, obviously, demonstrates that the infinitive *zu reparieren* is completely inert. Thus, in the active counterpart, the accusative *den Wagen* must have also been Case-marked by *versuchen*:

(30) *dass den Wagen der Hans zu reparieren versuchte*
that the car-ACC Hans-NOM to repair tried
"that Hans tried to repair the car"

The second question is whether infinitival VPs of lexical restructuring configurations may project a subject. Wurmbrand rejects this possibility in the light of the contrast between (31a) and (31b):

(31) a. *Sie hat dem Hans erlaubt* [PRO$_i$ *sich$_i$ den Fisch*
she has Hans-DAT allowed SELF the fish-ACC
mit Streifen vorzustellen]
with stripes to-imagine
"She allowed Hans to imagine the fish with stripes"
b. **weil der Fisch dem Hans$_i$ sich$_i$ mit Streifen*
because the fish-NOM Hans-DAT SELF with stripes
vorzustellen erlaubt wurde
to-imagine allowed was
"because Hans was allowed to imagine the fish with stripes"

She contends that (31a) is an instance of a non-restructuring configuration, in which the anaphor is bound by (i.e. coreferent with) a c-commanding non-phonologically realised subject (PRO). On the other hand, (31b) is a restructuring construction, as shown by the nominative on *der Fisch* (see (29) above). According to Wurmbrand, its ungrammaticality is due to the fact that *sich* is not bound within the embedded clause, and coreference with *dem Hans* in the matrix predicate is impossible on the basis that datives are not binders in German.

To summarise: the kind of coherent infinitives the proposal in this study partially capitalise on is the type Wurmbrand calls 'lexical restructuring' infinitives. In light of the foregoing survey, 'lexical restructuring' consists of

the combination of a full lexical verb with a structurally incomplete clausal category, namely the infinitival VP. This incomplete clausal category lacks a subject, has its internal arguments Case-licensed in the matrix predicate, is transparent for extraction, and may appear either in the *Vorfeld* or in the *Mittelfeld*.

3. *Remnant movement*

The general label 'Incomplete Category Fronting' refers to structures like (32) below, where the *Vorfeld* is occupied by a phrasal constituent which does not contain all the elements thematically selected for by it:

(32) *Zu lesen hat das Buch keiner versucht*
to read has the book-ACC no-one-NOM tried
"No one tried to read the book"

In (32), the incomplete constituent in Spec, C is the coherent infinitive *zu lesen*, whose internal argument *das Buch* appears preceding the matrix subject *keiner*. Thiersch (1985) and Den Besten and Webelhuth (1987, 1990) proposed an analysis of such constructions in terms of remnant movement, which was based on the combination of a theoretical requirement and an empirical observation. The theoretical requirement relates to the way earliest generative models envisaged theta-role assignment: a theta-assigned argument must be sister to a theta-assigning head within the head's maximal projection.[10] The empirical observation derives from data such as (33), where it is shown that only maximal projections are licit in Spec, C:

(33) a. [*Das Buch*] *fängt er zu lesen an*
the book-ACC begins he to read PART
"He begins to read the book"
b. *[*An*] *fängt er das Buch zu lesen*
PART begins he the book-ACC to read
"He begins to read the book"
c. *[*Lesen*] *fängt er das Buch zu an*
read begins he the book-ACC to PART
"He begins to read the book"

In this view, the remnant movement approach to incomplete category fronting involves two distinct movement operations, one responsible for the presence of the non-fronted argument in the *Mittelfeld*, and the other displacing the already incomplete phrase to the *Vorfeld*, as (34) illustrates for (32):

(34) [t_i *Zu lesen*]$_j$ ..... *das Buch*$_i$ ..... t_j *versucht*

Notice that the remnant movement account necessarily entails that the two movement operations involved must be independently available, which, in fact, is the case in German (35), but not in other languages like English (36):

(35) a. [*Das Buch gelesen*]$_i$ *hat keiner* t_i
the book-ACC read has no-one-NOM
"No one tried to read the book"
b. *dass das Buch*$_i$ *keiner* [t_i *gelesen*] *hat*
that the book-ACC no-one-NOM read has
"No one tried to read the book"
c. [t_i *Gelesen*]$_j$ *hat das Buch*$_i$ *keiner* t_j
read has the book-ACC no-one-NOM
"No one tried to read the book"

(36) a. [Paint the house]$_i$ he surely will t_i
b. *He will surely the house$_i$ [paint t_i]
c. *[Paint t_i]$_j$ he will surely the house$_i$ t_j

Since movement to Spec, C is grammatical in both (35a) and (36a), one may conclude that the asymmetry between German and English with respect to remnant movement lies in the grammaticality of (35b) in German, and the ungrammaticality of (36b) English. In other words, remnant movement of the type distinguishing between the two languages is tied to the availability of scrambling (35b, 36b).

For the cases of incomplete constituents that serve as essential evidence for central claims in this work, I will adopt the remnant movement analysis proposed in Thiersch (1985) and Den Besten and Webelhuth (1987, 1990). In this connection, I would like to add two further comments. With regard to the licensing of the trace left by the scrambled argument in the moved constituent, (which, according to standard generative tenets, must be locally bound by the scrambled element itself, with binding necessarily entailing c-command), it is obvious that c-command, and hence binding, is barred in a configuration like that in (35c). But Müller (1998) has convincingly shown that this is problematic only in a representational account of remnant movement: derivationally, the constraint that traces must be c-commanded by their antecedents simply reduces to obligatory upward movement. It is notable from this perspective that (35c) is a perfectly well-formed structure: scrambling of the object to its sur-

face position is prior to the fronting of the VP, and crucially targets a position above it.

Secondly, Müller (1998) observes that remnant movement is sensitive to the kind of displacement the incomplete category undergoes, citing as his chief evidence the ungrammaticality of structures in which movement of both the argument and the remnant constituent targets the *Mittelfeld*. The reader may consult Chapter 3 (Section 1.6) for a survey of the phenomenon, and Chapter 5 (Section 2.1.2) for an analysis within the model of the phasal derivation proposed in Chomsky (2000, 2001).

4. ***The German pronominal system***

The system of personal pronouns attested in Standard German is constituted by the forms appearing in (37) below:

(37) a. Nominative: *ich, du, er, sie, es, wir, ihr, sie*
I, you, he, she, it, we, you, they
b. Accusative: *mich, dich, ihn, sie, es, uns, euch, sie*
me, you, him, her, it, us, you, them
c. Dative: *mir, dir, ihm, ihr, ihm, uns, euch, ihnen*
(to) me, you, him, her, it, us, you, them

Such a system is quite banal according to Zwicky's (1977) classification, which divides pronominal elements into three basic types: 'special clitics', 'simple clitics', and non-clitics. The second and third type constitute a single syntactic group, with a full DP-like behaviour, and differ only phonologically: 'simple clitics' require some kind of phonological integration into adjacent material, while non-clitics do not. However, 'special clitics' are syntactically ambiguous: they resemble DPs in that they are theta-marked and Case-assigned, but, unlike them, need to adjoin to an appropriate host, which makes them displace to a head position. Thus, in Zwicky's terms, the German system above can be uniformly characterised as a non-clitic series.

Nevertheless, it has been frequently noticed that the behaviour of the third person neuter *es* does not fully correlate that of nominal DPs, as shown below:

(38) a. *Hans hat gestern* ***das Buch*** *gekauft*
Hans-NOM has yesterday the book-ACC bought
"Hans bought the book yesterday"
a'. **Hans hat gestern* ***es*** *gekauft*
Hans-NOM has yesterday it-ACC bought
"Hans bought it yesterday"

b. *dass* ***das Buch*** *und diese Zeitungen sehr schön sind*
that the book-NOM and these newspapers-ACC very nice are
"that the book and these newspapers are very nice"
b'. **dass* ***es*** *und diese Zeitungen sehr schön sind*
that it-NOM and these newspapers-ACC very nice are
*"that it and these newspapers are very nice"
c. *Sogar* ***das Buch*** *ist auf den Boden gefallen*
even the book-NOM has on the floor fallen
"Even the book fell on the floor"
c'. **Sogar* ***es*** *ist auf den Boden gefallen*
even it-NOM has on the floor fallen
*"Even it fell on the floor"
d. ***Das Buch***$_i$ *glaube ich* t_i *ist sehr teuer*
the book-NOM think I is very expensive
"I think that the book is very expensive"
d'. ****Es***$_i$ *glaube ich* t_i *ist sehr teuer*
it-NOM think I is very expensive
"I think that it is very expensive"

(38) summarises the most relevant aspects of such syntactic asymmetry. First, nominal DPs may occupy a structural position lower than the adverbial adjunction site (38a), but *es* must appear above it (38a'). Second, it is possible to coordinate two (or more) nominal DPs (38b), but *es* must appear in isolation (38b'). Third, certain adverbials like *sogar* can modify a nominal DP (38c), but they cannot modify *es* (38c'). Finally, while *das Buch* may be moved from its base generation position within the embedded clause to matrix Spec, C (38d), fronting of *es* results in an ungrammatical sentence (38d).

The contrasts in (38) are taken by Cardinaletti and Starke (1996, 1999) as indicating that Zwicky's classification and the criteria on which it is based cannot account for all the pronominal classes crosslinguistically attested. They contend that, apart from clitics and non-clitics, there exists a third type of pronoun they call 'weak', which shares properties with Zwicky's two classes. In this connection, they propose to replace Zwicky's distinction articulated around the [± clitic] property with another related to a [±deficient] feature: special clitics and the new weak pronominals are characterised as [+deficient]; non-clitics (or strong pronouns, in Cardinaletti and Starke's terms) are rendered as [–deficient].

Cardinaletti and Starke contend that deficiency is not restricted to *es* in German, but rather is visible in all the forms of the paradigm in (37). In this respect, they notice that one of the basic differences between deficient and non-

deficient pronouns is that the first are allowed to refer to both human and non-human entities, while the second are strictly [+human]. But if deficient pronouns appear in a context where the [+human] interpretation is excluded, their syntactic behaviour exactly parallels that of *es*:

(39) a. **Maria hat gestern* ***ihn*** *repariert*
Maria-NOM has yesterday him-ACC repaired
"Maria repaired it yesterday" (***ihn*** = the car)
b. **Maria hat* ***ihn*** *und den anderen repariert*
Maria-NOM has him-ACC and the other-ACC repaired
*"Maria repaired it and the other one" (***ihn***= the car)
c. ****Er*** *und der daneben sind nicht verständlich*
he-NOM and the one next are not comprehensible
*"It and the one next are not comprehensible" (***er*** = the timetable)
d. ****Er*** *glaube ich ist sehr teuer*
He-NOM think I is very expensive
"I think it is very expensive" (***er*** = the train)

Cardinaletti and Starke conclude from this analysis that the German system of personal pronouns is more complex than seems at first sight, insofar as it contains two distinct series of forms: a complete deficient set, and an incomplete non-deficient set (to the extent that *es* is always deficient). This complexity has an uncontroversial syntactic reflex (namely, the facts in (38) and (39)), but is not evident from a morphological perspective, as far as the same form can be both deficient and non-deficient (once again with the exception of *es*).

Despite the lack of a transparent morphological distinction between deficient and non-deficient pronominals in German, Cardinaletti and Starke contend that the existence of the two series is undisputed also on semantic and phonological grounds, lending support to their analysis of the syntactic data. With regard to semantics, Cardinaletti and Starke adhere to the traditional view that deficient pronouns must have an antecedent prominent in the discourse, but reject the idea that this is due to the prosodic nature of pronouns. Their basic argument derives from French examples such as (40) and (41), where caps indicate main stress (from Cardinaletti and Starke, 1999):

(40) a. *Jean voit* ***ELLE***
Jean sees her
"Jean sees her"

b. **Jean **LA** voit*
Jean her sees
"Jean sees her"

(41) a. *Je **te** casserai la gueule!*
I you will-break the face
"I will break your face"
b. *Ah ouais? Tu veux dire que je **TE** casserai la gueule!*
oh yeah? you want-to say that I you will-break the face
"Oh yeah? You mean that I will break your face"

The standard analysis of the contrast in (40) attributes the ungrammaticality of (40b) to the incompatibility between contrastive focus and the phonological nature of the clitic *la*. Simply put, contrastive focus entails a semantic interpretation of the element at stake as non topical, i.e. non discourse-linked,[11] which is prosodically correlated with prominent pitch. On the other hand, clitics are inherently destressed elements. The obvious conclusion is that it is the impossibility of fulfilling these two requirements that rules out (40b). According to Cardinaletti and Starke, however, such an account is refuted by (41b), where the clitic *te* receives main stress. Since the only relevant difference between the two structures is that *te* is linked to a salient referent in discourse that *la* lacks (namely, *te* in (41a)), the alleged incompatibility between focus and stress is obviously wrong.

From a phonological perspective, deficient forms differ from non-deficient ones in that they may constitute a single prosodic domain with preceding or following material in the string, which gives rise to phenomena such as French 'liaison'[12] (42a), complex prosodic word formation[13] (42b), etc. In other words, deficient forms may undergo phonological restructuring. This is impossible for non-deficient, strong ones (from Cardinaletti and Starke, 1999):

(42) a. ***Elle[z]**ont dit la verité*
they have said the truth
"They have told the truth"
b. {***Il** mange*} *beaucoup*
he eats a lot
"He eats a lot"

The overall conclusion that Cardinaletti and Starke draw from all the properties reviewed above is that deficiency must be generally encoded in terms of missing structure. Leaving technical details aside, they propose that weak pronouns lack the superior layer of the structure that characterises strong elements, while clitics lack the superior layer that characterises weak ones. That is, "weak elements are 'peeled' strong elements, and clitics are 'peeled' weak elements" (1999: 195). This would explain why: (i) weak and clitic elements must be syntactically licensed in fixed positions, the 'Wackernagel position' in German ((38), (39)); (ii) weak and clitic elements need a prominent antecedent in discourse (i.e. they are in some sense 'less referential'[14] than strong pronouns and nominal DPs); and (iii) weak and clitic elements may undergo phonological restructuring.

Although a critical review of Cardinaletti and Starke's hypothesis in its application to German is beyond the scope of the present work, I shall address its main implications for the analysis of German scrambling proposed here. First of all, we may notice that, as is conventionally assumed in the literature, nominal DPs may undergo scrambling, a process that, generally speaking, allows them to appear outside the VP-boundaries, preceding VP-adjoined adverbials and even subjects:

(43) a. *dass keiner gestern* ***das Buch*** *gelesen hat*
that no-one-NOM yesterday the book-ACC read has
"that no one read the book yesterday"
b. *dass keiner* ***das Buch*** *gestern gelesen hat*
that no-one-NOM the book-ACC yesterday read has
"that no one read the book yesterday"
c. *dass* ***das Buch*** *keiner gestern gelesen hat*
that the book-ACC no-one-NOM yesterday read has
"that no one read the book yesterday"

On the other hand, weak pronominals must show up in the so-called 'Wackernagel position', a position following that of the complementiser in German. There, pronouns must precede non-pronominal arguments and adverbs of all types (examples from Müller, 2002):

(44) a. *dass* ***ihr*** *der Fritz gestern ein Buch geschenkt hat*
that her-DAT Fritz-NOM yesterday a book-ACC given has
"that Fritz gave her a book yesterday"

b. **dass der Fritz gestern* ***ihr*** *ein Buch geschenkt hat*
that Fritz-NOM yesterday her-DAT a book-ACC given has
"that Fritz gave her a book yesterday"

If Cardinaletti and Starke are right, structural deficiency would require weak pronominals to be licensed in a position that must be distinctly different from that occupied by scrambled nominal DPs. In other words, both processes would be radically different. However, that this is not the case is shown by (45) below, where the pronominal *es* may appear either on the right or on the left of the subject *der Fritz* (examples from Müller, 2002):

(45) a. *dass* ***es*** *der Fritz gestern der Maria gegeben hat*
that it-ACC Fritz-NOM yesterday Maria-DAT given has
"that Fritz gave it to Maria yesterday"
b. *dass der Fritz* ***es*** *gestern der Maria gegeben hat*
that Fritz-NOM it-ACC yesterday Maria-DAT given has
"that Fritz gave it to Maria yesterday"

Furthermore, Lenerz (1993) and Gärtner and Steinbach (2003) demonstrate that both pronominal and nominal objects may precede the subject of the embedded infinitive in Exceptional Case Marking (ECM) constructions:

(46) a. *wenn du* ***ihnen*** *die Mutter abends*
if you-NOM they-DAT the mother-ACC in the evening
etwas vorsingen hörst
something sing hear
"if you hear their mother sing something for them in the evening"
b. *wenn du* ***ihren Kindern*** *die Mutter abends*
if you-NOM her children-DAT the mother-ACC in the evening
etwas vorsingen hörst
something sing hear
"if you hear their mother sing something for them in the evening"

Gärtner and Steinbach show that the facts are correlated by similar data for the weak pronouns of south-western dialects of German, and even of Dutch. Their conclusion, adopted for the remainder of the argument here, is that there is no distinction between deficient and non-deficient elements as far as their syntactic position in the *Mittelfeld* is concerned.[15] Therefore, the null hypothesis is that scrambling may equally apply to nominal and pronominal constitu-

ents, and that the 'Wackernagel position' is not different from that occupied by scrambled elements.

A second issue relates to the link between the weak/strong distinction and stress. We may recall that such a link was rejected by Cardinaletti and Starke on the basis of the French examples in (41), which contained a clitic stressed element. Nevertheless, Gärtner and Steinbach (2003) state that such an argument cannot be applied to German *es*, due to the diverging status of schwa in each of the languages: in French, it is a part of the lexical representation of deficient elements, while in German it looks more like the output of phonological reduction. This probable asymmetry is associated to other, more general phonological properties. Thus, in the following pages I will assume with Gärtner and Steinbach (2003), and also Müller (2002), that the basic difference between strong and weak pronouns in German derives from the phonological feature [± stress], which is, in turn, responsible for the semantic distinction in terms of discourse-linking.

Finally, it may be assumed as uncontroversial that certain personal pronouns in German allow for phonological restructuring. A case in point is, again, third person neuter *es*. Cardinaletti and Starke contend that the process is simply optional, as (47) shows:

(47) a. ʔ*Es* *ist* *schön*
It-NOM is nice
"It is nice"
b. ʔ*Es* ʔ *ist* *schön*
It-NOM is nice
"It is nice"

If restructuring with the following word were obligatory, the presence of the glottal stop intervening between *es* and *ist* in (47b) would be a mystery, since glottal stops in German are found only before the initial vowel of a prosodic word. We may note that this feature supports Cardinaletti and Starke's tripartite classification: strong elements always bear their own word-stress, while clitics always restructure. Weak pronominals, in turn, present a mixed behaviour, sometimes being reduced, and sometimes not.

However, for Müller (2002) and Gärtner and Steinbach (2003) *es* is always reduced. Müller argues that Cardinaletti and Starke's division falls short, insofar as it cannot account for the contrasts found in 'R-pronoun' formation. Generally speaking, 'R-pronoun' formation is a process that replaces personal pronouns within German PPs with 'R-pronouns' of adverbial origin,[16] *da* and *wo*, which appear to the left of the preposition. This process of 'R-pronoun'

formation is impossible with Cardinaletti and Starke's strong pronouns, and optional with those they call weak, except *es*, for which 'R-pronoun' formation is obligatory (examples from Müller, 2002):

(48) a. *Ich habe gestern* [*mit ihr*] *telefoniert*
I have yesterday with her talked on the phone
"I talked on the phone with her yesterday"

a'. **Ich habe gestern* ***damit*** *telefoniert*
I have yesterday R-PRON talked on the phone
"I talked on the phone with her yesterday"

b. *Maria hat noch oft* [*an sie*] *gedacht*
Maria-NOM has PART often of her thought
"Maria has often thought of it" (***sie***=*die Ausstellung*, "the exhibition")

b'. *Maria hat noch oft* ***daran*** *gedacht*
Maria-NOM has PART often R-PRON thought
"Maria has often thought of it"

c. **Maria hat noch oft* [*an es*] *gedacht*
Maria-NOM has PART often of it thought
"Maria has often thought of it"

c'. *Maria hat noch oft* ***daran*** *gedacht*
Maria-NOM has PART often R-PRON thought
"Maria has often thought of it"

Thus, reduced *es* must be set apart from the rest of the weak class.

Whatever the correct characterisation of German *es* may be, it is generally accepted that it must (or may) undergo operations typical of phonologically weak forms. And that is the only property on which our account of certain asymmetries between nominal and pronominal scrambling will capitalise. In summary, we will assume that strong pronouns are distinguished from weak ones on the basis of the feature [±stress] (Gärtner and Steinbach, 2003), and that unstressed pronominals can undergo prosodic incorporation into an adjacent word (Diesing and Jelinek, 1993), disregarding if the process is optional for the entire class (Cardinaletti and Starke, 1996, 1999), or if it is obligatory for one of its members, namely *es* (Gärtner and Steinbach, 2003; Müller, 2002). In addition, we will adopt the idea that weak pronominals are not licensed in fixed syntactic positions (Abraham and Molnárfi, 2002; Gärtner and Steinbach, 2003), which makes them compatible with *Mittelfeld* processes also applying to nominal DPs, among them regular scrambling.

5. *Focus scrambling*

Neeleman (1994) defends the innovative idea that reordered sequences in Dutch (and German) are not uniformly derived, and that one must recognise at least two different syntactic processes: regular scrambling, and 'focus scrambling'. The descriptive properties he assigns to the former are basically those discussed in Chapter 3. Here it will be sufficient to say that (i) it does not apply to all kinds of phrasal constituents; (ii) it is restricted to the limits of a single clause; (iii) it is iterative (i.e. it may target more than one element); and (iv) it allows further displacement out of the scrambled phrase. Precisely the reverse holds for 'focus scrambling', which Neeleman characterises as an operation moving focalised, contrastive elements to the *Mittelfeld*. Such an operation is clearly favoured in the case that the movable phrase contains a focus marker like *so* ("so"), *solch* ("such"), etc., which would explain the following contrasts (examples from Haider and Rosengren (1998), except (49a,a'), based on Neeleman (1994), my informants' judgement):

(49) a. **dass* ***grün*** *der Peter den Zaun nicht gestrichen hat*
that green Peter-NOM the fence-ACC not painted has
"that Peter didn't paint the fence green"

a'. *dass* ***so grün*** *der Peter den Zaun nicht gestrichen hat*
that so green Peter-NOM the fence-ACC not painted has
"that Peter didn't paint the fence so green"

b. **dass niemand* ***die Lösung*** *geglaubt hat,*
that no-one-NOM the solution-ACC believed has
dass er gefunden hätte
that he found had
"that no one believed that he had found the solution"

b'. *dass* ***so eine Lösung*** *niemand geglaubt hat,*
that such a solution-ACC no-one-NOM believed has
dass einer gefunden hätte
that one-NOM found had
"that no one believed that anyone had found such a solution"

c. *Heute hat* ***den Weg*** ***dem Polizisten*** *der Zeuge*
today has the way-ACC the policeman-DAT the witness-NOM
gezeigt
showed
"Today the witness showed the policeman the way"

c'. **dass* ***soviel Geld glauben*** *niemand kann, dass*
that so much money-ACC believe no-one-NOM can that
man verlieren kann
one-NOM loose can
"that nobody can believe that one can loose so much money"

d. *Was hat sich ihr anzuvertrauen keiner*
what-ACC has SELF her-DAT to-entrust no-one-NOM
vorgenommen?
assumed
"What has no one assumed to entrust her?"

d'. **Was hat ihr anzuvertrauen sie angenommen,*
what-ACC has her-DAT to-entrust she assumed
dass er geplannt habe?
that he planned has
"What has she assumed that he had planned to entrust her?"

d''. *Was hat sie angenommen, dass er geplannt habe*
what-ACC has she assumed that he planned has
ihr anzuvertrauen?
she-DAT to entrust
"What has she assumed that he had planned to entrust her?"

Property (i) is illustrated in the pair in (49a,a'): a secondary adjectival predicate may appear preceding the subject if it is contrastive (49a'), but results in an ungrammatical structure if focus is absent (49a). The examples in (49b,b') relate to clause-boundedness: *die Lösung* must remain within the clause where the predicate selecting for it *(gefunden)* appears, but focalised *so eine Lösung* may leave it. Property (iii) is reflected in the opposition in (49c,c'): both *den Weg* and *dem Polizisten* appear before the subject *der Zeuge* in (49c), constituting a case of multiple scrambling. However, reordering of *soviel Geld* and the infinitive *glauben* is ill-formed (49c'). Finally, the structures in (49d,d') show the differences in opacity for regular and focus scrambling in German: regular scrambling of an infinitival clause *(was ihr anzuvertrauen)* is fully compatible with extraction of one of its arguments (namely the fronted *was* in (49d)). But, on the basis of (49d',d''), focus scrambling is not: if the clause headed by *anzuvertrauen* appears displaced to a position within the matrix projection, *was* cannot undergo further displacement (49d'); if the infinitival clause remains in situ, *was* is allowed to occupy Spec, C (49d'').

The conclusions Neeleman (1994) draws from the facts above is that focus scrambling reduces to an instance of 'A-bar-movement', one of the two basic types of movement operations the 'Government and Binding' framework

(Chomsky, 1981, 1986) distinguishes (see Chapter 4). A similar claim is made in Haider and Rosengren (1998), where it is taken to target a position within the C(omplementiser) projection, assuming that this must be analysed in terms of the split structure envisaged by Rizzi (1997). In brief, Rizzi proposes that the complementiser node is scattered in a series of functional phrases, which belong to two different subfields: the Force-Finiteness system, and the Topic-Focus system, according to (50):

(50) FORCEP[FORCE°[TOPICP[TOPIC°[FOCUSP[FOCUS°[TOPICP[TOPIC° [FINITENESSP[FIN°

The Force-Finiteness encompasses the highest and lowest layers in (50), that is, ForceP and FinP. The former is in charge of interacting with the selecting predicate, while the latter imposes selectional requirements on the complement of CP. On the other hand, the Topic-Focus system is linked to the realisation of discourse specifications (discourse-linked, non discourse-linked elements etc). For Haider and Rosengren (1998), this explains why the process is possible at all in German.

Haider and Rosengren's hypothesis raises some questions with respect to the Dutch strings in (51). Dutch, whose word order is more rigid than that in German as far as scrambling is concerned, allows for focus scrambling before and after subjects (from Neeleman, 1994):

(51) a. *Dat* ***zulke boeken*** *Jan zelfs onder vier ogen*
that such books-ACC Jan-NOM even in private
niet zegt dat hij gekocht heeft
not says that he bought has
"that , even in private, Jan does not say that he bought such books"

b. *Dat Jan* ***zulke boeken*** *zelfs onder vier ogen*
that Jan-NOM such books-ACC even in private
nit zegt dat hij gekocht heeft
not says that he bought has
"that, even in private, Jan does not say that he bought such books"

We may observe that none of the examples above can be treated in terms of regular scrambling, since in both instances *zulke boeken* has left the clause introduced by *dat*. On the null assumption that the subject is located on the T(ense) projection,[17] hierarchically lower than FinP, Rizzi's split CP does not fully account for (51).

Despite the problems involved in accurately characterising focus scrambling, this study will adopt Neeleman's and Haider and Rosengren's fundamental idea, and treat it as a phenomenon completely unrelated to regular scrambling. Such an approach may be regarded as uncontroversial, because focus scrambling and regular scrambling differ in one essential characteristic, namely their (non) clause-bound nature.

CHAPTER 3
SCRAMBLING IN GERMAN

The present chapter treats German scrambling exclusively, an approach that has been dictated by two different kinds of considerations:
(i) The difficulty of treating scrambling as a crosslinguistically unitary process (see Chapter 1). To be sure, scrambling may in the end turn out to be a cross-linguistically unitary process, but, at present, given the currently incomplete state of our knowledge, scrambling is best analysed within the scope of a single language. Let us suppose that the result conventionally ascribed to scrambling processes (namely, apparent free word order) is manifested only in languages presenting OV[1] (Haider and Rosengren, 1998; 2003). Grouping together such sets of data as those given for Japanese in Chapter 1 with those that we are going to analyse for German, however, requires us either to relax fundamental tenets of current models of grammatical explanation, or to devise tools that are still lacking at present. In this connection, it will be useful to consider the challenge any restrictive theory must face if it were required to give an account of the divergence between, for example, Japanese and German scrambling with regard to the syntactic limits to which scrambling is confined. For in German, no clausal boundaries may be crossed; in Japanese, by contrast, a scrambled constituent may occupy a position either within its own clause (clause-internal scrambling), or within a hierarchically higher one (long scrambling). Thus, any restrictive theory would be compelled to accept an analysis in which one of the following two premises were adopted: (i) scrambling is not the same phenomenon in German as in Japanese; (ii) Japanese clause-internal scrambling is the same as German scrambling, with Japanese long scrambling constituting another sort of process. Yet, if Miyagawa (2001, 2003) is correct, some cases of clause-internal scrambling in Japanese exhibit syntactic properties typical of long scrambling in that language. A similar situation would arise if Müller (1995) is right (see Chapter 1, and footnote 1 in the present section) in assuming that Russian is in fact a scrambling language and, therefore, scrambling is not restricted to OV. For due to the large number of available scrambling positions exhibited in Russian, far greater than those found in German, a coherent approach would have either to discard the assumption that Russian and German scrambling are instances of the same process, or to determine the exact properties permitting such a discrepancy. It would be difficult to adduce

any hypothesis that, in the course of respecting the constraints imposed by its chosen theoretical model, succeeds in this kind of task, including Müller's own proposal.

(ii) A second salient consideration here is that sets of data traditionally adduced in the generative literature in support of one or another theory of German scrambling can be occasionally extremely complex and even contradictory. Although some of the sets of data are better understood now than they were twenty years ago, there are still many issues to be settled, most importantly that of an adequate description of what kind of linear sequences are undoubtedly real instances of scrambling. A case in point is the one posed by sequences of supposedly scrambled adjuncts: as we will see in more detail below, it is hard to assess whether, in those instances, one is dealing with a special process permuting the order between the two elements at stake, or whether it is simply a matter of different possibilities German grammar allows for in their base-generation. Furthermore, it is clear that resolving this kind of puzzle makes the necessary development of a more precise, fine-grained theory for scrambling completely dependent on a correct account of adjunct placement. Unfortunately, despite efforts in that direction in recent years, we are still in need of it, and there remain important disagreements about certain key aspects of the syntax of adjunction. Regarding the nature of adverbial modification, for example, neither of the two currently competing approaches (the syntactic and the semantic) presents absolutely conclusive findings. In those more complex cases, therefore, I will simply present the sets of relevant data.

The organisation of the present chapter is as follows: Section 1 deals with the basic sets of data conventionally used to characterise German scrambling from a roughly syntactic perspective, with 'roughly syntactic perspective' understood as focusing on those properties relevant to the 'dumb' or not interactive part of the computational system with regard to other external systems (Chomsky, 1995; Chomsky, 2000; Chomsky 2001, Chomsky 2004). On the basis of the complement/adjunct distinction, we will thus review not only the different constituents that may undergo reordering processes in the most generalised case of scrambling within the VP (1.2), but also in more specific cases in which scrambling may take place in other kinds of projections (1.3). After some preliminary conclusions (Section 1.4), we will refine the notion of clause in the assumption that German scrambling is clause-bound (see above), and determine what are the exact clause-internal positions the scrambled element may appear in (Section 1.5). Finally, in 1.6 we will present traditional evidence for one of the most pervasive and, at the same time, contentious problems with respect to scrambled constituents in German: their

island status, an issue of crucial importance for the larger argument proposed in the present work (Chapter 5).

The last section of this chapter deals with evidence that appears to connect scrambling with those parts of the syntactic computation that do interact directly with other external systems, that is, Chomsky's (1995, 2000, 2001, 2004) 'Interface Levels' LF and PF. Thus, we will revise the semantic and phonological properties that have been traditionally assigned to scrambled constituents in the literature.

1. *German scrambling in rough syntax*

As indicated in Chapter 1, Ross's (1967) pioneering work was the first to introduce the term 'scrambling' to refer to the phenomenon characterising free word order languages, by which different constituents of the clause may appear to occupy different positions with respect to each other. Since that time, 'scrambling' has been used more or less restrictively than in Ross's original formulation. In the case of German scrambling, opinions range from those researchers who consider it a process underlying most instances of reordering in that language, to those who contend that it is responsible for only the different order possibilities certain and well-defined classes of elements may exhibit. Both views find empirical support in different sets of data. The focus of the present chapter will be the syntactic properties of German scrambling deriving from all the extant sets of data, irrespective of the kind of theoretical analysis they posit. In this connection, two observations are in order:

(i) The inclusion of all the available sets of data may render contradictory results for some properties, but not for others. Take, for example, the unanimously accepted clause-boundedness of German scrambling: since no example of long distance scrambling has ever been given in the literature, clause-boundedness is taken to be an uncontroversial property. By contrast, this is not the case with the islandhood of scrambled constituents, for which there exists abundant empirical evidence arguing for or against. Since the aim of this chapter is merely descriptive, no example or counterexample will be excluded. Instead, properties will be classified as 'controversial' or 'uncontroversial', depending on the contradictory/non-contradictory evidence they are based on.

(ii) The present chapter does not undertake to discuss the exact way in which previous proposals capitalise on the sets of data presented in it, a question that will be deferred to Chapter 4.

With regard to rough syntax, the following (un)controversial properties of German scrambling will be dealt with:

(a) Iterability. An uncontroversial property, it will be the subject of Section 1.1.
(b) The syntactic position of the 'scrambable' constituent. That is, do both arguments and adjuncts scramble, or just arguments? This is a controversial property, especially with respect to the question of the scrambling of adjuncts, which will be addressed in Section 1.2, with some preliminary conclusions offered in 1.4.
(c) The locus of scrambling, that is, whether scrambling is restricted to elements within the VP, or may affect constituents in other lexical projections (i.e. DPs, APs, PPs). The relevant (and controversial) data will appear in Section 1.3, and some preliminary conclusions in 1.4.
(d) The clause-boundedness of scrambling. An uncontroversial property, which will be dealt with in Section 1.5, along with the exact position within the clause in which German scrambled constituents appear.
(e) The 'islandhood' of scrambled elements, that is to say, the question of whether scrambled constituents are (non-)transparent for extraction. This controversial property will be the focus of Section 1.6.

1.1 *The iterability of German scrambling*

German scrambling presents no restrictions on the number of elements that may appear reordered in a given structure. In other words, German scrambling can be iterated (example from Müller, 1995):

(1) *dass Ellen die Gerüchte über Ina keiner geglaubt hat*
that Ellen-DAT the rumours-ACC about Ina no-one-NOM believed has
"that no one believed Ellen's rumours about Ina"

In (1) both the dative *Ellen* and the accusative *die Gerüchte (über Ina)* are reordered with respect to the subject *keiner*, which would normally precede them in the non-scrambling variant (2):

(2) *dass keiner Ellen die Gerüchte über Ina geglaubt hat*
that no-one-NOM Ellen-DAT the rumours-ACC about Ina believed has
"that no one believed Ellen's rumours about Ina"

1.2 *Scrambling within VP*

1.2.1 *Arguments.* (i) DPs. That DP arguments of verbal predicates may, in principle, be scrambled in German is accepted by all researchers without exception. Since the most frequent instances of DPs within VP are argumental ones, it is deduced that there is a total agreement that DP arguments of a verbal

predicate may, in principle, undergo scrambling. However, there seem to be certain constraints, as illustrated in the following:
(a) Weak, existential DPs may not scramble (examples in (3) from Lenerz, 2001; (4) from Meinunger, 1995; their judgements):

(3) a. *Ich habe dem Studenten ein Buch gegeben*
I have the student-DAT a book-ACC given
"I have given a book to the student"
b. **Ich habe ein Buch dem Studenten gegeben*
I have a book-ACC the student-DAT given
"I have given a book to the student"

(4) a. *weil er niemals Butter nimmt*
because he never butter-ACC takes
"because he never takes butter"
b. ??/**weil er Butter niemals nimmt*
because he butter-ACC never takes
"because he never takes butter"

(b) 'Special' genitives and datives may not undergo scrambling. 'Special' or *verbnahe* (i.e. 'close to the verb', Frey, 2000) genitives and datives are elements that typically occupy a VP internal position, next to the lexical predicate. Their morphological case marking is idiosyncratically determined by the verb. Their displacement to higher projections seems to carry a high degree of ungrammaticality (Rosengren, 1993; Haider and Rosengren, 1998; Frey, 2000; Fanselow, 2003) (examples from Frey, 2000):

(5) a. *weil Hans bedauerlicherweise einen Unschuldigen*
because Hans-NOM unfortunately an innocent-ACC
dieses Anschlagen bezichtigte
this conspiracy-GEN accused
"because Hans unfortunately accused an innocent of this conspiracy"
b. **weil Hans bedauerlicherweise dieses Anschlagen*
because Hans-NOM unfortunately this conspiracy-GEN
einen Unschuldigen bezichtigte
an innocent-ACC accused
"because Hans unfortunately accused an innocent of this conspiracy"

(6) a. *weil Otto leider die Kandidaten*
because Otto-NOM unfortunately the candidates-ACC
dieser Prüfung ausgesetzt hat
this test-DAT subjected has
"because Otto unfortunately subjected the candidates to this test"
b. **weil Otto leider dieser Prüfung*
because Otto-NOM unfortunately this test-DAT
die Kandidaten ausgestzt hat
the candidates-ACC subjected has
"because Otto unfortunately subjected the candidates to this test"

(c) Definite and generic DPs undergo scrambling optionally. Contrary to the case with existential indefinites, which must remain VP-internal, a generic, specific DP may scramble or not, with no apparent change in the way the structure is interpreted ((8) based on Haider and Rosengren, 1998):

(7) a. *weil der Peter gestern das Buch gelesen hat*
because Peter-NOM yesterday the book-ACC read has
"because Peter read the book yesterday"
b. *weil der Peter das Buch gestern gelesen hat*
because Peter-NOM the book-ACC yesterday read has
"because Peter read the book yesterday"

(8) a. *dass Max immer Primaballerinas bewundert*
that Max-NOM always primaballerinas-ACC admires
"that Max always admires primaballerinas"
b. *dass Max Primaballerinas immer bewundert*
that Max-NOM primaballerinas-ACC always admires
"that Max always admires primaballerinas"

(ii) Finite clauses. With regard to argumental finite clauses, there is some disagreement among the scholars with respect to their grammatical status when scrambled. Although some researchers (for example, Müller, 1995) regard the resulting structures as completely well-formed, others find them at least slightly deviant (among them, Haider and Rosengren, 1998) (example (9) from Müller, 1995; example (10) from Haider and Rosengren, 1998; their judgement):

(9) *weil dass sie Recht hat der Fritz nie behaupten würde*
since that she right is Fritz-NOM never claim would
"because Fritz would never claim that she is right"

(10) ? *weil ja heutzutage dass die Erde rund ist niemand*
since PART today that the earth-NOM round is no-one-NOM
ernsthaft bezweifellt
seriously doubts
"because today nobody seriously doubt that the earth is round"

(iii) Infinitival clauses. Contrary to what happens with argumental finite clauses, scrambling of an infinitival clause results in a perfectly grammatical structure, in the view of all researchers (example (11a) from Müller, 1995; (11b) from Haider and Rosengren, 1998; their judgements):

(11) a. *dass dieses Problem zu lösen keiner versuchen wird*
that this problem-ACC to solve no-one-NOM try will
"that nobody will try to solve this problem"
b. *dass doch diese Tür aufzubrechen keiner je*
that PART this door-ACC open no-one-NOM PART
versucht hat
tried has
"that nobody ever tried to open this door"

(iv) Selected adverbials. Given the current obscurity of the available data, it is perhaps not surprising that little attention has been paid to scrambled selected adverbials in the published literature. The following discussion is mainly based on Fanselow (2001, 2003) and Haider and Rosengren (1998; 2003), which constitute rare exceptions to the claim above.

Haider and Rosengren (1998; 2003) provide evidence that suggests that apparent scrambling of selected adverbials is dependent on their semantic type: there is just one position for manner (12), directional (13), and time (14) adverbials, but more than one for locative (15) adverbials:

(12) a. *dass man ja (die) Männern nicht freundlich behandelt*
that one-NOM PART the men-ACC not friendly treated
hatte
had
"that the men had not been treated friendly"

b. **dass man ja freundlich die Männern nicht behandelt*
that one-NOM PART friendly the men-ACC not treated
hatte
had
"that the men had not been treated friendly"

(13) a. *dass er ja alles unter den Papierkorb legte*
that he PART all-ACC under the wastebasket put
"that he put all under the wastebasket"
b. **dass er ja unter den Papierkob alles legte*
that he PART under the wastebasket all-ACC put
"that he put all under the wastebasket"

(14) a. *Die Vorlesung wird vermutlich heute zwei Stunden dauern*
the lecture-NOM will probably today two hours last
"The lecture will probably last two hours today"
b. **Die Vorlesung wird zwei Stunden vermutlich heute dauern*
the lecture-NOM will two hours probably today last
"The lecture will probably last two hours today"

(15) a. *dass seine Eltern in London wohnen*
that his parents-NOM in London live
"that his parents live in London"
b. *dass in London seine Eltern wohnen*
that in London his parents-NOM live
"that his parents live in London"

Haider and Rosengren attribute the facts in (12)-(15) to the different semantic domains each of the types of selected adverbials require, the verbal head in the case of manner, directional, and time adverbials (complements of the lexical verb), and the whole verbal projection (that is, the VP) in the case of local adverbials, insofar as they are event-related. Thus, they conclude that (15b) cannot be considered a true instance of scrambling, which entails that no selected adverbial may undergo the process.

The ungrammaticality of the (b) structures in (12)-(14) suffices to exclude scrambling of those adverbials that must be semantically linked to V. But we may note that this is not so in (15): even if locative adverbials may be directly inserted in a VP-adjoined position, this does not exactly mean that they cannot be further displaced. And, in fact, Fanselow (2001, but especially 2003), reflecting an observation by Eva Engels (p.c.), provides some evidence for it.

The relevant set of examples is constituted by coherent infinitival constructions, where a restructuring effect between the matrix and embedded predicates (Wurmbrand, 2001a and references therein)[2] allows elements selected for by the latter to appear scrambled within the clausal limits of the former, as (16) shows (from Fanselow, 2001):

(16) a. *dass niemand den Peter zu fragen verprach*
that nobody-NOM Peter-ACC to ask promised
"that nobody promised to ask Peter"
b. *dass den Peter niemand zu fragen versprach*
that Peter-ACC nobody-NOM to ask promised
"that nobody promised to ask Peter"

In (16b) the object of the embedded infinitive appears in front of the matrix subject, in a supposedly derived, scrambling position. The structure is also possible with locative adverbials (17a), although yielding slightly deviant results. But its deviant status has apparently nothing to do with the argument/selected adverbial distinction, as (17b) illustrates:

(17) a. ?? *dass man im Hotel niemandem zu wohnen*
that one-NOM in-the hotel nobody-DAT to live
versprechen sollte
promise should
"that it should be not promised to anybody that he would live in the hotel"
b. *dass man in diesem Hotel niemandem zu übernachten*
that one-NOM in this hotel nobody-DAT to stay
empfehlen kann
recommend can
"that staying in this hotel cannot be recommended to anyone"

Fanselow (2003) attributes the partial opposition in grammaticality between (a) and (b) to the higher degree of referentiality in *in diesem Hotel* than *im Hotel*. This would mean that, although in principle German grammar allows for free scrambling of locative adverbials, the well-formedness of its output crucially depends on semantic factors.

1.2.2 *Predicates.* Predicates are sometimes considered 'scrambable' elements. However, the acceptability of those structures in which they appear displaced is more disputed than the acceptability of those generated by DP scrambling. This

is shown in (18) for main predicates and in (19) for secondary ones ((18) from Müller, 1995, (19) from Hinterhölzl, 1999; their judgements):

(18) a. ?? *dass krank der Hans am Montag nicht gewesen ist*
that sick Hans-NOM on Monday not been has
"that Hans was not sick on Monday"
b. ?? *dass die Suppe essen hier keiner so richtig wollte*
that the soup-ACC eat here no-one-NOM really wanted to
"that no one really wanted to eat the soup hier"

(19) a. ?? *Er hat grün gestern den Zaun gestrichen*
He has green-ACC yesterday the fence-ACC painted
"He painted the fence green yesterday"
b. ?? *Er hat einen Idioten gestern seinen Freund gennant*
He has an idiot-ACC yesterday his friend-ACC called
"He called his friend idiot yesterday"

1.2.3 *Adjuncts.* Unlike argumental elements, it would appear that there are no systematic differences between non-argumental constituents with regard to the category they belong to. Thus, apparent scrambling of both adverbial DPs and PPs as well as AdvPs results in full acceptability of the structures (example (20) from Müller, 1995; (21) from Fanselow, 2001; (22) based on Fanselow, 2001):

(20) a. *dass der Fritz den ganzen Tag im Büro gewesen ist*
that Fritz-NOM the whole day-ACC in-the office been has
"that Fritz has been in the office the whole day"
b. *dass den ganzen Tag der Fritz im Büro gewesen ist*
that the whole day Fritz-NOM in-the office been has
"that Fritz has been in the office the whole day"

(21) a. *er hat heute im Park gearbeitet*
he has today in-the park worked
"He has worked in the park today"
b. *er hat im Park heute gearbeitet*
he has in-the park today worked
"He has worked in the park today"

(22) a. *dass niemand abends das Buch liest*
that nobody-NOM in the evening the book-ACC reads
"that nobody reads the book in the evening"
b. *dass abends niemand das Buch liest*
that in the evenings nobody-NOM the book-ACC reads
"that nobody reads the book in the evening"

However, it is often noticed in the literature (Laezlinger, 1998, and references therein) that adjuncts in German exhibit different order possibilities even in cases in which scrambling is discarded not only for the adjunct itself, but also for other elements within VP.[3] Thus, the different well-formed possibilities in (20), (21) and (22) neither support nor deny adjunct scrambling. Fanselow (2001, 2003) appeals again to the proof already mentioned above with respect to scrambling of selected adverbials: coherent infinitives.

Recall that, since coherent infinitives are characterised by undergoing restructuring with the matrix predicate, elements belonging to their projection may appear displaced in the matrix clause. On this basis, Fanselow contraposes examples such as (23) and (24), where scrambling of an argument (23) and an adverbial (24) from the embedded infinitival structure to the matrix one differ in well-formedness (examples from Fanselow, 2001, 2003):

(23) a. *dass niemand den Peter zu fragen versprach*
that nobody-NOM Peter-ACC to ask promised
"that nobody promised to ask Peter"
b. *dass den Peter niemand zu fragen versprach*
that Peter-NOM nobody-NOM to ask promised
"that nobody promised to ask Peter"

(24) a. *dass niemand morgen ein Buch zu lesen versprach*
that nobody-NOM tomorrow a book-ACC to read promised
"that nobody promised to read a book tomorrow"
b. #*dass morgen niemand ein Buch zu lesen versprach*[4]
that tomorrow nobody-NOM a book-ACC to read promised
"that nobody promised to read a book tomorrow"

That in (24b) the only reading obtained is one in which *morgen* is construed with *versprach* (#'Tomorrow he promised to read the book', hence its oddity) is taken by Fanselow as conclusive evidence denying the existence of adjunct scrambling.

However, along the same lines she followed for the case of the scrambling of selected locative adverbials, Eva Engels (p.c. in Fanselow, 2003), proposes the pair below, which seems to support the idea that, in fact, scrambling of at least certain types of adjuncts is possible, if other semantic requirements (such as a high degree of referentiality) obtain:

(25) a. ??*dass man im Hotel niemandem zu arbeiten*
that one-NOM in-the hotel nobody-DAT to work
versprechen sollte
promise should
"that working in the hotel should not be promised to anyone"
b. *dass man in diesem Hotel niemandem zu essen*
that one-NOM in this hotel nobody-DAT to eat
empfehlen kann
recommend can
"that it should not be recommended to anyone to eat in this hotel"

As Fanselow recognises, the data in (25) are contradictory with those in (23) and (24), and reduce their relevance.

Müller (1995) is the only study on German scrambling where, apart from DPs, PPs and adverbs, two more instances of adjuncts are considered: finite and non-finite clauses. He rules in the examples below:

(26) *dass damit er verliert der Frank alles tun würde*
that so-that he loses Frank-NOM everything-ACC do would
"that Frank would do everything so that he loses"

(27) *dass um zu verlieren der Frank alles tun würde*
that to lose Frank-NOM everything-ACC do would
"that Frank would do everything to lose"

Finally, it must be also noticed that there appear in the literature references to other kinds of elements that, independently from their argumental/non-argumental status, systematically resist scrambling, such as verb particles,[5] and components of idiomatic expressions (examples below from Hinterhölzl, 1999; his judgements):

(28) ?? *Er ist weg noch nie gelaufen*
he has away yet never run
"So far he has never run away"

(29) **Sie ist ihm ins Wort noch nie gefallen*
she is he-DAT in-the word yet never fallen
"So far she has never interrupted him"

1.3 *Scrambling within other projections*

1.3.1 *Scrambling within DPs.* German DPs may not present reordering of argumental/non-argumental elements within them, except in the case that the reordered constituent precedes the determiner (example (30) from Haider and Rosengren, 1998; (31) from Müller, 1995):

(30) a. *die Versendung von Briefen an Verwandte*
the forwarding of letters to relatives
"the forwarding of letters to relatives"
b. **die Versendung an Verwandte von Briefen*
the forwarding to relatives of letters
c. **die an Verwandte Versendung von Briefen*
the to relatives forwarding of letters

(31) a. *der Blick in den Abgrund*
the view into the abyss
"the view into the abyss"
b. *in den Abgrund der Blick*
into the abyss the view

However, as we will see in the discussion of the relevance of the data reviewed so far, (31b) cannot be judged as a true instance of scrambling.

1.3.2 *Scrambling within APs.* It is often assumed that constituents belonging to an adjectival projection may be reordered only within it (examples (32a-c), based on Haider and Rosengren, 1998). But that this common claim does not entirely reflect the facts is revealed by structures such as (33a-b), where one of the arguments of the adjective appears in an external position (my informants' judgement):

(32) a. *ein jedem an Kraft überlegener Sportler*
a everyone-DAT in power superior athlete
"an athlete superior to everyone in power"
b. *ein an Kraft jedem überlegener Sportler*
an in power everyone-DAT superior athlete

c. **an Kraft ein jedem überlegener Sportler*
in power an everyone-DAT superior athlete

(33) a. *Er war wahrscheinlich an diesem Sport immer allen überlegener*
he was probably in this sport always all-DAT superior
"Probably he was always superior to everyone in this sport"
b. *Er war wahrscheinlich diesen Männern immer an Sport überlegener*
he was probably these men-DAT always in sport superior
"Probably he was always superior to these men in sport"

1.3.3 *Scrambling within PPs.* Elements cannot be reordered either within or outside of the prepositional phrase they belong to (example (35) from Müller, 1995):

(34) a. *In diesem Abschnitt über Metaphern*
in this chapter about metaphors
"In this chapter about metaphors"
b. **In über Metaphern diesem Abschnitt*
in about metaphors this chapter
c. **In diesem über Metaphern Abschnitt*
in this about metaphors chapter

(35) a. *Ich bin unter Druck*
I am under pressure
"I am under pressure"
b. **Ich bin Druck unter*
I am pressure unter

However, postpositional phrases allow for reordering, only should this take place outside the PP-boundary (example (36) from Law, 2000; (37a) based on Wagner, 2002, my informants' judgements):

(36) a. [*dem Bild mit goldenem Rahmen*]$_{DP}$ *gegenüber*
the picture-DAT with golden frame opposite
"opposite the picture with a golden frame"

b. **mit goldenem Rahmen dem Bild gegenüber*
with golden frame the picture-DAT opposite

(37) a. *Peter ist gestern nicht den Fluss entlang gefahren*
Peter has yesterday not the river-ACC along driven
"Peter did not drive along the river yesterday"
a'. *Peter ist den Fluss gestern nicht entlang gefahren*
Peter has the river-ACC yesterday not along driven
b. *Die Sekretärin, die gestern dem Chef gegenüber sass*
the secretary that yesterday the boss-DAT opposite sat
"The secretary that sat opposite the boss yesterday"
b'. *Die Sekretärin, die dem Chef gestern gegenüber sass*
the secretary that the boss-DAT yesterday opposite sat

1.4 *Some preliminary conclusions about scrambable constituents*

Having briefly reviewed the data, we may now essay to answer the question posed at the beginning of this section, namely, is scrambling constrained either by the category of the reordered constituent, or by the nature of the projection in which it takes place? We will present the most problematic cases in order to draw some preliminary conclusions.

It will be useful to recall that with respect to scrambling of arguments within VP, degrees of well-formedness range from full grammaticality (specific DPs) to unacceptability (existential DPs and, for some scholars, secondary predicates). What seems to underlie the differences caused by the category of the scrambled constituent is not its category as such (as demonstrated by the different results with specific vs existential DPs), but rather its semantic interpretation: as traditionally noticed in the literature, the more existential, predicative the reading a constituent receives is, the more ungrammatical scrambling is. This is also apparently true of at least one type of selected adverbials: locative adverbials are more prone to being reordered if they are highly referential (example (19) above). Consequently, two conclusions can be drawn: (i) scrambling of argumental constituents is restricted only on semantic grounds; (ii) scrambling of selected adverbials applies only to locative adverbials, and is also semantically restricted.

At the same time, there would appear to exist some arguments whose resistance to scrambling cannot be explained in semantic terms, insofar as increasing their referential content does not improve the ungrammaticality of the reordered sequence. They are those labelled as 'special genitives and datives', which, as demonstrated by Frey's (2000) examples (5) and (6), may never move past the direct object they are constructed with in ditransitive

structures. But that the facts are not so clear-cut, at least for the case of special datives, is pointed out by Fanselow (2003), who shows that, preserving the right ordering between ACC and DAT according to an animacy scale (Müller, 1999),[6] both elements may scramble to post-subject (38a) or pre-subject (38b) positions.[7] In other words, they may scramble only in the case that the accusative undergoes scrambling too (examples from Fanselow, 2003):

(38) a. *dass er glücklicherweise die Kandidaten der schwersten*
that he fortunately the candidates-ACC the most difficult
Prüfung immer nur am Vormittag unterzog
test-DAT always only before noon subjected
"that fortunately he always subjected the candidates to the most difficult test only before noon"

b. *dass glücklicherweise die Kandidaten einer schweren*
that fortunately the candidates-ACC a difficult
Prüfung am Vormittag nur der Fritz unterziehen wollte
test-DAT before noon only Fritz-NOM subject wanted-to
"that fortunately only Fritz wanted to subject the candidates to a difficult test before noon"

Although the final part of the present work (Chapter 5) will argue that the reason why 'double scrambling' is needed in those special cases differs from that proposed by Fanselow, his examples nonetheless constitute empirical support for our conclusion in the preceding paragraph that scrambling of verbal arguments is, without exception, semantically constrained exclusively.

On the other hand, with respect to adjuncts, it will be remembered that Fanselow's (2001, 2003) examples with coherent infinitives and time adverbials, which indicated that adjuncts cannot be reordered (24), apparently conflict with Engels's sentences with locative adjuncts, which showed just the reverse (25). It is proposed here, however, that no contradiction can be seen to exist, once structures such as the ones given below are fully taken into account (example (39) based on Hinterhölzl, 1999):

(39) a. *weil sie der Hans gestern morgen zu besuchen*
because her-ACC Hans-NOM yesterday tomorrow to visit
versprach
promised
"because yesterday Hans promised to visit her tomorrow"

b. **weil sie der Hans morgen gestern zu besuchen*
because her-ACC Hans-NOM tomorrow yesterday to visit
versprach
promised
"because yesterday Hans promised to visit her tomorrow"

(40) a. *weil der Hans gestern sie morgen zu besuchen*
because Hans-NOM yesterday her-ACC tomorrow to visit
versprach
promised
"because Hans promised yesterday to visit her tomorrow"
b. **weil der Hans morgen sie gestern zu besuchen*
because Hans-NOM tomorrow her-ACC yesterday to visit
versprach
promised
"because Hans promised yesterday to visit her tomorrow"

(41) a. *dass der Hans am Strand in diesem Restaurant zu essen*
that Hans-NOM on-the beach in this restaurant to eat
versprach
promised
"that Hans promised on the beach to eat in this restaurant"
b. *#dass der Hans in diesem Restaurant am Strand zu essen*
that Hans-NOM in this restaurant on-the beach to eat
versprach
promised
#"that Hans promised in this restaurant to eat on the beach"

(39) and (40) are sentences in which both the matrix and the embedded predicate are overtly modified by two different time adverbials, *gestern* and *morgen,* respectively. On the other hand, (41) is an example of locative modification, with *am Strand* construed with the matrix verb, and *in diesem Restaurant* with the embedded one. It will be noticed that unlike the (a) sentences, all of which are grammatical,[8] their (b) counterparts result in ungrammaticality for time adjuncts and pragmatic oddity for locative ones ("Hans promised in this restaurant to eat on the beach"). In short, what the contrasts in these examples demonstrate is that adverbial adjuncts of matrix clauses must always precede those modifying embedded ones. This is highly reminiscent of William's (1994) 'Nested Scope Constraint' (NSC), according to which, when the scope of XP is contained in the scope of another element,

then XP must be contained in that scope as well. For the case at hand, since the embedded adverbials have their scope in the infinitival VP,[9] and this, in turn, is nested in the scope of the matrix one, they cannot be displaced out of it. But why is it that there exists an asymmetry in cases in which only the embedded predicate is modified? I would suggest that the answer has to do with the way in which adverbials interact with tense: whereas there exists agreement between the verb and an overt or covert past- or present-oriented adverb, which the temporal morphology reflects, such a relation does not hold for place adverbials (Iatridou, Anagnostopoulou and Izvorski, 2001). This means that, in Fanselow's example above (24), in which *morgen*, whose scope is within the embedded VP, is adjoined to the matrix one, William's NSC is violated, on the basis that it also crosses over a covert past-oriented adverbial, as the past morphology of the matrix predicate *versprach* reveals. On the other hand, in Engels's structures with locative adverbials, there is no (overt or covert) locative whatsoever and, consequently, there is no violation of the NSC either. Notice that such an account does not prevent (42) below from being grammatical in its two possible readings (example from Hinterhölzl, 1999):

(42) *weil sie der Hans oft zu besuchen versprach*
because her-ACC Hans-NOM often to visit promised
"since Hans often promised to visit her"
"since Hans promised to often visit her"

The reason is that the two readings are obtained fulfilling the NSC: for the first one, the trivial assumption is there is no movement of the (covert) adverbial in the embedded clause, and *oft* is directly construed with *versprach*, with which it is completely compatible; for the second one, *oft* is construed with the embedded verb,[10] in whose scope, crucially, it remains, without crossing over the covert, past-oriented adverbial implicit in the past morphology of *versprach*.

In the light of both the pieces of evidence put forward by Engels and the discussion above, there are some reasons to believe that adjuncts may undergo scrambling in German, with some restrictions in terms of referentiality.

Finally, some observations may be offered with respect to the projections in which scrambling may take place. It will be recalled that, according to the data reviewed in this section, scrambling is certainly possible within the VP, seems to take place also within APs, and it may apparently occur in DPs if it targets a position adjoined to the determiner. Nevertheless, as Müller (1995) demonstrates, this process of left-adjunction to DPs does not constitute a real instance of scrambling, given that, contrary to what is one of the most

pervasive characteristics of genuine scrambling within VP crosslinguistically, DP scrambling does not iterate, as the comparison of (43) and (44) shows (example (43) from Müller, 1995):

(43) a. *dass der Peter gestern dem Kind das Buch*
that Peter-NOM yesterday the child-DAT the book-ACC
gegeben hat
given has
"that Peter gave the child the book yesterday"
b. *dass der Peter dem Kind das Buch gestern*
that Peter-NOM the child-DAT the book-ACC yesterday
gegeben hat
given has
"that Peter gave the child the book yesterday"

(44) a. *ein Buch von Martin über die Metapher*
a book by Martin about the metaphors
"a book about metaphors by Martin"
b. **von Martin über die Metapher ein Buch*
by Martin about the metaphors a book

Müller concludes that (44b) is probably the result of PP movement to Spec D, thus explaining why preposing must affect only one constituent. Whatever its proper characterisation may be, the process is clearly distinct from scrambling.

When we turn to the cases of ungrammatical scrambling within pre- and post-positional phrases, we will notice that they are accounted for on the basis of the unavailability of scrambling within DPs: in (34b,c) and (36b) the scrambled element is selected for by the nominal head, and not by the pre-/ post-positional one. Thus, (34b,c) and (36b) basically reduce to (32b,c): scrambling is not available within a DP.

There is only one case remaining, namely that of scrambling of the DP complement of pre-/post-positions to a higher projection (examples 35b,37 a',b'). Here an obvious asymmetry arises: complements of prepositional heads cannot be displaced beyond the limits of the PP, whereas complements of post-positions may appear preceding not only negation, but also VP-adjoined adverbs such as *gestern*. Therefore, the conclusion is that scrambling is impossible with the former, but possible with the latter.

To summarise: scrambling is not restricted categorially (although it is semantically); it affects arguments and selected locative adverbials (and perhaps

adjuncts) that appear within the VP, and also complements of both adjectives and postpositions, displacing them all typically to the VP periphery.[11]

1.5 *The clause-boundedness of scrambling and the syntactic position of scrambled constituents*

1.5.1 *Scrambling is clause-bound.* German scrambling is strictly clause-bound, which means that the reordered constituent cannot appear beyond the boundaries of the clausal projection that contains the predicate selecting it. This is true of both finite (45) and infinitival clauses (46) (example (45) from Müller, 1995; (46) based on Frey, 2000):

(45) a. **dass keiner Hygrometer*$_i$ *sagt* [*dass Antje* t_i *mag*][12]
that no-one-NOM hygrometers-ACC says that Antje likes
"that nobody says that Antje likes hygrometers"

b. **dass du Hygrometer*$_i$ *meinst* [*würde Antje* t_i *mögen*]
that you-NOM hygrometers-ACC think would Antje like
"that you think that Antje would like hygrometers"

c. **Gestern meinte Hygrometer keiner* [*würde*
yesterday thought hygrometers-ACC no-one-NOM would
Antje t_i *mögen*]
Antje like
"Nobody thought yesterday that Antje would like hygrometers"

(46) **dass Eva dem Hans*$_i$ *glaubt,* [t_i *helfen zu müssen*]
that Eva-NOM Hans-DAT thought help to have-to
"that Eva thinks that she should help Hans"

Notice that the locality of German scrambling holds irrespective of both the kind of clause it moves from and the kind of clause it targets: embedded with overt complementiser, embedded with overt complementiser in (45a), embedded V-2, embedded with overt complementiser in (45b), or embedded V-2, matrix V-2 in (45c).

There is, however, a case in which scrambling may, in fact, occur in a hierarchically higher sentence, namely that constituted by coherent infinitival clauses. Recall that, as briefly summarised in Chapter 2 (Section 2), coherent infinitives are characterised by allowing for an (optional) process of restructuring with the matrix predicate subcategorising for them. When restructuring takes place, scrambling is possible, as illustrated by (47) (taken from Hinterhölzl, 1999), where *bat (bitten*, "ask"*)* exemplifies the non-restructuring paradigm, and *versprach (versprechen*, "promise"*)* the restructuring one:

(47) a. **dass uns das Buch$_i$ Hans gestern bat*
that us-DAT the book-ACC Hans-NOM yesterday asked
[*der Maria* t$_j$ *zu geben*]
Maria-DAT to give
"that Hans asked us yesterday to give the book to Maria"

b. *dass der Maria$_i$ das Buch$_j$ Hans gestern*
that Maria-DAT the book-ACC Hans-NOM yesterday
[t$_i$ t$_j$ *zu geben*] *versprach*
to give promised
"that Hans promised yesterday to give the book to Maria"

On the other hand, ever since the publication of Haider's (1987, 1990, 1991, etc.) pioneering work on coherent infinitives, it is frequently argued that restructuring is forbidden when the verbal complex is split up by the intervention of another constituent. In other words, the (un)grammaticality of a structure of the type infinitive+XP+matrix verb serves to diagnose the coherent/non-coherent distinction. This is demonstrated by (48), where an infinitive from which either a nominal or pronominal DP has scrambled to the matrix clause must appear strictly preceding the matrix verb (examples based on Hinterhölzl, 1999):

(48) a. **weil sie$_i$ der Hans* [t$_i$ *zu besuchen*] *oft versuchte*
because her-ACC Hans-NOM to visit often tried
"because Hans often tried to visit her"

a'. **weil die Claudia$_i$ der Hans* [t$_i$ *zu besuchen*] *oft versuchte*
because Claudia-ACC Hans-NOM to visit often tried
"because Hans often tried to visit Claudia"

b. *weil sie$_i$ der Hans oft* [t$_i$ *zu besuchen*] *versuchte*
because her-ACC Hans-NOM often to visit tried
"because Hans often tried to visit her"

b'. *weil die Claudia$_i$ der Hans oft* [t$_i$ *zu besuchen*] *versuchte*
because Claudia-ACC Hans-NOM often to visit tried
"because Hans often tried to visit Claudia"

From this it is concluded that coherent infinitives may be the source of 'scrambable' elements, but cannot be scrambled themselves. On the assumption that these two properties distinguish them from non-coherent infinitives, the ungrammaticality of (48a, a') is taken as support for the clause-boundedness of German scrambling: both (48a) and (48a') are instances of scrambling of a non-coherent infinitive, which cannot restructure with the matrix verb.

Thus, scrambling of *sie* and *die Claudia* is, in turn, a case of long (i.e. non-clause-bound) scrambling, which German grammar disallows. However, as shown in Chapter 2, a fact almost unnoticed in the literature (an exception is Müller, 1998) seems to indicate that that cannot be the right analysis of (48a, a'), insofar as it excludes sentences such as (49) below, which, according not only to Müller but also to my informants, is grammatical in German:

(49) *weil* [t_i *zu lesen*] es_i *keiner* *versuchte*
because to read it-ACC no-one-NOM tried
"because nobody tried to read it"

It will be recalled that only coherent infinitives allow for the scrambling of their internal constituents. From that perspective, *zu lesen* conforms to the expected pattern, since its object *es* appears preceding the matrix subject,[13] paralleling *sie* in (48b). On the other hand, the verbal complex is split up due not only to the presence of the object itself, but also to that of the matrix subject *keiner*, which entails that, contradictorily with the conclusions about the scrambling of *es*, we are dealing with a non-coherent infinitival. Thus, an alternative explanation is needed, and will be proposed in Chapter 5.

Does the existence of reordered elements beyond the limits of their coherent infinitival clauses weaken the assumption that German scrambling is clause-bound? According to the different hypotheses developed to account for restructuring constructions, the answer is invariably no, since, despite important divergences between them, the conclusion is always that both matrix and embedded predicate constitute a single clause. Thus, for those scholars who defend what has been labelled as the 'mono-clausal approach' (among them, Haider, 1986, 1991, 1993; Cinque, 1997a, 1997b, 2000; Wurmbrand, 1998, 2001a, and references therein), a coherent infinitival structure is a single clause throughout the entire derivation; on the other hand, for those who support the so-called 'bi-clausal approach' (Evers, 1975; Rizzi, 1976; Aissen and Perlmutter, 1976; Hoekstra, 1984; Stechow and Sternefeld, 1988; Roberts, 1993; Grewendorf and Sabel, 1994, among others), it is in the course of the syntactic computation that clause union between the embedded infinitive and the matrix predicate is obtained. Therefore, whether we adopt one view or the other,[14] the fact remains that scrambling in German is, without exception, clause-bound.

1.5.2 *Two scrambling positions within the clause*. The second observation about the clause-boundedness of German scrambling relates to the actual syntactic positions within the clause it may target. As has already been shown

in Chapter 1, German scrambled constituents may appear in a pre-subject (50b) or a post-subject (50c) position, preceding, in turn, VP-adverbials, VP-particles, and negation. However, in languages such as Dutch, in which reordering of constituents is also possible, pre-subject scrambling is barred[15] (51b) (Dutch examples from Neeleman, 1994):

(50) a *dass der Peter gestern* ***das Buch*** *gelesen hat*
that Peter-NOM yesterday the book-ACC read has
"that Peter read the book yesterday"
b. *dass* ***das Buch*** *der Peter gestern gelesen hat*
that the book-ACC Peter-NOM yesterday read has
"that Peter read the book yesterday"
c. *dass der Peter* ***das Buch*** *gestern gelesen hat*
that Peter-NOM the book-ACC yesterday read has
"that Peter read the book yesterday"

(51) a. *dat Jan op zondag* ***het boek*** *leest*
that Jan-NOM on Sunday the book-ACC reads
"that Jan reads the book on Sunday"
b. **dat* ***het boek*** *Jan op zondag leest*
that the book-ACC Jan-NOM on Sunday reads
"that Jan reads the book on Sunday"
c. *dat Jan* ***het boek*** *op zondag leest*
that Jan-NOM the book-ACC on Sunday reads
"that Jan reads the book on Sunday"

It will be remembered that, apart from the availability of pre-subject scrambling in German and its absence in Dutch, there is another property that makes the two processes differ: ordering restrictions. Although scrambling may be iterated in the two languages (i.e. it may reorder more than one element), Dutch, but not German, exhibits an ordering constraint on scrambling by which only serialisations corresponding to base-generated orders are allowed for,[16] as shown in (52) and (53) for ditransitive structures (examples in (52) from Müller, 1995; Dutch examples in (53) from Thráinsson, 2001):

(52) a. *dass der Fritz* ***dem Wolfgang das Buch*** *geklaut hat*
that Fritz-NOM Wolfgang-DAT the book-ACC stolen has
"that Fritz has stolen the book from Wolfgang"

b. *dass der Fritz* ***das Buch*** ***dem Wolfgang*** *geklaut hat*
that Fritz-NOM the book-ACC Wolfgang-DAT stolen has
"that Fritz has stolen the book from Wolfgang"

c. *dass* ***dem Wolfgang*** *der Fritz* ***das Buch*** *geklaut hat*
that Wolfgang-DAT Fritz-NOM the book-ACC stolen has
"that Fritz has stolen the book from Wolfgang"

d. *dass* ***das Buch*** *der Fritz* ***dem Wolfgang*** *geklaut hat*
that the book-ACC Fritz-NOM Wolfgang-DAT stolen has
"that Fritz has stolen the book from Wolfgang"

e. *dass* ***das Buch*** ***dem Wolfgang*** *der Fritz geklaut hat*
that the book-ACC Wolfgang-DAT Fritz-NOM stolen has
"that Fritz has stolen the book from Wolfgang"

f. *dass* ***dem Wolfgang das Buch*** *der Fritz geklaut hat*
that Wolfgang-DAT the book-ACC Fritz-NOM stolen has
"that Fritz has stolen the book from Wolfgang"

(53) a. *dat de vrouw waarschijnlijk* ***de mannen*** ***de film*** *toont*
that the woman-NOM probably the men-DAT the picture-ACC shows
"that the woman probably shows the picture to the men"

b. *dat de vrouw* ***de mannen*** *waarschijnlijk* ***de film*** *toont*
that the woman-NOM the men-DAT probably the picture-ACC shows
"that the woman probably shows the picture to the men"

c. **dat de vrouw* ***de film*** *waarschijnlijk* ***de mannen*** *toont*
that the woman-NOM the picture-ACC probably the men-DAT shows
"that the woman probably shows the picture to the men"

Notice that the combination of both the availability of pre-subject scrambling and the absence of ordering restrictions yields five possible scrambling structures in German. Likewise, the non-existence of a pre-subject scrambling position and the requirement that scrambled datives precede scrambled accusatives in Dutch result in only two alternative strings (apart from the non-scrambled order).

We may thus conclude that scrambling is more constrained in Dutch than in German. Furthermore, as shown in Chapter 1, the constraints present in Dutch

scrambling seem to hold in similar processes in other related languages, such as Scandinavian 'Object Shift'.[17] Given this relatedness between Dutch, German and Scandinavian languages, it may be reasonable to assume a certain connection between Dutch and German scrambled structures and Scandinavian 'Object Shift' as surface manifestations of basically a single phenomenon. The way in which actual differences between them may be explained depends upon the kind of analysis adopted. In this respect, there are in the literature many attempts to bring together Dutch and German scrambling, but Scandinavian 'Object Shift' is mostly regarded as a distinct construction. We will deal with the way in which the different hypotheses make German scrambling look more 'Dutch-like' in the chapter devoted to previous accounts (Chapter 4). On the other hand, that German scrambling and Scandinavian 'Object Shift' share more basic properties than traditionally assumed will be the central claim developed in Chapter 5.

1.6 *'Island effects'*

Within the generative framework, constituents are understood to occupy their position in the final uttered string as a result of two different processes: either they are directly inserted (base-generated) there, or they have been moved from the place where they were first inserted. Setting aside the exact ways in which base-generation and movement are envisaged and labelled in the different models of the generative approach,[18] it is assumed that base-generated and moved constituents diverge in several respects: (i) constituents may be base-generated in any structural position as long as categorial requirements are satisfied, but constituents cannot be displaced from all structural positions (Ross's (1967) 'Island Constraints'); and (ii) movement from an already moved constituent is forbidden, whereas movement out of a base-generated one is generally possible (Wexler and Culicover's (1980) 'Freezing Principle'). The status of scrambled constituents with respect to these two characteristics is as controversial as the matter of their categorial status. A substantial body of contradictory data exists that may be used to conclude that reordered elements are sensitive to 'island effects', or just the opposite. Much as I did when approaching the problem of the categorial restrictiveness of German scrambling, in this section I will present all the available evidence, reserving fuller comment upon it until the end. The issue at stake here is an extremely important one, constituting as it does one of the most significant pieces of evidence that distinguishes between the two conventional kinds of analyses of German scrambling: movement approaches and base-generation approaches (Chapter 4). In the section that follows, we will examine two different kinds of arguments that have been used to argue for or against the characterisation of

German scrambled constituents as moved constituents: those based on Ross's (1967) original formulation of 'Island Constraints', and those based on Wexler and Culicover's (1980) 'Freezing Principle'.

1.6.1 *Ross's 'Island Constraints'*. One of the first proofs to appear in the literature demonstrating that scrambling does indeed derive from constituent displacement was given by Webelhuth (1989), who showed that the phenomenon is sensitive to Ross's (1967) 'Island Constraints' on movement transformations. The ill-formed examples below illustrate the sensitivity of both German *wh*-movement and scrambling to island effects such as the 'Left Branch Condition' (54a, a'), the 'Coordinate Structure Constraint' (54b, b'), or the 'PP-island Condition' (54c, c') (examples based on Webelhuth, 1989):[19]

(54) a. **Wessen$_i$ wurde* [t$_i$ *Auto*] *gestern gestohlen*?
whose was car yesterday stolen
*"Whose was car stolen yesterday?"

a'. **weil meines Brudes$_i$ gestern* [t$_i$ *Auto*] *gestohlen wurde*
because my brother-GEN yesterday car stolen was
"because my brother's car was stolen yesterday"

b. **Wen$_i$ hat jemand* [t$_i$ *und Maria*] *angemeldet*?
who-ACC has someone-NOM and Maria registered
*"Who has someone registered and Maria?"

b'. **weil Hans$_i$ jemand* [t$_i$ *und Maria*] *angemeldet hat*
because Hans someone-NOM and Maria registered has
"because someone has registered Hans and Maria"

c. **Was$_i$ haben die Leute lange* [*für* t$_i$] *gekämpft*?
what-ACC have the people-NOM long for fought
"What did people fight for a long time?"

c'. **weil ihre Freiheit$_i$ die Leute lange* [*für* t$_i$] *gekämpft haben*
because their freedom the people-NOM long for fought have
"because people fought for their freedom for a long time"

Webelhuth argues that if scrambling is impossible in precisely the same structures in which a well-known instance of movement operation (*wh*-movement) is, scrambling must therefore be a movement operation. Nevertheless, as Haider (2000) points out, this contention does not prove anything, since Webelhuth's reasoning is misguided: it tacitly relies on the impossibility of there existing a single property shared by structures generated in different

ways. In Haider's words, the implicit assumption is that "if X is derived by movement, it has property Y. X has property Y. Therefore, X is derived by movement" (fn. 5, 39). Thus, the sensitivity of German scrambling to island-effects could be equally accounted for even on the basis that scrambled constituents are base-generated in the position they occupy in the final string.

1.6.2 *'Freezing'*. The second sort of evidence most frequently adduced by scholars who support an explanation of scrambling in terms of movement is the one based on the 'Freezing Principle' (Wexler and Culicover, 1980): a moved constituent becomes an island after movement with respect to further movement of another constituent within it. As Müller (1998:22) puts it:

(55) At S-structure, a trace t may not be included in a moved XP (i.e. an XP that binds a trace) if the antecedent of t is excluded by XP.

This is illustrated by the contrast between (56a) and (56b) for English, and (57a) and (57b) for German (German examples based on Müller, 1998):

(56) a. Who$_i$ did John take [a picture of t_i]?
b. *Who$_i$ was [a picture of t_i]$_j$ taken t_j by John?

(57) a. *Worüber$_i$ hat der Peter* [*ein Buch* t_i] *gelesen*?
about-what has Peter-NOM a book-ACC read
"About what did Peter read a book?"
b. **Worüber$_i$ ist* [*ein Buch* t_i]$_j$ t_j *von keinem gelesen worden*?
about-what has a book-ACC by no-one read been
*"About what was a book read by no one?"

For both the English and the German pairs, the ungrammaticality of the (b) sentences derives from the same source: the subject DP has moved from the complement position of the passive verb to Spec IP/TP. As a consequence, the *wh*-constituent contained in it is frozen there, being unable to undergo further displacement. As shown by the defenders of the islandhood of scrambling, the same picture seems to emerge with reordered structures in German. This is demonstrated by the following sets of German structures:
(i) NP-PP splits. These are structures characterised by a DP containing a PP, which, in turn, hosts a *wh*-element. If the DP occupies a non-derived position, *wh*-movement of the PP is allowed (58a); if it appears scrambled, *wh*-movement is barred (58b) (examples from Müller, 1998):

(58) a. [*Über wen*]$_i$ *hat der Fritz letzes Jahr* [*ein Buch* t$_i$]
about-whom has Fritz-NOM last year a book-ACC
geschrieben?
written
"About whom did Fritz write a book last year?"
b. *[*Über wen*]$_i$ *hat der Fritz* [*ein Buch* t$_i$] *letzes Jahr*
about-whom has Fritz-NOM a book-ACC last year
geschrieben?
written
"About whom did Fritz write a book last year?"

That the moved DP appears in pre-subject position does not change its ungrammatical status, from which it may be concluded that, regarding islandhood, pre- and post-subject scrambling are basically the same phenomenon (examples from Müller, 1998):

(59) a. [*Worüber*]$_i$ *hat keiner* [*ein Buch* t$_i$] *gelesen?*
about-what has no-one-NOM a book-ACC read
"About what did no one read a book?"
b. *[*Worüber*]$_i$ *hat* [*ein Buch* t$_i$] *keiner gelesen?*
about-what has a book-ACC no-one-NOM read
"About what did no one read a book?"

(ii) Split topicalisation. Elements of a DP that may or may not form a constituent can be displaced to the first position of the clause, where they are pragmatically interpreted as a topic. Split topicalisation is possible only whenever the rest of the DP occupies its base generation position (60a); if it is scrambled, split topicalisation is ruled out (60b), as noted by Müller & Sternefeld (1995) and Lenerz (2001) (my informants' judgement):

(60) a. [*Volvos*]$_i$ *habe ich gestern* [*viele* t$_i$] *gesehen*
Volvos-ACC have I yesterday many seen
"As for Volvos, I saw many yesterday"
b. *[*Volvos*]$_i$ *habe ich* [*viele* t$_i$] *gestern gesehen*
Volvos-ACC have I many yesterday seen
"As for Volvos, I saw many yesterday"

(iii) *Was-für* construction. *Was-für* constructions are DPs headed by a *wh*-element and hosting the phrasal projection of the preposition *für.* As expected, the *wh*-element must undergo movement to the clausal initial position. If the

rest of the DP, that is, the part of the DP still containing the PP, appears in its base-generation position, *wh*-movement is grammatical (61a). However, *wh*-movement from a scrambled position is disallowed (61b) (examples from Bayer and Kornfilt, 1994):

(61) a. [*Was*]$_i$ *hat Heinrich dem Mann* [t$_i$ *für ein Buch*]
what has Heinrich-NOM the man-DAT for a book
empfohlen?
recommended
"What kind of book did Heinrich recommend the man?"

b. *[*Was*]$_i$ *hat Heinrich* [t$_i$ *für ein Buch*] *dem Mann*
what has Heinrich-NOM for a book the man-DAT
empfohlen?
recommended
"What kind of book did Heinrich recommend the man?"

Thus far the review of the German data which seem to support that movement from a scrambled constituent is, in fact, movement from an already moved constituent, as the ungrammaticality of the cases reviewed above confirm. Notice, however, that Müller's (1998) definition of 'Freezing' in (55) (repeated here as (62)) entails a second consequence, namely the impossibility of displacing a constituent from which another element has already moved:

(62) At S-structure, a trace t may not be included in a moved XP (i.e. an XP that binds a trace) if the antecedent of t is excluded by XP.

In this connection, (62) could roughly correspond to (63), where β moves from α, and α, now containing the trace of β but crucially not β, is in turn displaced to a higher position, violating (62):

(63) *[$_\alpha$ t$_i$] β_i [$_\alpha$ t$_i$]

Since α is not a complete constituent anymore, once the extraction of β has taken place, (62) is just an instance of what has been traditionally called 'remnant movement' (Thiersch, 1985; den Besten and Webelhuth, 1987; see Chapter 2, Section 3). But remnant movement, as frequently noticed in the literature (Müller, 1998) and references therein), is sometimes possible, against what is predicted in (62):

(64) [t_i *zu lesen*]$_j$ *hat das Buch$_i$ keiner* t_j *versucht*
to read has the book-ACC no-one-NOM tried
"No one tried to read the book"

It will be noticed that (64) parallels (63) in that [t_i *zu lesen*], an infinitival clause containing the trace of the scrambled *das Buch* has been subsequently moved to the clause initial position, constituting a standard case of remnant topicalisation. Müller observes that the grammaticality of (64) is also found in those instances in which scrambling combines with *wh*-movement of the remnant constituent ((65b) below). However, if scrambling of the element first extracted combines with subsequent scrambling (65c) or contrastive left dislocation[20] (65d) of the remnant constituent, the result is completely ungrammatical (examples from Müller, 1998, his judgements):

(65) a. [t_i *zu lesen*] *hat das Buch$_i$ keiner versucht*
to read has the book-ACC no-one-NOM tried
"No one tried to read the book"
a'. [*Das Buch zu lesen*] *hat keiner versucht*
the book-ACC to read has no-one-NOM tried
"Nobody tried to read the book"
b. [*Was für ein Buch* t_i] *hast du über die Liebe$_i$ gelesen?*
what for a book have you-NOM about the love read
"What kind of book about love did you read?"
b'. [*Was für ein Buch über die Liebe*] *hast du gelesen?*
what for a book about the love have you-NOM read
"What kind of book about love did you read?"
c. **dass* [t_i *zu lesen*] *das Buch$_i$ keiner versucht hat*
that to read the book-ACC no-one-NOM tried has
"that no one tried to read the book"
c'. *dass* [*das Buch zu lesen*] *keiner versucht hat*
that the book-ACC to read no-one-NOM tried has
"that no one tried to read the book"
d. *[t_i *zu lesen*], *das hat das Buch$_i$ keiner versucht*
to read that has the book-ACC no-one-NOM tried
"No one tried to read the book"
d'. [*Das Buch zu lesen*], *das hat keiner versucht*
the book-ACC to read that has no-one-NOM tried
"Nobody tried to read the book"

Thus, the correct descriptive generalisation is:

(i) Topicalisation and *wh*-movement are insensitive to the remnant nature of the topicalised/*wh*-moved constituent, if its remnant nature is a consequence of scrambling, as the lack of opposition between the pairs in (a) and (b) demonstrates.
(ii) On the other hand, scrambling and contrastive left dislocation are possible with complete but not incomplete constituents, which explains the contrast between (65c,d) and (65c', d').

Müller elaborates a detailed derivational account for the differences in (65). His main conclusion is that they are due to the 'Principle of Unambiguous Domination' (PUD), which he formulates as follows (1998:241):

(66) Unambiguous Domination: an α-trace must not be α-dominated

where 'α-trace' means 'trace with a (not necessarily c-commanding) antecedent in a position of type α', and 'α-dominated' means 'dominated by a category in a position of type-α'. In this context, the PUD would allow only for cases in which the displacement undergone by the previously moved constituent and the one undergone by the larger category itself do not belong to the same class. Setting aside the problems that the PUD presents with respect to both topicalisation and *wh*-movement, I would argue here that it also fails to make satisfactory predictions for scrambling, especially when structures such as the one appearing in (49) above (repeated here as (67)) are considered (example from Müller, 1998):

(67) *dass* [t_i *zu lesen*]$_j$ *es*$_i$ *keiner* t_j *versucht hat*
that to read it-ACC no-one-NOM tried has
"that nobody tried to read the book"

Recall that this example was cited in our earlier discussion about scrambling of coherent infinitives as a proof against the traditional opinion that restructuring infinitives cannot be scrambled. We argued there that both the pronoun and the remnant constituent appear in a pre-subject position, which is highly problematic for the common approach to coherent constructions. But it is clear that such a structure also refutes Müller's PUD, since the position originally occupied by *es* (now a trace) would be ambiguously dominated in the scrambled constituent by *es*, also in an scrambling position. In order to rule in the structure, Müller resorts to a characterisation of pronoun movement as an instance distinct from scrambling. His solution seems reasonable, especially if it is taken into account that pronoun movement apparently departs from scrambling in several respects. One of these is that displaced pronouns present a fixed or-

der between them, according to which accusatives must obligatorily precede datives (68). This contrasts with the lack of ordering restrictions in the case of German scrambling (69), as shown in 1.1.5 in this chapter:

(68) a. *dass er es ihm gestern gegeben hat*
that he it-ACC him-DAT yesterday given has
"that he gave it to him yesterday"
b. **dass er ihm es gegeben hat*
that he him-DAT it-ACC given has
"that he gave it to him yesterday"

(69) a. *dass er das Buch dem Peter gestern gegeben hat*
that he the book-ACC Peter-DAT yesterday given has
"that he gave the book to Peter yesterday"
b. *dass er dem Peter das Buch gestern gegeben hat*
that he Peter-DAT the-book-ACC yesterday given has
"that he gave the book to Peter yesterday"

Nevertheless, apart from the theoretical problems involved in the notion of pronoun movement,[21] Müller's solution confronts an empirical difficulty, as demonstrated by examples like (70), which, to my knowledge, have never been reported in the literature (my informants' judgement):

(70) a. *dass* [t_i *zu lesen*]$_j$ *er es*$_i$ t_j *versucht hat*
that to read he it-ACC tried has
"that he tried to read it"
b. **dass* [t_i *zu lesen*]$_j$ *der Peter es*$_i$ t_j *versucht hat*
that to read Peter-NOM it-ACC tried has
"that Peter tried to read it"

Why should instances of remnant scrambling and pronoun movement[22] be sensitive to the nominal or pronominal nature of the subject? An answer to this question will be proposed in Chapter 5, when we offer an analysis of German scrambling that may explain this kind of data.

1.6.3 *'Anti-Freezing'*. As noted at the beginning of this section when discussing the island status of scrambled constituents, one of the problems for drawing clear conclusions is that, in addition to the evidence presented so far, which seems to indicate that reordered constituents are islands for movement, there also exists an extensive body of data that apparently confirms precisely the

reverse conclusion. Remember that the main findings in the previous paragraphs were, on the one hand, that scrambled constituents disallow extraction of their internal constituents irrespective of category, and, on the other, that previous reordering of those internal constituents does not block subsequent movement of the larger, i.e. remnant, one, except in the case movement is scrambling. It will be recalled as well that, following Müller (1998), we pointed out an exception to the second generalisation, namely those structures in which scrambling of a pronominal element (or pronoun movement, in Müller's terms) did not forbid remnant reordering of the coherent infinitive. Since this instance of 'double scrambling' results in a grammatical structure in German, it is obvious that any correct analysis of the phenomenon must account for it. Furthermore, it should also account for the sets of data we will present in the following pages, often adduced as empirical argument to deny just what the proofs for 'Freezing' are given for, that is, that German scrambling is an instance of syntactic movement.

'Anti-Freezing' counterexamples are generally modelled on the 'Freezing' ones, so it is not surprising to find almost an exact 'Anti-Freezing' counterpart to each of the 'Freezing' groups analysed above, namely NP-PP splits (examples (58) and (59) in the preceding section), partial DP topicalisation (split topicalisation, (60)), and *wh*- movement in *was für* constructions (61)). Besides, it is expected that, if scrambling is not an instance of displacement, scrambled infinitives may allow for extraction of internal material if this is to reach Spec C (that is, if it must be topic- or *wh*-moved). All these predictions are apparently borne out:

(i) 'Anti-Freezing' with NP-PP split (counterexample to (58) and (59) above). The literature offers a couple of instances, one given by Fanselow (1991), and the other one by Frey (2000),[23] (71) and (72) respectively:

(71) *Worüber*$_i$ *kann* [*einen Südkurier-Artikel* t_i] *selbst Peter*
about-what can a *Südkurier* article-ACC even Peter-NOM
nicht am Strand verfassen?
not on-the beach write
"About what cannot Peter write a Südkurier article on the beach?"

(72) *Über Linguistik*$_i$ *hätte Otto* [*einen solch schönen*
about Linguistics would-have Otto-NOM a such nice
Artikel t_i] *leider niemals verfasst*
article-ACC unfortunately never written
"Unfortunately, Otto would never have written such a nice article about Linguistics"

(ii) 'Anti-Freezing' with split topicalisation (counterexample to the structure in (60b)). Fanselow and Ćavar (2002) show that there are subjects of individual level predicates that allow for split topicalisation, although, according to Diesing (1992) and Kratzer (1989), these must undergo a previous movement to a VP-external position[24] (example from Fanselow and Ćavar, 2002):

(73) *Skorpione*$_i$ *sind ziemlich* [*viele* t_i] *giftig*
Scorpions-NOM are rather many poisonous
"Many scorpions are rather poisonous"

(iii) 'Anti-Freezing' with the *was-für* construction (counterexample to (61)). Haider (1993) gives (74) as an instance:

(74) *Was*$_i$ *hätte denn* [t_i *für Aufsätze*] *selbst Hubert nicht*
what would-have PART for articles even Hubert-NOM not
rezensieren wollen?
review wanted
"What kind of articles would not even Hubert have wanted to review?"

(iv) 'Anti-Freezing' with *wh*-movement (75), relativisation (76), and topicalisation (77) from a scrambled infinitival. Unlike the previous cases of 'Anti-Freezing', which are not conclusive enough due to the existence of 'Freezing' counterparts, movement of an internal constituent of a reordered infinitival to clause-initial position is always considered to result in grammatical structures (examples from Grewendorf and Sabel, 1994):

(75) *Wen*$_i$ *hat* [t_i *zu füttern*]$_j$ *keiner* t_j *versucht?*
who-ACC has to feed no-one-NOM tried
"Whom did no one try to feed?"

(76) *der Mann den*$_i$ [t_i *zu küssen*]$_j$ *Maria* t_j *versucht hat*
the man-NOM whom-ACC to kiss Maria-NOM tried has
"The man that Maria tried to kiss"

(77) *Den Hund hat* [t_i *zu füttern*]$_j$ *keiner* t_j *versucht*
the dog-ACC has to feed no-one-NOM tried
"Nobody tried to feed the dog"

1.6.4 *The 'Freezing/Anti-Freezing' paradox.* As the data in the previous sections will have made clear, there are examples of almost any reordered sequence in German to support either the proposition that scrambling involves islandhood or the proposition that it precisely does not. At the same time, several studies in the literature suggest that the picture is even more complex, because they demonstrate that, with respect to other core properties, not all those reordered sequences behave in the same way.

For example, regarding NP-PP split structures, De Kuthy and Meurers (2001) and De Kuthy (2002), on the basis of empirical data from earlier works on the matter, demonstrate that Müller's (1998) examples for 'Freezing' do not constitute convincing evidence for the assumption that PPs cannot be extracted out of moved DPs, not only because counterexamples exist, but also because there is counterevidence suggesting that extractability does not depend on syntactic position at all. De Kuthy and Meurers and De Kuthy illustrate this with examples in which NP-PP splitting is compatible with movement, despite the violation of classical restrictions, such as the 'Specificity Effect' (Chomsky, 1973; Fiengo and Higginbotham, 1981; Chomsky, 1981, etc.) or the 'Specified Subject Condition' (Chomsky, 1973). With respect to the 'Specificity Effect', according to which specific DPs are less transparent for extraction than non-specific ones, De Kuthy (2002) follows Pafel (1993) in assuming that the constraint does not hold for German, as (78) shows (from Pafel, 1993):

(78) [*Von Handke*]$_i$ *hat sie nur* [*diese* t$_i$], *aber nicht* [*jene Bücher* t$_i$] *gelesen*
by Handke has she only these but not those books read
"She has only read these books by Handke, but not those"

On the other hand, the 'Specified Subject Condition', which prohibits movement across a specified subject, is not observed in German structures such as (79), where the presence of a prenominal genitive in a DP does not generally prohibit fronting of the PP (from De Kuthy, 2002):

(79) [*Über Bismarck*]$_i$ *habe ich* [*Galls Buch* t$_i$] *gelesen*
about Bismarck have I Gall's book read
"I have read Gall's book about Bismarck"

Therefore, given the 'unsystematic' behaviour of NP-PP splits in comparison with other well-known instances of displacement, De Kuthy and Meurers and De Kuthy propose a reformulation of traditional 'reanalysis-like' ap-

proaches (Horn, 1975; Fanselow, 1987) within the framework of 'Head-Driven Phrase Structure Grammar' (HPSG) (Pollard and Sag, 1994), according to which NP-PP splitting is dependent on the availability of a process they call argument raising, which, in brief, allows the NP-internal PP to become an independent verbal argument. Although, in a general way, such an availability has always been understood as lexically restricted (i.e. some verbs may trigger the process, whereas other verbs may not), De Kuthy (2002) elaborates an alternative approach on the basis of examples like (80) and (81) below, where the verbs *ausliehen* and *klauen* represent argument-raising and non-argument-raising predicates, respectively:

(80) a. *Über Syntax$_i$ hat er* [*ein Buch* t$_i$] *ausgeliehen*
about syntax has he a book borrowed
"He borrowed a book about Syntax"
b. *Gestern war Klaus seit langem mal wieder in der Bibliothek*
"Yesterday, Klaus went into the library again after a long time"
#*Über Syntax$_i$ hat er* [*ein Buch* t$_i$] *ausgeliehen*
about syntax has he a book borrowed
"He borrowed a book about Syntax"

(81) a. **Über Syntax$_i$ hat er* [*ein Buch* t$_i$] *geklaut*
about syntax has he a book stolen
"He stole a book about Syntax"
b. *Gestern wurde in der Bibliothek eine Anzahl von Linguistikbüchern geklaut. Vor allem Semantikbücher verschwanden dabei.*
"Yesterday, a number of linguistics books were stolen from the library. Mostly books on Semantics disappeared".
Über Syntax$_i$ wurde jedoch [*nur ein einziges Buch* t$_i$] *geklaut*
about syntax was however only one single book stolen
"Only one single book about Syntax was however stolen"

Observe that, whereas the (a) sentences are out-of the-blue utterances, their (b) counterparts are inserted in two different contexts, namely one in which no books are mentioned (80b), and other in which certain books constitute background information (81b). On this basis, De Kuthy claims that it is not the nature of the predicate as argument or non-argument raising which is crucial for the well-formedness of NP-PP splits, but rather the pragmatic role played by each of the strings: when this is unique, no splitting is allowed; when it is twofold, splitting is the preferred option. If De Kuthy is correct, notice the implications her analysis may have for the common assumption that NP-PP

splits are less frequent with scrambled than with non-scrambled constituents: in an approach as the one to be developed in the present work, in which scrambling is triggered by the need to mark a constituent as 'discourse given' in the sense of Schwarzschild (1999) (this chapter, Section 2), it is clear that the process would yield ill-formed results if both elements (i.e. PP and NP) are background information. In this respect, it may be interesting to note that, in the alleged instance of 'Anti-Freezing' given by Frey (2000) ((72) above), the displaced constituent appears modified by the focus marker *solch*, which, as Neeleman (1994) observes, may indicate that the displacement at stake does not convey ordinary scrambling, but rather what he calls 'focus scrambling' (see Chapter 2, Section 5). In any case, the matter will not be pursued here, because the difference in judgements between De Kuthy's examples (80a) and (81a) above still seems to support the need for an equivalent to 'argument raising', and the discovery of an appropriate minimalist mechanism for it is beyond the scope of the present work.[25]

A similar case arises with split topicalisation. Fanselow and Ćavar (2002) show that split DPs present certain characteristics that are difficult to explain if one assumes that they are generated via movement out of a single constituent, among which, the possibility of displacing submaximal projections (82), the possibility of having in the split strings more phonetic material than fits into a single constituent (83), and the possibility of having them appearing with dative indirect objects (84a) or genitival DPs (85a), which are strict islands in German (84b), (85b) (Müller, 1995; Sabel, 2002, among others) (examples from Fanselow and Ćavar, 2002):

(82) [*Neue Bücher*]$_i$ *hat sie* [*keine interessanten* t$_i$] *gekannt*
new books has she no interesting known
"She has known no interesting new books"

(83) a. [*In Schlössern*]$_i$ *habe ich noch* [*in keinen* t$_i$] *gewohnt*
in castles have I yet in no lived
"So far I have not lived in any castle"
b. *[*In keinen in Schlössern*]$_i$ *habe ich gewohnt*
in no in castles have I lived

(84) a. [*Interessanten Bücher über Polen*]$_i$ *ist hier noch keinen* t_i
interesting books about Poland has here yet no
ein Preis verliehen worden
a prize awarded been
"So far no prize has been awarded to interesting books about Poland"

b. *[*Über Polen*]$_i$ *ist hier noch* [*keinen Büchern* t_i]
about Poland has here yet no books
ein Preis verliehen worden
a prize awarded been
"So far no prize has been awarded to interesting books about Poland"

(85) a. [*Schrecklicher Morde an Studenten*]$_i$ *ist er vieler* t_i
horrible murders at students has he many
beschuldigt worden
accused-of been
"He has been accused of many horrible murders of students"

b. *[*An Studenten*]$_i$ *habe ich ihn* [*schrecklicher Morde* t_i]
at students have I him horrible murders
angeklagt
accused-of
"I have him accused of horrible murders of students"

Furthermore, much like the split structures noticed in the previous paragraph, they seem to behave inconsistently with respect to constraints such as the subject island condition (which they violate), or the complex noun phrase constraint (which they obey). From this, Fanselow and Ćavar deduce that their nature has to do more with pragmatic and phonological rules than with purely syntactic ones, and propose that they entail the displacement of a single, complete constituent, followed by partial deletion of phonetic material in each of the copies that, according to the 'Copy Theory of Movement' (Chomsky, 1995; Nunes, 1995, 1999, 2001, 2003, 2004), the moved element creates (that is, the copy in its base position and the copy in the targeted projection). Thus, the only difference between split topicalisation structures and regular instances of movement would lie in the way phonetic material is deleted at the phonological interface: regular instances of movement delete all the phonological material of the lowest copy; in split topicalisation structures, deletion is partial and applies to both copies, as shown in (86):[26]

(86) a. Movement of the entire constituent to the clause initial position:
[*Keine interessanten neue Bücher*]$_i$ *hat sie* [*keine interessanten*
no interesting new books has she no interesting
neue Bücher] *gekannt*
new books known

b. Partial deletion in both copies:
~~*Keine interessanten*~~ *neue Bücher*]$_i$ *hat sie* [*keine interessanten*
no interesting new books has she no interesting
~~*neue Bücher*~~] *gekannt*
new books known

On the other hand, as in De Kuthy's account of NP-PP splits, it is implied that split topicalisation constructions are allowed only in the case that the potential splitting fulfils a double pragmatic requirement, that accomplished in the position occupied by the lower copy, plus the one related to the position of the higher one: new information (focus) for the right-hand part, background information (topic) for the left-hand part. This may explain again why split topicalisation is so rarely manifested with scrambled constituents, if scrambling, as suggested above, is understood as displacement for signalling 'discourse givenness'.

There is only one case remaining, namely extraction out of a scrambled infinitive. It shares with NP-PP split and split topicalisation the property that it also exhibits both 'Freezing' and 'Anti-Freezing' effects, but in a fundamentally different way. First, it is not the case that topicalisation of a part of the infinitival clause is incompatible with the presence of the other part in structural positions traditionally related to background information (*Mittelfeld*) (example (87) from Askedal, 1983; (88) from Müller, 1998):

(87) [*Den alten Wagen*]$_j$ *hat er* [t$_j$ *zu fahren*]$_i$ *noch nicht* t$_i$ *gelernt*
the old car-ACC has he to drive still not learned
"He has not learned to drive the old car yet"

(88) [t$_j$ *Zu lesen*]$_i$ *hat das Buch$_j$ keiner* t$_i$ *versucht*
to read has the book-ACC no-one-NOM tried
"No one tried to read the book"

Second, both constituents may appear as background information in the case that the remnant precedes the object, and the object is pronominal (as seen in the previous section) (example (89) from Grewendorf and Sabel, 1994; (90) from Müller, 1998):

(89) **dass den Hund*$_j$ *zweifellos* [t$_j$ *zu füttern*]$_i$ *keiner* t$_i$
that the dog-ACC undoubtedly to feed no-one-NOM
versuchte
tried
"that no one undoubtedly tried to feed the dog"

(90) a. **dass* [t$_j$ *zu lesen*]$_i$ *das Buch*$_j$ *keiner* t$_i$ *versuchte*
that to read the book-ACC no-one-NOM tried
"that no one tried to read the book"
b. *dass* [t$_j$ *zu lesen*]$_i$ *es*$_j$ *keiner* t$_i$ *versuchte*
that to read it no-one-NOM tried
"that nobody tried to read it"

Third, *wh-* movement is always allowed, irrespective of the base/scrambled position of the infinitive (examples from Grewendorf and Sabel, 1994):

(91) a. *Wen*$_j$ *hat* [t$_j$ *zu küssen*]$_i$ *Maria* t$_i$ *versucht?*
who-ACC has to kiss Maria-NOM tried
"Who did Maria try to kiss?"
b. *Wen*$_j$ *hat Maria* [t$_j$ *zu küssen*]$_i$ t$_i$ *versucht?*
who-ACC has Maria-NOM to kiss tried
"Who did Maria try to kiss?"

Fourth, unexpectedly, *wh-* movement and scrambling of a pronominal object in the *Mittelfeld* of the matrix clause yields an ungrammatical structure (it will be observed that both processes are possible with a scrambled infinitive if they take place independently (90b), (91b), a fact that, as far as I know, has never been noticed before (my informants' judgement):[27]

(92) **Wem*$_j$ *hat* [t$_j$ t$_k$ *zu geben*]$_i$ *es*$_k$ *keiner* t$_i$ *versucht*?
who-DAT has to give it-ACC no-one-NOM tried
"To whom did no one try to give it?"

Consequently, I conclude that the 'Freezing'/'Anti-Freezing' paradox in the case of remnant infinitives requires an account that can combine the pragmatic and the phonological constraints pointed out in De Kuthy's and Fanselow's studies (which are expected to hold in some way or another) with additional ones. We will advance such an account in Chapter 5.

2. *German scrambling at the interfaces*

The present section is devoted to looking at the properties of scrambled constituents from the perspective of those components of the syntactic computation that, unlike rough syntax, do interact with other external (i.e. non specifically linguistic) systems: Phonological Form (PF) and Logical Form (LF). Chomsky (1995, 2000, and subsequent work) assigns them this 'interface' character due to their role in connecting the linguistic expression generated by the computational system to interpretation elsewhere in cognition: articulatory-perceptual modules (PF), or semantic-conceptual ones (LF). In this view, the section constitutes simply a review of the kind of legibility conditions the external systems impose on the re-ordered element, which, as will be shown below, are quite different from the ones to which a non re-ordered constituent is subject. Section 2.1 deals with the main phonological properties of scrambled constituents; Section 2.2 will focus on the semantic/pragmatic ones. Finally, Section 3.3 shows how both phonological and semantic/phonological properties can be brought together along the lines of Neeleman and Reinhart's (1998) proposal for Dutch scrambling.

2.1 *Phonological properties of scrambled elements*

With respect to phonology, scrambling structures are typically characterised by two main properties, the second one a consequence of the first: (i) scrambled constituents are always destressed; (ii) scrambling structures always involve 'marked' intonation patterns. In the following, we will examine each in turn.

2.1.1 *Scrambled constituents are always destressed.* It should be noticed that the formulation given above is the commonest one in the literature on scrambling, as can be seen in works such as Neeleman and Reinhart (1998). However, I would like to refine it with respect to the exact meaning of 'destressed', given that, as Uhmann (1991) and Büring (2001a, 2001b) note, all German phonological phrases[28] bear a pitch accent. Hence, scrambled constituents, insofar as they constitute a phonological phrase, are stressed. However, unlike non-scrambled elements, they can never carry the most prominent pitch accent in the string, i.e. the nuclear stress (Chomsky and Halle, 1968; Cinque, 1993; Selkirk, 1995), as illustrated by (92), where curled brackets indicate phonological phrases,[29] caps indicate syllables with φ- (phonological phrase) pitch accent, and boldface caps mark nuclear stress:

(93) a. {HANS}{hat GEStern} {das **BUCH** gelesen}
Hans has yesterday the book read
"Hans read the book yesterday"
b. {HANS}{hat das BUCH}{GEStern} {ge**LE**sen}
Hans hat the book yesterday read
"Hans read the book yesterday"
c. #{HANS}{hat das **BUCH**}{GEStern}{geLEsen}
Hans has the book yesterday read
"Hans read the book yesterday"

As the contrast between (93a) and (93b,c) shows, the syntactic displacement of the object brings about not only the disappearance of the nuclear stress on it, but also its presence on the lexical verb (93b).[30] And it is precisely this stress shift that is responsible for the second assumption above, namely that scrambling structures always convey a 'marked' intonation pattern, an issue to which we turn now.

2.1.2 *Scrambling structures always convey a 'marked' intonation pattern.* In early syntactic approaches to sentence stress assignment such as the one developed in Chomsky and Halle (1968), Bresnan (1971), Lakoff (1972) and Stockwell (1972), etc., the exact occurrence of the nuclear accent in a sentence is predicted by a set of rules that operate autonomously on the output of the syntactic computation, among which Chomsky and Halle's 'Nuclear Stress Rule' (NSR) plays a decisive role. This autonomy with which the phonological component is endowed entails that there is necessarily a kind of intonation pattern that is derived by the operation of the rules themselves, independently of discourse factors, such as context, speaker's intentions, etc. Chomsky and Halle call that specific pattern 'normal' or 'unmarked', and oppose it to 'marked' intonation patterns (contrastive, emphatic, etc.), which are not derived by the NSR, but rather by other, not purely syntactic, principles. Later, Chomsky (1972) notices that that opposition has to do mainly with the information structure of the clause, according to Halliday's (1967) original distinction between 'focal' (new) information, and 'given' (recoverable from discourse) information: the NSR assigns an unmarked intonation pattern to sentences with more than one focus constituent, whereas "grammatical processes of a poorly understood sort" (p.100) assign a marked intonation pattern to sentences in which only a single phrase is in focus. According to Chomsky, this is demonstrated by the contrast in examples such as (94) and (95):

(94) a. What happened?
$_{TP}$[John $_{VP}$[read $_{DP}$[a **BOOK**]]]
b. What did John do?
$_{TP}$[John $_{VP}$[read $_{DP}$[a **BOOK**]]]
c. Did John read a novel?
No, $_{TP}$[John $_{VP}$[read $_{DP}$[a **BOOK**]]]

(95) a. What happened?
#$_{TP}$[John $_{VP}$[**READ** $_{DP}$[a book]]]
b. What did John do?
#$_{TP}$[John $_{VP}$[**READ** $_{DP}$[a book]]]
c. Did John write a book?
No, $_{TP}$[John $_{VP}$[**READ** $_{DP}$[a book]]]

The intonation pattern in the declarative clause in (94) is the result of the application of Chomsky and Halle's NSR in English, which assigns the most prominent pitch accent to the rightmost constituent of the clause. The string is, thus, intonationally unmarked. That is the reason why it may serve as an answer to a variety of questions that require focus on different phrasal constituents: the whole clause in (a), the VP in (b), and the direct object *a book* in (c). However, in (95), the pitch accent on the verb is assigned according to principles different from the NSR, which produces a marked pattern. In consequence, (95) is a licit answer only to a question that requires a single focus (the verb *read*): (c), but not (a) or (b).

The contrast in the English structures above is paralleled by the one found between scrambling and non-scrambling structures in German: the non-scrambling case (96) would correlate with the unmarked order in (94), with the only difference that nuclear stress falls on the second rightmost constituent, and the scrambling one (97) would be as marked as (95) is:

(96) a. *Was ist passiert?*
"What happened?"
$_{TP}$[*Hans hat* $_{VP}$[$_{DP}$[*das* ***BUCH***] *gelesen*]][31]
"Hans read the book"
b. *Was hat Hans gemacht?*
"What did Hans do?"
$_{TP}$[*Hans hat* $_{VP}$[$_{DP}$[*das* ***BUCH***] *gelesen*]]
"Hans read the book"

c. *Was hat Hans gelesen?*
"What did Hans read?
$_{TP}$[*Hans hat* $_{VP}$[$_{DP}$[*das* ***BUCH***] *gelesen*]]
"Hans read the book"

(97) a. *Was ist passiert?*
"What happened?"
#$_{TP}$[*Hans hat* $_{VP}$[$_{DP}$[*das Buch*] *gestern ge**LE**sen*]
"Hans read the book yesterday"
b. *Was hat Hans gemacht?*
"What did Hans do?"
#$_{TP}$[*Hans hat* $_{VP}$[$_{DP}$[*das Buch*] *gestern ge**LE**sen*]
"Hans read the book yesterday"
c. *Hat Hans gestern das Buch geschrieben?*
"Did Hans write the book yesterday?"
Nein, $_{TP}$[*Hans hat* $_{VP}$[$_{DP}$[*das Buch*] *gestern ge**LE**sen*]
"No, Hans read the book yesterday"

Thus, as in English, the difference between (96) and (97) lies in the number of possible foci each sequence contains: whereas the absence of scrambling provides at least three focus phrasal constituents (TP, VP, and the DP object), scrambling of *das Buch* past the VP adverb reduces them to just a single one, the lexical verb. On this basis, it is concluded that scrambling structures always involve a marked intonation pattern.

Notice that this sketchy summary of Chomsky and Halle's NST and the distinction it draws between unmarked and marked patterns poses, among others, an important question: why is unmarked nuclear stress assigned to the head of the rightmost constituent in English, but to the penultimate one in German? Chomsky and Halle's answer is the parametrisation of the NSR, which would account for the different positions of the element that carries nuclear stress in different languages.

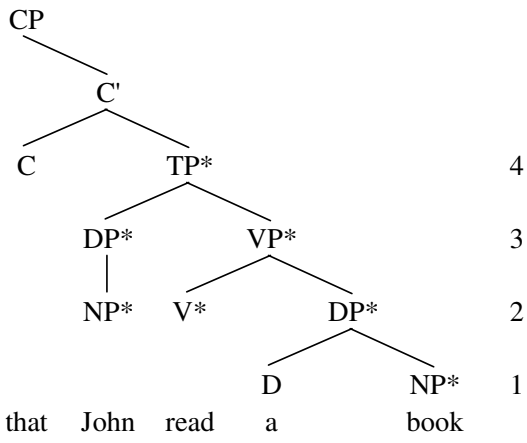
Cinque (1993) demonstrates, however, the merely stipulative character of the parametrisation of the NSR by drawing attention to the fact that it invariably correlates with the setting of the head parameter: VO languages make nuclear stress fall on the last constituent, whereas in OV languages it is assigned to the penultimate one. He further observes that such a correlation entails a kind of redundancy grammatical systems should disallow, which makes the notion of a parametrised NSR doubtful. Thus, in order to eliminate it, and still account for the different patterns in (94) and (96), he elaborates his 'Null Theory of Phrase Stress' (NTPS), according to which nuclear stress falls on the

most deeply embedded constituent. Since syntactic embedding depends on the direction of recursion, and direction of recursion is, in turn, determined by the head parameter, the differences on the realisation of unmarked stress patterns between an OV language like German and a VO language like English just reduce to their head-final or head-initial status: in both, the object is the most deeply embedded constituent that sits on the recursive side, as correctly derived from the exact principles of the NTPS (97) and their application to our examples above (94), (96) :[32]

(98) 'Null Theory of Phrase Stress' (Cinque, 1993: 244)
- (i) Interpret boundaries of syntactic constituents as metrical boundaries.
- (ii) Locate the heads of line N constituents on line N+1.
- (iii) Each rule applies to a maximal string containing no internal boundaries.
- (iv) An asterisk on line N must correspond to an asterisk on line N-1.

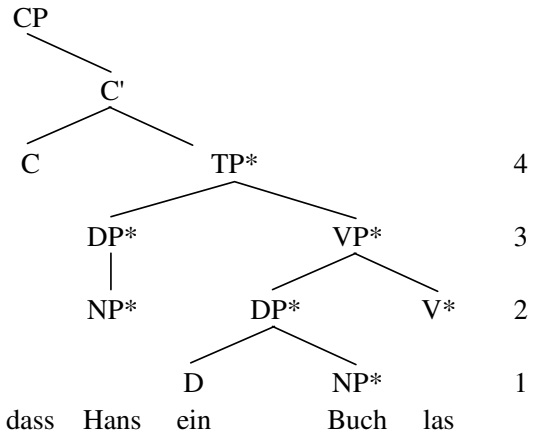
(99) that John read a **BOOK**

```
   .        .          *          4
(  .        .          *     )    3
(  *    (   .          *     ))   2
((  *  )  (  *    (     *     )))  1
[[John]  [ read   [   a book   ]]]
```



(100) *dass Hans ein* ***BUCH*** *las*
"that Hans read a book"

```
    .          *          .        4
(   .          *          .   )    3
(   *     (    *          .   ))   2
((  *   ) ((   *      )   *   ))   1
[[Hans]  [ ein Buch  [   las    ]]
```



Line 1 is the result of the interaction of (97(i)) and main stress assignment on individual words on the basis of Halle and Vergnaud's (1987) metrical grid construction and different parameter setting rules. Line 2 is obtained by the application of (98(ii)) and (98(iii)) to the cycle on the left (the subject) and the cycle on the right (the VP). On line 3 the two separate cycles are joined, and (98(ii)) and (98(iv)) make the innermost constituent (the object) attract all further asterisks in the computational process (line 4).

Cinque's NTPS gives an elegant account of the differences found between the unmarked structures of English (94) and those of German (96). With respect to German scrambling cases, Cinque argues that they constitute a proof for his theory, insofar as scrambling of the most deeply embedded constituent invariably makes nuclear stress fall on the second most embedded one, as demonstrated by the monotransitive (101b) and ditransitive (102b) structures below:

(101) a. *Hans hat gestern das **BUCH** gelesen*
Hans-NOM has yesterday the book-ACC read
"Hans read the book yesterday"
b. *Hans hat das Buch gestern ge**LE**sen*
Hans-NOM has the book-ACC yesterday read
"Hans read the book yesterday"

(102) a. *Hans hat dem Kind das **BUCH** gegeben*
Hans-NOM has the child-DAT the book-ACC given
"Hans gave the child a book"
b. *Hans hat das Buch dem **KIND** gegeben*
Hans-NOM has the book-ACC the child-DAT given
"Hans gave the child a book"

Winkler (1997), however, objects that the facts in (101) and (102) do not support Cinque's theory at all, but rather undermine it: for if both scrambling and non scrambling orders are the result of a stress assignment entirely determined on the basis of syntactic structure, why is it that (101a) and (102a) contain multiple focus constituents, whereas their (b) counterparts contain only one? In other words, why is it that (101a) and (102a) behave like an 'unmarked order' string, whereas (101b) and (102b) behave like a 'marked' one?

(103) *Was ist passiert?*
"What happened?"
a. *Hans hat gestern das **BUCH** gelesen*
Hans-NOM has yesterday the book-ACC read
"Hans read the book yesterday"
b. *#Hans hat das Buch gestern ge**LE**sen*
Hans-NOM has the book-ACC yesterday read
"Hans read the book yesterday"
c. *Hans hat dem Kind das **BUCH** gegeben*
Hans-NOM has the child-DAT the book-ACC given
"Hans gave the child a book"
d. *#Hans hat das Buch dem **KIND** gegeben*[33]
Hans-NOM has the book-ACC the child-DAT given
"Hans gave the child a book"

(104) *Was hat Hans gemacht?*
"What did Hans do?"
a. *Hans hat gestern das* ***BUCH*** *gelesen*
Hans-NOM has yesterday the book-ACC read
"Hans read the book yesterday"
b. #*Hans hat das Buch gestern ge****LE****sen*
Hans-NOM has the book-ACC yesterday read
"Hans read the book yesterday"
c. *Hans hat dem Kind das* ***BUCH*** *gegeben*
Hans-NOM has the child-DAT the book-ACC given
"Hans gave the child the book"
d. #*Hans hat das Buch dem* ***KIND*** *gegeben*
Hans-NOM has the book-ACC the child-DAT given
"Hans gave the child the book"

(105) *Hat Hans gestern das Buch geschrieben?*
"Did Hans write the book yesterday?"
*Nein, Hans hat das Buch gestern ge****LE****sen*
No, Hans-NOM has the book-ACC yesterday read
"No, Hans read the book yesterday"

(106) *Hat Hans der Claudia das Buch gegeben?*
"Did Hans give Claudia the book?"
Nein, Hans hat das Buch dem ***KIND*** *gegeben*
No, Hans-NOM has the book-ACC the child-DAT given
"No, Hans gave the child the book"

(103) and (104) show that non-reordered sequences may be interpreted as containing either a focal TP (103) or a focal VP (104), contrary to their reordered counterparts. Thus, it may be deduced that scrambling structures are not intonationally unmarked. On the other hand, the fact that the scrambling strings in (105) and (106) are perfect answers to questions that require a sole focus (the lexical verb in (105), the dative object in (106)), seems to indicate that scrambling results in a marked stress pattern.

In the last section of the present chapter we will see how Winkler's argument does not constitute a serious obstacle for Cinque's claim, once the concepts of potential multiple foci and single focus are refined. But now, we will turn to the issue of semantic/pragmatic properties of scrambled constituents.

2.2 *Semantic/pragmatic properties of scrambled elements*

In Section 1.2, where the issue of potential categorial restrictions on scrambling was dealt with, we pointed out that certain re-ordering options seem to be forbidden on a semantic rather than categorial basis. In this context, the following generalisations have been observed:

(i) Indefinites cannot scramble if they must receive an existential interpretation. Indefinites may scramble if they must be interpreted as specific (Lenerz, 1977, 2000, 2001; Diesing, 1992). This observation finds its empirical support in examples like (107) and (108), where two different semantic interpretations obtain for the same nominal, depending on the position it occupies (examples from Diesing, 1992)

(107) a. *weil ich nicht eine einzige Katze gestreichelt habe*
because I not a single cat-ACC petted have
"because I have not petted a single cat"

b. *weil ich eine einzige Katze nicht gestreichelt habe*
because I a single cat-ACC not petted have
"because one cat I have not petted"

(108) a. *weil ich selten jedes Cello spiele*
because I seldom each cello-ACC play
"since I seldom play every cello"

b. *weil ich jedes Cello selten spiele*
because I each cello-ACC seldom play
"since I play every cello only seldom"

Notice that semantic interpretation varies if the VP internal object *(eine einzige Katze, jedes Cello)* appears preceding negation (107b) or the adverb *selten* (108b), which are elements that, according to traditional assumptions about German clausal structure, mark the VP boundary. In other words, the object must appear VP internally if it must receive a weak, existential reading (107a, 108a); otherwise, it would get a strong, quantificational, specific one (107b, 108b). This is confirmed by the facts about secondary predicates we earlier noted in Section 1.2.2, which cannot undergo re-ordering due to their inherent non-referential, non-specific interpretation, as illustrated by (19b) above, repeated here as (109b) (from Hinterhölzl, 1999):

(109) a. *Er hat gestern seinen Freund einen Idioten gennant*
he has yesterday his friend-ACC an idiot-ACC called
"He called his friend idiot yesterday"

b. ??*Er hat einen Idioten gestern seinen Freund gennant*
he has an idiot-ACC yesterday his friend-ACC called
"He called his friend idiot yesterday"

(ii) Scrambled and non-scrambled definites are uniformly interpreted as specific. In other words, unlike indefinites, scrambling/non-scrambling of definites does not correlate with alternative semantic interpretations, as shown in (110):

(110) a. *weil der Peter gestern das Buch gelesen hat*
because Peter-NOM yesterday the book-ACC read has
"because Peter read the book yesterday"
b. *weil der Peter das Buch gestern gelesen hat*
because Peter-NOM the book-ACC yesterday read has
"because Peter read the book yesterday"

(iii) Focus, whether definite or indefinite, cannot be scrambled (Lenerz, 1977), where focus corresponds to a constituent presenting certain well-defined characteristics both from a phonological and a semantic/pragmatic point of view.[34] Phonologically, it may carry the most prominent pitch accent of the clause (first in Chomsky and Halle, 1968). Semantically/pragmatically, it is equivalent to new information[35] (first in Halliday, 1967). Thus, as far as meaning is concerned, 'focus cannot be scrambled' may be rendered as the ban on scrambling new, non-discourse-given elements, as illustrated in (111), where *das Buch*, corresponding to the *wh*-pronoun in the question, is new information and, hence, focus:

(111) *Was hast du gestern gelesen?*
"What did you read yesterday?"
a. *Ich habe gestern das **BUCH** gelesen*
I have yesterday the book-ACC read
"I read the book yesterday"
b. *#Ich habe das **BUCH** gestern gelesen*
I have the book-ACC yesterday read
"I read the book yesterday"

(iv) Unfocused elements do not obligatorily scramble. In other words, the unmarked order in German is unrestricted as far as the distinction focus/non-focus is concerned. The assumption is controversial since it crucially depends on discourse factors, which are usually more difficult to test than purely structural ones. Nevertheless, there seems to be a contrast between non-scrambled unfo-

cused arguments of monotransitive predicates and non-scrambled unfocused arguments of ditransitive ones, as reflected in (112) and (113) ((113) from Haider and Rosengren, 1998):

(112) *Was ist mit dem Buch geschehen?*
"What happened to the book?"
a. *Ich habe das Buch gestern ver**KAUFT***
I have the book-ACC yesterday sold
"I sold the book yesterday"
b. *#Ich habe gestern das **BUCH** verkauft*
I have yesterday the book-ACC sold
"I sold the book yesterday"
c. *#Ich habe gestern das Buch ver**KAUFT***
I have yesterday the book-ACC sold
"I sold the book yesterday"

(113) *Wem hat heute der Zeuge den Weg gezeigt?*
"Who has the witness showed the way today?"
a. *Heute hat der Zeuge dem Poli**ZIS**ten den Weg*
today has the witness-NOM the policeman-DAT the way-ACC
gezeigt
showed
"The witness has showed the policeman the way today"
b. *Heute hat der Zeuge den Weg dem Poli**ZIS**ten*
today has the witness-NOM the way-ACC the policeman-DAT
gezeigt
showed
"The witness has showed the policeman the way today"

Neeleman and Reinhart (1998), and Abraham and Molnárfi (2001), among others, argue that (112a) is the only possible answer for a question in which the accusative object has been previously introduced in discourse. Thus, both (112b) and (112c), in which (un)stressed *das Buch* occupies the lower position, are pragmatically ill-formed. The conclusion is that the unmarked word order is, in fact, constrained with respect to focused/unfocused material in German: an accusative object following VP-adjoined material is obligatorily interpreted as possible focus.

However, (113a) and (113b) are both acceptable sequences for a question which requires an answer with a focused dative and discourse-given accusative. In other words, the unfocused accusative object scrambles only

optionally (113b). It may be concluded from this sort of example that the unmarked order in German is unrestricted with regard to the focus/non-focus distinction only in the case of ditransitive predicates.
(v)Generic elements do not obligatorily scramble. That is, the unmarked word order in German is unrestricted as far as the generic/non-generic (existential) distinction is concerned. This is shown by examples such as (114), (8) in 1.2 (based on Haider and Rosengren, 1998):

(114) a. *dass Max immer Primaballerinas bewundert*
that Max-NOM always primaballerinas-ACC admires
"that Max always admires primaballerinas"
b. *dass Max Primaballerinas immer bewundert*
that Max-NOM primaballerinas-ACC always admires
"that Max always admires primaballerinas"

So far, the relevant conditions are given. Notice that they merely describe the different strings that may arise in German, but lack any explanatory power in themselves. However, they have been used as a basis in the different studies that try to account for word order variation in German in a principled way, which entails that there is no proposal in the literature that rejects the connection between semantic/pragmatic meaning and scrambling. But scholars disagree about the way this connection is to be accounted for, in general according to two different views:
(i) Semantic/pragmatic meaning is the trigger for scrambling. In other words, scrambling is semantically/pragmatically-driven. For the analyses adopting this view, scrambling is envisaged as a syntactic operation that is implemented only if required in order to obtain a new semantic/pragmatic meaning that cannot be obtained otherwise. This is the fundamental approach in Diesing (1992) and Meinunger (1995), among others.
(ii) Semantic/pragmatic meaning is merely a by-product of scrambling. That is, scrambling is not triggered to satisfy semantic/pragmatic needs, but other independent principles of German grammar. That scrambled constituents are interpreted differently from unscrambled ones is, according to this analysis, principally due to the way alternative orderings are exploited at the phonological and semantic/pragmatic interfaces (Haider and Rosengren, 1998; Neeleman and Reinhart, 1998), or simply related to rules that govern surface word order (Fanselow, 2001, 2003).

The choice of one view or the other is largely determined by theoretical considerations. For this reason, we will address the specific proposals of these

two approaches in our review of previous theoretical accounts of German scrambling (Chapter 4).

2.3 *Tying the phonological and semantic/pragmatic constraints on scrambling*

It will be recalled that, according to syntactic approaches to sentence stress assignment such as the one developed in Chomsky and Halle (1968) or Cinque (1993), syntactic structure determines the intonational pattern of a sentence irrespective of discourse factors. As briefly pointed out in Section 2.1 above, one of the problems for such approaches is to explain why that blindly assigned neutral pattern is illicit in cases in which a specific context imposes certain conditions, such as focusing on a single constituent due to its discourse-new or contrastive character (examples from Büring, 2001b):

(115) *Wem hast du das Geld gegeben?*
"Who did you give the money?"
a. *#Ich habe dem Kassierer das **GELD** gegeben*
I have the teller-DAT the money-ACC give
"I gave the money to the teller"
b. *Ich habe dem Kas**SIE**rer das Geld gegeben*
I have the teller-DAT the money-ACC given
"I gave the money to the teller"

(116) *Ich habe nicht gesagt, du sollst dem Kassierer das Geld beschreiben, sondern*
"I have not said that you should describe the money to the teller, but"
a. *#du sollst dem Kassierer das **GELD** geben*
you-NOM should the teller-DAT the money-ACC give
"you should give the money to the teller"
b. *du sollst dem Kassierer das Geld **GE**ben*
you-NOM should the teller-DAT the money-ACC give
"you should give the money to the teller"

In (115) the *wh*- question marks *dem Kassierer* as the only non-presupposed element in the answer (hence new information, focus); on the other hand, the contrastive character of (116) requires main prominence on the verb. As we have seen, Chomsky and Halle (1968) and Chomsky (1972) settle the issue by resorting to the distinction between the unmarked and marked word order: only the unmarked word order is derived by the NSR, whereas "grammatical processes of a poorly understood sort" (Chomsky, 1972, p.100) are responsible for patterns such as the ones in (115) and (116). However, since Ladd (1980)

several studies have questioned the validity of that distinction on the basis of counterevidence of the sort in (116):

(117) a. Did John scold Peter?
No, he **HIT** him
b. What happened?
(i) John **HIT** him
(ii) #John hit **HIM**
c. What did John do to Peter?
(i) He **HIT** him
(ii) #He hit **HIM**

The structure *John/he **HIT** him* is a well-formed answer to the question in (a), where just a single constituent is focal, and Chomsky's (1972) system predicts a marked pattern. However, it is also a possible answer in (b), and (c), which demonstrates that it contains more than one possible focus. Since Chomsky makes multiple foci correlate with unmarked intonation, the NSR should determine main prominence on the rightmost constituent (bii), (cii), contrary to fact.

On the other hand, there is a second, more theoretical problem syntactic approaches to nuclear stress assignment have faced since the emergence of the most recent generative models for linguistic explanation: 'Government and Binding' (Chomsky, 1981, 1986) and the 'Minimalist Program' (Chomsky, 1995; 2000). Put succinctly,[36] both GB and MP are based on the principle of the autonomy of syntax, or principle of modularity (Hale et al., 1977; Fodor, 1983), according to which all grammatical components, including the semantic and phonological components, are strictly kept apart. This entails that (i) stress assignment, a phonological process, must take place in the phonological component and not in the strict syntactic part of the computation; and (ii) the semantic/pragmatic interpretation a constituent receives must be independent from its being stressed or unstressed, unless something mediates between the semantic and the phonological components. Thus, in order to adhere to the principle of modularity while keeping the correlation between prosodic prominence and the information structure of the sentence, syntactic approaches to stress assignment are frequently replaced by the so-called focus models.

Focus models are constructed on the basis that strict syntax is what fills that gap between phonology and semantics. Their main tenet is the existence of focus features assigned at the strict syntactic level of the computation (Gussenhoven, 1983; Selkirk, 1984; Rochemont, 1986; Winkler, 1997). The strict syntactic level serves as input for both the phonological and the semantic

components, which explains the link between most prominent stress and discourse-new information: the focus feature [+Foc] is interpreted as most prominent accent in the phonological component, and as new, non-given information in the semantic/pragmatic one. It will be noticed that one of the obvious consequences that result from the adoption of focus models is that 'normal, unmarked' stress assignment disappears as an element independent from focus structure, and, instead, is equated with maximal focus, that is, a case in which a sentence is related to multiple foci, i.e. multiple non-given constituents. It is the task of differently implemented devices (basically focus projection rules) to determine on which sentence internal constituent the most prominent stress must fall.

Generally speaking, focus-models are adequate for accounting for the problems we have noticed here with respect to syntactic approaches to nuclear stress assignment, that is, structures such as the one in (117), and the principle of autonomy of syntax. Nevertheless, recent studies question their necessity: from a theoretical perspective, Zubizarreta (1998) and Zubizarreta and Vergnaud (2000) argue that, in current models of grammatical explanation, a certain relaxation of the principle of modularity is preferable to the existence of features such as [+Foc]; empirically, Neeleman and Reinhart (1998) contend that (117) is not incompatible with the NSR and the distinction between the marked and unmarked order. The following two sections deal with Neeleman and Reinhart's claim: 2.3.1 focuses on the exact way they combine Cinque's NTPS with the facts in (117); 2.3.2 summarises their account of Dutch (and German) scrambling on the basis of this combination.

2.3.1 *The 'unmarked' word order and destressing*. As already indicated above, Neeleman and Reinhart (1998) try to demonstrate that examples such as (117) (repeated here for convenience) are not incompatible with syntactic approaches to nuclear stress assignment. Recall that that alleged incompatibility resulted from the presence of multiple foci (hence, an unmarked intonation pattern) and most prominent pitch in an element that, crucially, is not the rightmost, against what Chomsky and Halle's (1968) NSR or Cinque's (1993) NTPS would predict:

(117) a. Did John scold Peter?
No, he **HIT** him
b. What happened?
(i) John **HIT** him
(ii) #John hit **HIM**

c. What did John do to Peter?
   (i) He **HIT** him
   (ii) #He hit **HIM**

Neeleman and Reinhart's attempt to account for (117) is not new; in fact, Cinque himself tries to accommodate this type of examples within his theory. On the basis of the parallelism between (117) and (118) below, Cinque contends that failure of nuclear stress assignment to the rightmost constituent is due to its given character: both *him* and *the book* are presupposed material, already present in previous discourse. The difference between them is that the anaphoricity of the nominal DP is dependent on previous context, whereas the pronoun is inherently anaphoric:[37]

(118) Has John read Shakespeare's *Othello*?
   a. Yes, John has **READ** the book
   b. #Yes, John has read the **BOOK**

On this basis, Cinque argues that presupposed material is obligatorily subject to a special mechanism called 'marginalisation', which removes it from its base position and adjoins it to some higher node. Since 'marginalisation' precedes nuclear stress assignment, the patterns in (117) and (118) are expected. However, that 'marginalisation' is simply an *ad hoc* procedure is evidenced by the fact that its effects are syntactically invisible, except for nuclear stress assignment.

Neeleman and Reinhart (1998) argue that it is possible to account for (117) and (118), and, at the same time, dispense with *marginalisation*, while keeping the distinction between unmarked and marked patterns. With that purpose in mind, they propose a combination of a syntactic approach to stress assignment such as Cinque's with a modified theory of focus. They assume with Cinque that (i) there exists an unmarked pattern of stress that can be entirely determined on the basis of syntactic structure; and (ii) nuclear stress falls on the most deeply embedded constituent on the recursive side. On the other hand, they contend that each derivation may be potentially associated not with a single focus, but rather with a limited set of possible foci, which they call the focus set. They argue that this focus set is determined by the interaction of nuclear stress assignment (along the lines of Cinque's 'Null Theory') and syntactic structure, in such a way that all the constituents that contain the mostly stressed element may, in principle, be foci. Thus, for a regular monotransitive English structure, in which syntactically assigned stress falls on the object, the focus set would comprise the constituents appearing in (119b):

(119) a. $_{TP}$[Subject $_{VP}$[V **OBJECT**]]
b. Focus set: (TP, VP, Object)

Among the different members of the focus set, one must be chosen at the interface as the actual focus of the sentence, according to discourse conditions, speaker's intentions, etc. If there is no member of the focus set that may fulfil the requirements imposed by semantic/pragmatic needs, the 'marked' operation 'Relocate Main Stress' (Neeleman and Reinhart, 1998:21) must apply, assigning an extra stress to the required focus that is not initially present in the focus set (for example, the subject, the verb, a VP adverbial, etc). In this regard, notice that 'Relocate Main Stress' obligatorily entails not only restressing on the new focus, but most significantly the partial destressing (detectable by secondary stress in actually pronounced sequences) on the constituent on which Cinque's 'Null Theory' has made the nuclear stress fall. However, 'Relocate Main Stress' may also serve an additional function, namely to make nuclear stress shift to the second most deeply embedded constituent in cases in which the first one cannot bear it because it must appear completely unstressed. Neeleman and Reinhart contend that these are instances which are in no way related to obtaining a new focus, mainly because, unlike the case in which partially destressed 'old' foci co-occur with fully stressed, 'new' ones, totally destressed constituents may not alter the focus set of the structure. This is exactly what happens with the problematic English example in (117), where the presence of the totally destressed *him* does not prevent it from being a felicitous answer to a question focusing either on the whole TP or on the whole VP ((117b) and (117c) respectively, repeated here for convenience):

(117) b. What happened?
(i) John **HIT** him
(ii) #John hit **HIM**
c. What did John do to Peter?
(i) He **HIT** him
(ii) #He hit **HIM**

Now the question is what makes a totally destressed constituent to be phonologically characterised as such. In this respect, Neeleman and Reinhart's answer concurs not only with the suggestion implied in Cinque's 'marginalisation', but also with Schwarzschild's (1999) 'Givenness' theory,[38] as (120) shows:

(120) a. 'Anaphoric destressing': a DP is destressed if and only if it is D-linked[39] to an accessible discourse entity (Neeleman and Reinhart, 1998: 348)

b. 'Givenness constraint': if a constituent is not F-marked it must be GIVEN (Schwarzschild, 1999: 155), where GIVEN is (informally) defined as having a salient discourse antecedent A and A entails U, modulo ∃-type shifting (Schwarzschild, 1999: 148).

According to Neeleman and Reinhart, (120) explains why total (D-linked) destressing may not alter the focus set: it is an operation that applies irrespective of focus structure. Note, however, that its application necessarily conveys the implementation of the 'marked' procedure 'Relocate Main Stress'.[40] Neeleman and Reinhart contend that, despite being uneconomical by definition, 'marked' options such as 'Relocate Main Stress' are allowed if they are required in order to yield a correct output that cannot be derived otherwise. Consequently, since destressing of the pronoun is obligatory due to its D-linked nature, stress shift to the verb is licit, since English does not have alternative means to fulfil (120) while keeping neutral stress assignment to the most embedded constituent.

The present section has presented Neeleman and Reinhart's solution to the alleged incompatibility of syntactic approaches to neutral stress assignment and evidence such as that in (117). The following section will be devoted to its application to scrambling structures.

2.3.2 *The role of economy: deriving the restrictions on German(ic) scrambling*. As shown above, Neeleman and Reinhart's system departs from previous syntactic approaches to nuclear stress assignment in that they elaborate on the properties of two special stress-shifting operations, destressing and 'Relocate main stress'.[41] These operations may apply only if needed for discourse reasons: destressing marks the destressed constituent as discourse-linked without altering the focus set; 'Relocate main stress' marks the restressed constituent as a new member of the focus set, hence altering it.

Recall that, in languages like English, both destressing and 'Relocate main stress' are unavoidable in cases in which the direct object is discourse-linked: if destressing fails to apply, the object is interpreted as new information, focus; on the other hand, if 'Relocate main stress' does not take place, the ban on stressed, D-linked constituents is violated. However, German (and Dutch) grammars do have an alternative means to avoid the implementation of at least one of these operations: scrambling.

Neeleman and Reinhart contend that both scrambled and non-scrambled orders are base-generated,[42] and that the only difference between them is the order in which the argument is introduced in the computation: in non-scrambling cases, the argument is inserted right after the lexical verb; in scrambling cases, adjuncts are inserted first. Both scrambled and non-scrambled orders are considered to hold within the VP, which means that, from a strictly syntactic perspective, they basically constitute the same structure. Besides, they minimally differ with respect to the focus sets they present, as illustrated by the German example in (121):

(121) a. *Hans hat* V'[*gestern* V' [*das* ***BUCH*** *gelesen*]]
Hans-NOM has yesterday the book-ACC read
"Hans read the book yesterday"
Focus Set: {TP, VP, Object}

b. *Hans hat* V'[*das Buch* V' [*gestern* *ge**LE**sen*]]
Hans-NOM has the book-ACC yesterday read
"Hans read the book yesterday"
Focus Set: {TP, VP, V}

(121a) can serve as an answer to a question that requires either the TP or the VP as non-given, focal information. (121b) contains the same large foci: TP and VP. The only difference between them relates to the status of the object *das Buch*: in (121a) nuclear stress assignment makes it a member of the focus set, which entails that it must be interpreted as non-discourse-given (new, focal information); in (121b), where nuclear stress falls on the verb according to Cinque's NTPS, the object remains destressed, which results in its D-linked interpretation.

Neeleman and Reinhart contend that the interaction between the free availability of scrambling/non-scrambling structures and the minimal differences in their focus sets is the factor responsible for the constraints that West Germanic reordered sequences apparently exhibit. In Neeleman and Reinharts's view, those constraints mainly reflect a grammatical choice on the basis of economy: for a given context, the structure that involves the minimum number of operations is chosen. Notice that this economy criterion is irrelevant to the construction of the strictly syntactic string: since both scrambled and non-scrambled constituents are base-generated, scrambling and non-scrambling structures are equally cost-free. However, scrambling is highly preferred whenever the context imposes an interpretation of the object as discourse-given:

(122) *Was ist mit dem Buch geschehen?*
"What happened to the book?"
a. *Ich habe das Buch gestern ver**KAUFT***
I have the book-ACC yesterday sold
"I sold the book yesterday"
b. *#Ich habe gestern das Buch ver**KAUFT***
I have yesterday the book-ACC sold
"I sold the book yesterday"
c. *#Ich habe gestern das **BUCH** verkauft*
I have yesterday the book-ACC sold
"I sold the book yesterday"

Note that the question in (122) requires a focus set that contains the TP but crucially excludes the object, already present in *mit dem Buch*. The scrambling structure (122a) responds to these two demands optimally: nuclear stress is assigned to the most deeply embedded element, namely the lexical verb. Thus, there is no need for resorting to marked, costly operations such as destressing or 'Relocate Main Stress'. However, these operations are required in the derivation of (122b): nuclear stress is assigned to *das Buch*, but destressing must apply in order to avoid a violation of the ban on stressing D-linked elements. This, in turn, activates 'Relocate main stress', which makes the most prominent pitch fall on the final verb. As a consequence, (122b) involves the application of two marked procedures, which makes it much more costly than (122a). Finally, just a single operation derives (122c): nuclear stress assignment, which makes it as economical as (122a). Nevertheless, it does not fulfil the interpretive requirement imposed by the context, namely D-linking, insofar as *das Buch* is stressed. That is the reason why it would be the preferred option in cases in which the focused TP does not exclude any element within it:

(123) *Was ist passiert?*
"What happened?"
a. *Hans hat gestern das **BUCH** gelesen*
Hans-NOM has yesterday the book-ACC read
"Hans read the book yesterday"
b. *#Hans hat das Buch gestern ge**LE**sen*
Hans-NOM has the book-ACC yesterday read
"Hans read the book yesterday"

Note that (123) (our (103) above) represents the kind of example that has been frequently used in the literature in order to illustrate one of the supposed pho-

nological constraints on scrambling (Section 2.1): the incompatibility between scrambling and an unmarked intonation pattern (that is, multiple potential foci). The account of the structures in (122) and (123) in Neeleman and Reinhart's system demonstrates that this is a mistaken conclusion. Another mistaken conclusion is to consider the second phonological constraint in 2.1 (a scrambled constituent cannot bear nuclear stress) as a property deriving from scrambling, since according to Neeleman and Reinhart's analysis, such a constraint is simply the result of the interaction between Cinque's NTPS and economy considerations: a scrambled constituent does not occupy the most embedded position in the tree, so it can never receive default nuclear stress (123b). On the other hand, destressing of the most deeply embedded constituent (the lexical verb) and restressing of the reordered object would entail two marked operations (124a), banned on the basis of the existence of a more economical one (the non-scrambling string) (124b):

(124) *Was ist passiert?*
"What happened?
a. **Hans hat das* ***BUCH*** *gestern gelesen*
Hans-NOM has the book-ACC yesterday read
"Hans read the book yesterday"
b. *Hans hat gestern das* ***BUCH*** *gelesen*
Hans-NOM has yesterday the book-ACC read
"Hans read the book yesterday"

The conclusion seems clear: German(ic) scrambling is only apparently phonologically constrained. In fact, it is the interaction between the syntactic position occupied by scrambled constituents and the rules governing nuclear stress assignment that is responsible for the ban on stressed scrambled elements and its consequences for focus interpretation.

But is German(ic) scrambling semantically/pragmatically restricted? Let us answer this question by reviewing the way in which Neeleman and Reinhart's proposal can derive the observational generalisations (i)-(v) in 2.2.

(i) Indefinites cannot scramble if they must receive an existential interpretation. Indefinites may scramble if they must be interpreted as specific. According to Neeleman and Reinhart, this is straightforwardly accounted for by their system, once it is assumed that the only difference between existential and specific indefinites lies in D-linking: existential interpretation correlates with non-D-linked indefinites, whereas specific readings are obtained in the case the indefinite is D-linked.

(ii) Scrambled and unscrambled definites are uniformly interpreted as specific. In other words, scrambling of definite DPs is optional. As shown extensively above, the alleged optionality is only apparent: scrambling is obligatory when the object is context-dependent; non-scrambling is required in the case that the object is focal, new information. The choice of one or the other is constrained by considerations of economy.
(iii) Indefinite/definite focus cannot scramble. If semantic/pragmatic focus correlates with stress, this is expected: as illustrated in (123), stressing of a scrambled constituent would entail two marked operations, destressing of the most deeply embedded element, plus restressing of the reordered one. Since the non-scrambling counterpart can do the job without resorting to any marked procedure, economy forbids scrambling of a stressed constituent.
(iv) Unfocused elements do not obligatorily scramble. In the case of monotransitive predicates, this observation is not true: an object occupying the most deeply embedded position in the syntactic tree always receives nuclear stress. If it is stressed, it cannot be D-linked. This is predicted by Neeleman and Reinhart's system, and corroborated by a large number of native speakers ((112), and the discussion of (122) above, here repeated for convenience as (125)):

(125) *Was ist mit dem Buch geschehen?*
"What happened to the book?"
a. *Ich habe das Buch gestern ver**KAUFT***
I have the book-ACC yesterday sold
"I sold the book yesterday"
b. *#Ich habe gestern das **BUCH** verkauft*
I have yesterday the book-ACC sold
c. *#Ich habe gestern das Buch ver**KAUFT***
I have yesterday the book-ACC sold

However, the observation seems to be adequate in the case of ditransitive predicates, according to the judgements of the vast majority of scholars who treat the relevant structures (Haider and Rosengren, 1998; Büring, 2001b, among others) ((113) above, repeated here as (126)):

(126) *Wem hat heute der Zeuge den Weg gezeigt?*
"Who has the witness showed the way today?"
a. *Heute hat der Zeuge dem Poli**ZIS**ten den Weg*
today has the witness-NOM the policeman-DAT the way-ACC
gezeigt
showed
"The witness has showed the policeman the way today"
b. *Heute hat der Zeuge den Weg dem Poli**ZIS**ten*
today has the witness-NOM the way-ACC the policeman-DAT
gezeigt
showed

Notice that this kind of example poses a serious obstacle for Neeleman and Reinhart's proposal, insofar as the example (126a) should not be attested. Assume that Cinque's NTPS assigns nuclear stress to *den Weg* as the most deeply embedded constituent. Since it is discourse-given, it must undergo destressing, a marked operation. Destressing, in turn, forces the implementation of another costly operation, 'Relocate main stress', responsible for main prominence on *dem Polizisten*. The question is why economy does not bar (126a) on the basis of the costless (126b), where the base-generated scrambling order makes it possible to apply only a single procedure, that is, nuclear stress assignment on *dem Polizisten*.[43]

(v) Generic elements do not obligatorily scramble. Neeleman and Reinhart contend that generic interpretation is not the relevant factor in structures with universal temporal quantification. Their argument is based on the grammaticality of the four options in (127) and (128) in Dutch (from Neeleman and Reinhart, 1998):

(127) a. *dat Max altijd boeken over **FREUD** leest*
that Max-NOM always books-ACC about Freud reads
"that Max always reads books about Freud"
b. *dat Max boeken over Freud altijd **LEEST***
that Max-NOM books-ACC about Freud always reads
"that Max always reads books about Freud"

(128) a. *dat Max soms boeken over **FREUD** leest*
that Max-NOM sometimes books-ACC about Freud reads
"that Max sometimes reads books about Freud"

b. *dat Max boeken over Freud soms* ***LEEST***
that Max-NOM books-ACC about Freud sometimes reads
"that Max sometimes reads books about Freud"

(127) and (128) differ in their temporal quantification, existential in (127) and universal in (128). According to the common analysis, temporal quantification determines the interpretation of the indefinite, *boeken over Freud*, as generic in (127), but as existential in (128). The conclusion Neeleman and Reinhart draw from these facts is that genericity has no bearing on scrambling, as demonstrated by (128b), where reordering of an indefinite is possible in a sentence with existential quantification, and argue that the factor at stake is, again, D-linking, as the contrast between the Dutch examples in (129a) and (129b) seems to suggest (from Neeleman and Reinhart, 1998):

(129) a. *Het is onmogelijk met Max een afspraak te maken*
it is impossible with Max an appointment to make
"It is impossible to make an appointment with Max"
#Hij heeft nooit tijd, omdat hij boeken over Freud
he has never time, since he books-ACC about Freud
altijd ***LEEST***
always reads
"He has never time, since he always reads books about Freud"
En zoals je weet zijn er talloze boeken over Freud
"And, as you know, there are numerous books about Freud"

b. *Het is onmogelijk met Max een afspraak te maken*
It is impossible with Max an appointment to make
"It is impossible to make an appointment with Max"
Hij heeft nooit tijd, omdat hij altijd boeken over ***FREUD***
He has never time, since he always books-ACC about Freud
leest
reads
"He has never time, since he always reads books about Freud"
En zoals je weet zijn er talloze boeken over Freud
"And, as you know, there are numerous books about Freud"

The reason why (129a) is a pragmatically ill-formed answer, whereas (129b) is well-formed, relates to the discourse context, where there is no previous mentioning of the *boeken over Freud*. The consequence is that the version in which the generic object does not scramble is preferred to its scrambling counterpart.

In general, then, Neeleman and Reinhart's account of German(ic) scrambling deserves some credit for establishing reliable criteria that allow us to dispense with the notion of optionality. It relates in an elegant way to such general theories as Cinque's NTPS, and even improves on them. But, as Abraham and Molnárfi (2001) show, it is based on an inadequate premise about how lack of stress is achieved. It will be remembered that Neeleman and Reinhart argue that both scrambling and non-scrambling structures are base-generated, and that the only difference between them is the order of insertion of the object respective to the elements traditionally considered VP-adjoined. In non-scrambling sequences, insertion of those elements is preceded by that of the object, as in (130a); scrambling of the object simply entails that its insertion follows that of commonly assumed VP-adjuncts, as in (130b):

(130) a. *Hans hat* $_{V'}$[*gestern* $_{V'}$ [*das* ***BUCH*** *gelesen*]]
Hans-NOM has yesterday the book-ACC read
"Hans read the book yesterday"
b. *Hans hat* $_{V'}$[*das Buch* $_{V'}$ [*gestern ge****LE****sen*]]
Hans-NOM has the book-ACC yesterday read
"Hans read the book yesterday"

However, Abraham and Molnárfi appeal to German examples like (131) below in order to show that, in fact, destressing is independent from order of insertion:

(131) a. *dass sie* <ADV> *der* ***MANN*** *gesehen hat*
that her-ACC the man-NOM seen has
"that the man saw her yesterday"
b. *dass* sie_i <ADV> *der* ***MANN*** $_{VP}$[t_i *gesehen*] *hat*
that her-ACC the man-NOM seen has
"that the man saw her yesterday"

According to Abraham and Molnárfi, (131a) is problematic for Neeleman and Reinhart's system due to the high position occupied by the D-linked, destressed pronoun *sie*. Recall that their system conceives of scrambling as base-generation, and rigorously limits it to the VP.[44] But *sie* must be external to the verb phrase in (131a), since it precedes the subject. On the other hand, to assume that it is, in fact, base-generated within VP and undergoes subsequent displacement to clause-initial position (131b), completely disrupts the connection between destressing and order of insertion of arguments and adjuncts, insofar as the D-linked pronoun and the adverb are never adjacent in the lower

part of the structure (the VP). Notice that, since in German scrambled elements may appear in both pre-subject and post-subject positions (Section 1.5.2, this chapter), Abraham and Molnárfi's observation in fact means that Neeleman and Reinhart's analysis cannot apply to pre-subject scrambling in that language. But pre-subject scrambling cases are not the only set of data that raise difficulties for Neeleman and Reinhart's approach. In this respect, it will be useful to remember the ditransitive structures we reviewed above (examples in (126)), where a non-scrambled D-linked accusative was not assigned nuclear stress (126a). In Chapter 5, I will argue that it is possible to account for both pre-subject scrambling and such ditransitive constructions without losing Neeleman and Reinharts's insight about the close connection between scrambling, D-linking and destressing. Their idea of scrambling as base-generation must, however, be completely abandoned.

CHAPTER 4
PREVIOUS ACCOUNTS OF GERMAN SCRAMBLING

The aim of the present chapter is to review the most influential accounts of German scrambling within a generative framework. This is a relatively complex task, for several reasons. First, as shown in the preceding chapter and summarised in (1) below, some of the descriptive properties of scrambling are far from being fixed (controversial issues in grey boxes):

(1) Syntactic properties of German scrambling

ROUGH SYNTAX	Iterability
	Syntactic position: arguments/arguments and adjuncts
	Category: DPs/DPs and other categories
	Syntactic projection: VPs/VPs and other categories
	Clause-boundedness
	'Freezing'/'Anti-Freezing'
LF	Semantic/pragmatic effects as trigger vs Semantic/pragmatic effects as a by-product
PF	Destressing

According to (1), it is required of any empirically adequate analysis of scrambling that it explain its iterability, its clause-boundedness, and the phonological effects associated with it (destressing of scrambled constituents). At the same time, any valid analysis must confront the controversial properties associated with scrambling and effectively refute any data that may contradict it. As the reader will discover in the following pages, however, such refutation is in general lacking.

A second factor contributing to the difficulty of reviewing the literature on scrambling is the heightened attention the phenomenon has received ever since the very earliest models of generative grammar. We will focus here mainly on those proposals that are elaborated either within Chomsky's (1981, 1986) 'Government and Binding' model, or Chomsky's (1995, 2000) 'Minimalist Program'. We will in addition preserve the traditional distinction between movement approaches and base-generation approaches, as is customary in the literature on scrambling.

As shown in Chapter 1, Ross's (1967) pioneering work, which first used the term scrambling to refer to the alternative orderings which co-arguments may exhibit in certain languages, considers scrambling as the result of a stylistic rule that operates on the PF-representation. But, with exception of Ross's own analysis,[1] most other accounts treat scrambling as an operation pertaining only to the strictly syntactic component. In these other accounts, there is, however, no agreement on the kind of syntactic operation scrambling involves. Thus, purely syntactic analyses may be, in turn, divided into two main groups:

(i) Movement approaches. The basic tenet of movement approaches is that German scrambling is the result of the complex syntactic operation 'Move' (in minimalist terms; 'Move α' in GB terms). Most of them take the evidence for 'Freezing' as uncontroversial, and accept that the locus of scrambling is restricted to the vP/VP and those functional projections related to it.[2] But they differ with respect to the syntactic position and the categorial status of the 'scrambable' constituent, as well as in the factor responsible for the semantic/pragmatic effects. Movement approaches will be dealt with in Section 1.

(ii) Base-generation approaches. Their claim is that German scrambling is the result of the simple syntactic operation 'Merge'; that is, the only difference between scrambled and non-scrambled constituents is the position in which they are first merged, higher in the scrambling cases. Base-generation approaches admit the existence of 'Freezing', but argue that it does not constitute either a general phenomenon or an indicator of movement. On the other hand, they all share the assumption that scrambling is not categorially restricted, although it applies only to argumental elements. Finally, they contend that the semantic/pragmatic effects associated with scrambling are a by-product of the operation that produces it, i.e. direct merge. Base-generation theories will be the topic of Section 2.

1. *Movement approaches*

Within the very extensive body of literature dealing with German scrambling as an instance of the syntactic operation 'Move (α)', the studies that

adopt this approach are usually empirically grounded in two kinds of evidence generally regarded as irrefutable:
(i) 'Freezing'.[3] Scrambled constituents are islands for movement. Recall that the assumption is based on contrast such as the ones in (2) and (3) (German example from Bayer and Kornfilt, 1994):

(2) a. Who$_i$ did John take [a picture of t_i]?
b. * Who$_i$ was [a picture of t_i]$_j$ taken t_j by John?

(3) a. *Was*$_i$ *hat Heinrich dem Mann* [t_i *für ein Buch*]
what-ACC has Heinrich-NOM the man-DAT for a book
empfohlen?
recommended
"What kind of book did Heinrich recommend the man?"
b. **Was*$_i$ *hat Heinrich* [t_i *für ein Buch*]$_j$ *dem Mann* t_j
what-ACC has Heinrich-NOM for a book the man-DAT
empfohlen?
recommended
"What kind of book did Heinrich recommend the man?"

The defenders of the movement approach to German scrambling establish a parallelism between the English example and the German one: if both movement of the English object to Spec, T (the subject position), and scrambling of the German accusative make extraction of the *wh*-constituent ungrammatical, scrambling must entail movement.
(ii) The impossibility of an unmarked stress pattern in scrambling structures, or, according to Neeleman and Reinhart's (1998) analysis in 2.3.3, Chapter 3, the impossibility of an unmarked stress pattern if the reordered object does not appear as D-linked. As shown in the preceding chapter, scrambling structures can never answer a 'what-happened-question' that does not mark the accusative as given. This is generally accepted to indicate that the sentence they appear in does not contain either TP or VP as focal constituents:

(4) *Was ist passiert?*
"What happened?"
a. *dass Hans gestern das* ***BUCH*** *gelesen hat*
that Hans-NOM yesterday the book-ACC read has
"that Hans read the book yesterday"

b. *#dass Hans das Buch gestern ge**LE**sen hat*
that Hans-NOM the book-ACC yesterday read has
"that Hans read the book yesterday"

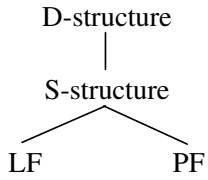
For the proponents of German scrambling as an instance of 'Move (α)', (4) is straightforward on two grounds (Haider and Rosengren, 1998; Haider, 2000, etc.): (a) according to syntactic approaches to nuclear stress assignment (Chomsky and Halle, 1968; Cinque, 1993), strings that serve as answers to a 'what-happened-question' present the entire clause as focus (maximal focus), with the most prominent pitch on the most deeply embedded constituent (Cinque, 1993); (b) traces lack phonological features and, as a consequence, cannot be stressed. Hence, focus potential provides evidence for chain formation and the existence of a gap.

Although most analyses of German scrambling as result of movement capitalise on the sets of data constituted by 'Freezing' and prosodic facts, they present important differences especially with respect to the characterization of the movement operation itself. For those studies written in a GB framework (Chomsky, 1981, 1986), such characterization basically consists in equating scrambling chains with one of the two types of chains independently manifested in natural languages, A-chains or A-bar chains. On the other hand, the proposals developed according to the 'Minimalist Program' (Chomsky, 1995; 2000) will fundamentally focus on the search for a trigger that renders the movement process as unavoidable. In the following, we will discuss them in more detail.

1.1 *Scrambling as 'Move α' ('Government and Binding')*

The GB model assumes that there are four different levels of syntactic representation: 'Deep Structure' (DS), 'Surface Structure' (SS), 'Logical Form' (LF), and 'Phonological Form' (PF), according to the diagram in (5):

(5)



DS encodes the lexical properties of the constituents of the sentence, and also represents the basic argument relations in it. SS reflects the actual ordering of the elements in the sentence, as well as their Case forms. At LF, the logico-

semantic properties of the sentence are expressed, whereas its overt phonetic realisation (i.e. its actual spell-out) takes place at PF. The levels of DS and SS are related to each other by movement transformations, labelled as 'Move α'. 'Move α' applies freely, which means that it does not need to apply for a reason. In other words, structures are not ruled out as ungrammatical because 'Move α' is implemented or not; rather, they are ruled out because they do not satisfy any of the principles, constraints, or filters that they must obey. Thus, the ungrammaticality of the English example in (6) below, in which the object NP does not move to the subject position, does not derive from a hypothetical violation of 'Move α', but rather from a violation of the 'Case Filter', which requires every overt NP to be assigned abstract Case:

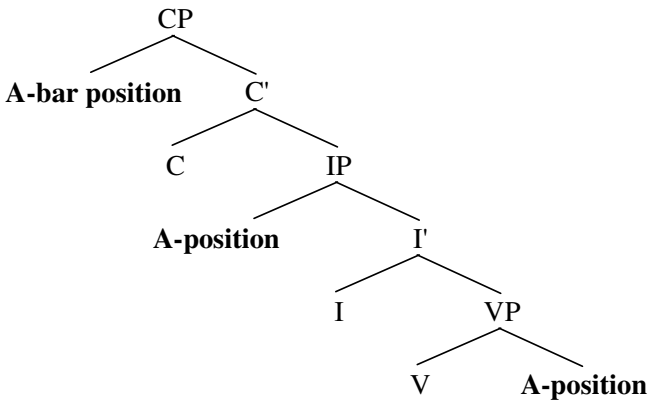
(6) *It will be seen John

The GB model distinguishes between two different applications of 'Move α', according to the type of position it targets: A-movement, if its landing site is an argument position (A-position), and A-bar-movement, if the constituent is displaced to a non-argument position (A-bar-position). Chomsky's original definition of an argument position is the one in (7) (Chomsky, 1981: 47):

(7) An A-position is a potential theta role position

Complementarily, an A-bar position is one that cannot be assigned a thematic role. Typical A-positions are those hosting subjects and objects; typical A-bar-positions are operator positions, where elements that have already been theta-marked may be moved. Thus, in the first versions of clause structure proposed by the GB framework, the distribution of A- and A-bar-positions was as shown in (8):

(8)



Subsequent modifications of this standard clause structure, however, forced researches to reformulate the A/A-bar dichotomy. Pollock's (1989) influential paper on the structure of the IP argued for splitting the IP into two different functional projections: a T(ense) phrase and an Agr(eement) phrase, the locus for nominative Case assignment.[4] Similarly, Chomsky (1993) proposed the existence of an agreement object phrase (AgrOP) for object licensing. The parallelism became complete under the widely accepted 'VP-internal subject hypothesis' (Koopman and Sportiche, 1991), whose basic tenet was that subjects are generated in the specifier position of VP and then moved to the specifier of AgrSP. Thus, the assumption that both subjects and objects receive thematic role within the VP makes the A- status of both Spec,AgrS (Spec, IP in pre-pollockian terms) and Spec, AgrO at least questionable. Chomsky (1991, 1993) suggests that the A/A-bar distinction may be replaced by the notion of L-relatedness (relation to morphological features of lexical items, such as tense, agreement, etc.), which distinguishes the specifier positions of TP, AgrSP and AgrOP (L-related) from the specifier position of CP (non-L-related). Obviously, movement to L-related projections presents the characteristics traditionally associated with A-movement, whereas movement to non-L-related projections is equated with the classical A-bar movement. Notice that, according to Chomsky's (1991, 1993) proposal, the status of a syntactic position as an L-related position depends upon two different premises: first, the projection to which it belongs must be L-related (that is, it must be either TP or AgrP); second, it must be a specifier position. Specifier positions are defined as those created by 'Move α' when the result of the movement operation is a new category (substitution). Specifier positions are distinguished from adjoined positions, which are the product of 'Move α' when a two-segment category, rather than a new one, is created (adjunction). Chomsky (1991, 1993) considers

adjoined positions to be non-L-related. Nevertheless, he suggests that those positions created by adjunction to an L-related head (T, Agr) are 'broadly L-related', which means that they are half-way between 'narrowly L-related' positions (specifiers of L-related heads) and non-L-related positions (specifiers or adjuncts of non-L-related heads). But he does not give details about their exact properties.

These are the general aspects of the GB model that constitute the basis for any analysis of German scrambling as an instance of 'Move α'. It will be seen that their interaction results in four possible characterizations of the process (9):

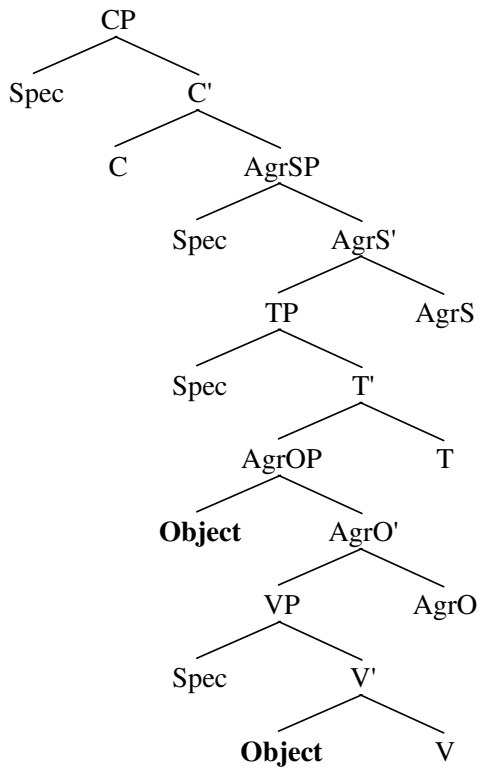
(9) German scrambling as 'Move α'
  (i) Scrambling targets a specifier of an L-related head.
  (ii) Scrambling targets an adjoined position of an L-related head.
  (iii) Scrambling targets a specifier of a non-L-related head.
  (iv) Scrambling targets an adjoined position of a non-L-related head.

Options (iii) and (iv) are not reflected in any study on German scrambling written in the GB framework. On the other hand, options (i) and (ii) appear developed in different ways: in some accounts (i) results in a classical A-chain (Déprez, 1989; Mahajan, 1990; Moltmann, 1990; Wyngaerd, 1989; among others); in others, it is an instance of an A-bar chain (Déprez, 1994). With respect to option (ii), we may recall that Chomsky (1991, 1993) leaves open the question about the exact nature of 'broadly L-related' positions. Thus it is possible to find hypotheses defending the position that scrambling as adjunction to such projections creates an A-chain (Haider and Rosengren, 1998), as well as accounts in which the process is envisaged as an instance of A-bar movement (Müller and Sternefeld, 1993). The way in which options (i) and (ii) are implemented in the different analyses will be the topic of the following sections.

1.1.1 *Scrambling as substitution: A-movement*. The proposals in the GB literature that treat scrambling as an instance of A-movement are concerned with the process of reordering in different languages, such as Hindi (Mahajan, 1990), Dutch (Déprez, 1989; Wyngaerd, 1989), German (Déprez, 1989; Moltmann, 1990; Santorini, 1990), or even Icelandic (Déprez, 1989). Nevertheless, they all share the same basic insight: scrambling moves an object from its VP-internal position to the specifier of the functional head AgrOP, where accusative Case is assigned. Since in the languages in question scrambling seems to be optional, the proponents of this kind of analysis must resort to a disjunctive condition on

structural Case assignment, according to which structural Case may be assigned either in the VP-internal complement position or in Spec, AgrOP, as shown in (10):

(10)



An analysis along these lines finds empirical support in a restrictive treatment of the sets of data in (1). With respect to the category and syntactic position of the 'scrambable' constituent, it assumes that only argumental DPs may undergo scrambling. On the other hand, its clause-boundedness (a widely accepted property) is straightforwardly derived: in this respect, German scrambling behaves according to other well-known instances of A-movement rules, such as passive or raising. Furthermore, it is argued that this parallel behaviour is confirmed by binding facts.

One of the tenets of standard 'Binding Theory' is that anaphors must be coindexed with a c-commanding[5] antecedent. The antecedent may c-command the anaphor from a derived position, that is, a position reached by the applica-

tion of 'Move α'. It has been observed, however, that the binding relation is sensitive to the kind of movement involved (11), (12):

(11) a. [e] seems to himself$_i$ John$_i$ to be a genius
b. John$_i$ seems to himself$_i$ to be a genius

(12) a. John$_i$ knows himself$_i$ well
b. Himself$_i$ John$_i$ knows well
c. *John$_i$, himself$_i$ knows well

(11a) corresponds to the DS of the sentence, before structural Case is assigned. Notice that a possible spell-out of the string results in ungrammaticality, due to a violation of the 'Case Filter' (*John* remains caseless), as well as to the absence of an appropriate c-commanding antecedent for the anaphor *himself*. Thus, movement of *John* to the subject position rescues the structure: it is assigned nominative Case and, at the same time, c-commands the coindexed anaphor. As usually stated in the literature, A-movement 'feeds' binding.

By contrast, the movement operation responsible for (12b) does not alter the binding relation established in (12a) at all. In other words, the displacement of the object *himself* to a topicalised position (generally Spec, CP) does not destroy the pre-existing binding relation between *John* and *himself*. Since topicalisation is conventionally believed to be an instance of A-bar-movement, the conclusion is that A-bar-movement does not 'bleed' binding. But that A-bar-movement does not feed it either is demonstrated by (12c), where topicalisation of *John* to a position preceding and c-commanding *himself* is not enough to fulfil the binding principle at stake.

For those scholars who defend the position that scrambling is A-movement, the behaviour of scrambling with respect to binding relations constitutes an irrefutable proof, as shown in (13):

(13) a. **Gestern habe ich einander$_i$ die Gäste$_i$ vorgestellt*
yesterday have I each-other-DAT the guests-ACC introduced
"I introduced the guests to each other yesterday"
b. *Gestern habe ich die Gäste$_i$ einander$_i$ vorgestellt*
yesterday have I the guests-ACC each-other-DAT introduced
"I introduced the guests to each other yesterday"

If we assume that German has a base-generated order DAT-ACC (Lenerz, 1977),[6] scrambling of the accusative *die Gäste* to a position c-commanding *einander* 'feeds' binding in the same way that raising of *John* in the English

example above (11b). The status of scrambling as A-movement is thus empirically demonstrated.

The literature presents two other sets of data, however, that cast doubt on the validity of the conclusions drawn from (13). The first appears in Neeleman (1994) for Dutch, following an original observation by Belleti and Rizzi (1988) for Italian (examples based on Neeleman, 1994):

(14) a. *dass das Bild von einander$_i$ den Männern$_i$ t_i gefällt*
that the picture-NOM of each-other the men-DAT pleases
"that the picture of each other pleases the men"
b. **Ich habe das Bild von einander$_i$ den Männern$_i$ gezeigt*
I have the picture-NOM of each-other the men-DAT showed
"I have shown the men the picture of each other"

(14a) is a typical instance of A-movement, raising to subject in an ergative construction. Neeleman argues that its grammaticality in Dutch (and German) proves that Belletti and Rizzi's conclusions for Italian also hold in West Germanic: A-movement does not bleed binding, insofar as *das Bild von einander* in subject position is still bound by the dative *den Männern.* However, scrambling of the accusative object past the dative in (14b) bleeds the binding relation established before the accusative leaves its base-position. Consequently, according to Neeleman, scrambling cannot be fully assimilated to A-movement.

The second set of data is discussed in Müller and Sternefeld (1994), and Müller (1995). They argue that the ungrammaticality of sentences such as (15) runs against the argument that scrambling feeds binding:

(15) **Gestern habe ich den Gästen$_i$ einander$_i$ vorgestellt*
yesterday have I the guests-DAT each-other-ACC introduced
"Yesterday I introduced each other to the guests"

As (15) demonstrates, the DAT in situ cannot bind the following DO *einander* in a supposedly base-generated string (DAT-ACC). Moltmann (1990) offers a possible explanation for this: accusative anaphors must always move to a position between the subject and any other full NP. But, as Müller (1995) points out, this rule is not empirically supported, since subjects may in fact bind accusative anaphors across intervening datives (16):

(16) *dass der Arzt*$_i$ *dem Patienten*$_j$ *sich*$_{i/*j}$ *im Spiegel*
that the doctor-NOM the patient-DAT himself-ACC in-the mirror
zeigte
showed
"that the doctor showed himself to the patient in the mirror"

Santorini (1990) suggests another way out: IO cannot be binders in German. But, besides its stipulative character, Santorini's claim is undermined by examples such as (17) (Grewendorf, 1988; Müller, 1995), where the dative object can bind an anaphor contained in a PP:

(17) *dass Maria*$_i$ *ihr*$_j$ *die Augen über sich*$_{i/j}$ *öffnette*
that Maria-NOM her-DAT the eyes-ACC about herself opened
"that Maria opened her eyes about herself"

A third possibility is to assume that the base-generated order is not DAT-ACC, but rather ACC-DAT. This would entail that the binding facts in (13) derive from base-generation, and not from scrambling as an instance of 'Move α'. But, as noted in the preceding paragraphs, the evidence from the unmarked word order (i.e. maximal focus) strongly indicates that DAT-ACC is the right base-generated string. Thus, it would appear that binding facts do not constitute an irrefutable proof for an analysis of German scrambling as A-movement.

In general, then, we may conclude that the A-movement approach is not fully supported by empirical grounds. The A-movement approach can explain the clause-boundedness of scrambling straightforwardly, but only at the cost of disregarding the different order possibilities of elements other than argumental DPs, as well as the complexity of the binding examples. Furthermore, it also faces theoretical problems with respect to the GB model it adopts. The most important of these derives from structures such as (18):

(18) a. *dass niemand den Linguisten die Bilder zeigte*
that nobody-NOM the linguists-DAT the pictures-ACC showed
"that nobody showed the pictures to the linguists"
b. *dass die Bilder den Linguisten niemand zeigte*
that the pictures-ACC the linguists-DAT nobody-NOM showed
"that nobody showed the pictures to the linguists"
c. *dass den Linguisten die Bilder niemand zeigte*
that to the linguists-DAT the pictures-ACC nobody-NOM showed
"that nobody showed the pictures to the linguists"

Let us assume with the proponents of the A-movement analysis that scrambling displaces both the accusative and dative objects to two different functional projections (namely, AgrOP and AgrIOP), where their respective Cases will be licensed. Such an assumption fits the GB model with respect to the pre-subject position they appear in, on the basis of the 'VP-internal subject hypothesis' (Koopman and Sportiche, 1991): the subject remains within the VP, where it is assigned Case under government. However, this analysis contradicts the constant relation between functional projections the GB model defends: in (18b) AgrOP must precede AgrIOP, whereas in (18c) AgrOP must follow AgrIOP.

Finally, it will be seen that the A-movement approach does not address the semantic/pragmatic effects of scrambling,[7] insofar as Case assignment is independent from the interpretation the nominal obtains at LF.

1.1.2 *Scrambling as substitution: A-bar movement.* Déprez (1994) is the only proposal in the literature that considers scrambling as a substitution operation that forms an A-bar chain, albeit partially. Her account attempts to solve 'Webelhuth's Paradox' (Webelhuth, 1989), formulated on the basis of examples such as the following:

(19) *Peter* *hat die Gäste*$_i$ *ohne* e_i *anzuschauen*
Peter-NOM has the guests-ACC without looking-at
einander$_i$ t_i *vorgestellt*
each-other-DAT introduced
"Peter introduced the guests to each other without looking at (them)"

Webelhuth notices that scrambling of *die Gäste* results in a structure that resembles both A- and A-bar chains. On the one hand, it feeds binding, which is a hallmark of A-movement; on the other, it licenses a parasitic gap[8] in the adjunct infinitival clause, which is typically associated with A-bar-movement. Webelhuth (1989, 1992) suggests that the A/A-bar dichotomy must be replaced by a tripartite classification: A/A-bar/A-A-bar. The new third position (A-A-bar), due to its dual character, displays both A and A-bar properties.

Déprez contends that Webelhuth's third position is unnecessary. Instead, she proposes to redefine the notions of A- and A-bar positions in terms of two main properties: [± HR], and [± Case]. [±HR] stands for 'Head Related', and is a property roughly equivalent to Chomsky's (1991, 1993) 'L-relatedness'. The property [±Case] distinguishes between specifier positions that receive functional Case from their heads and those that do not. In this context, Déprez associates the mixed behaviour exhibited by scrambling chains in cases such as

(19) with a [+HR, –Case] position: *die Gäste* receives accusative Case under government (i.e. within VP), and is subsequently moved to the specifier of AgrO, where it may bind the anaphor. On the other hand, the absence of Case assignment in that derived position would explain the existence of the parasitic gap. Finally, and for the cases in which the scrambled object displays only A-properties, Déprez claims that the targeted position must be characterised as [+HR, +Case].

Clearly Déprez's system is merely a reformulation of the facts, inasmuch as there is no independent way to distinguish Case-assigning heads from non-Case-assigning heads. In addition, it may be based on a mistaken assumption also shared by 'Webelhuth's Paradox' itself: the existence of parasitic gaps in structures such as (19). This is the claim in Fanselow (1993, 2001), where it is demonstrated that such constructions have properties that real parasitic gap structures lack: the possibility of being formed by the movement of a non-referential DP (20), and even a *wh*-element (21); the possibility of presenting the gap of a PP in the adjunct clause (22); or the possibility of presenting more than one gap (23) (examples (20) and (23) from Fanselow, 2001; (21) and (22) from Haider and Rosengren, 1998):

(20) *dass er sich anstatt* e *um Maria zu kümmern mit Bücher*
that he himself instead-of of Maria to care with books
beschäftigte
occupied
"that he occupied himself with books instead of caring of Mary"

(21) *Wer hat seinem Nachbarn wen ohne* e
who-NOM has his neighbour-DAT who-ACC without
anzuschauen vorsgestellt?
looking-at introduced
"Who introduced whom to his neighbour without looking at?"

(22) *Das ist ein Thema, über das er, anstatt* e *zu*
that is a topic about which he instead-of to
schwätzen, nachdenken sollte
chat think should
"This is a topic about which he should think instead of chatting"

(23) *dass er dem Kind das Buch anstatt* e e *zu*
that he the child-DAT the book-ACC instead-of to
leihen verkaufte
lend sold
"that he sold the book to the child, instead of lending it to him"

These are properties conventionally related to conjunction reduction, that is, the deletion of one of two identical constituents in coordinated structures. Thus, Fanselow concludes that such examples as the ones given above are merely instances of this process in a (quasi-) coordinated structure (24), in which the coordinating conjunction is *ohne* (or *anstatt*), as illustrated by the fact that it can co-occur with the complementiser (25) (examples from Fanselow, 2001):

(24) a. Conjunction reduction in coordinate structures
dass er Maria kennt und ~~Maria~~ liebt
that he Maria-ACC knows and Maria-ACC loves
"that he knows and loves Maria"
b. Conjunction reduction in (quasi-) coordinate structures
Peter hat die Gäste ohne ~~die Gäste~~
Peter-NOM has the guests-ACC without the guests-ACC
anzuschauen einander vorgestellt
looking-at each-other-DAT introduced
"Peter introduced the guests to each other without looking at (them)"

(25) a. Coordinating conjunction + complementizer
Er sagt, dass es regnet und dass es schneit
he says that it rains and that it snows
"He says that it rains and that it snows"
b. Subordinating conjuction + complementizer
Es regnet bevor (**dass*) *es schneit*
It rains before that it snows
"It rains before it snows"
c. *Ohne, anstatt* + complementizer
Es regnet ohne dass es schneit
It rains without that it snows
"It rains without snow"

If Fanselow is correct, 'Webelhuth's Paradox' is irrelevant to any true characterization of German scrambling. This, in turn, entails a serious challenge to those proposals analysing the phenomenon as an instance of A-bar-movement, to which we turn now.

1.1.3 *Scrambling as adjunction: A-bar movement*. The most complete account of German scrambling as a process of adjunction resulting in an A-bar chain is Müller and Sternefeld (1993), basically retained in Müller and Sternefeld (1994), and Müller (1995). This account is based on two fundamental tenets:
(a) German scrambling is unrestricted with respect to the syntactic position and category of the 'scrambable constituent', just as typical A-bar processes are.
(b) The apparent restrictions on German scrambling with respect to 'non-scrambable' constituents (predicates, focused material, etc.) as well as its clause-bound nature are not related to the A/A-bar dichotomy, but may be explained otherwise.

Regarding (a), A-movement proposals necessarily entail the existence of non-scrambling operations responsible for the different ordering options with constituents different from argumental DPs. But the study of the exact nature of such operations is generally neglected. In this connection, the advantage of A-bar movement analyses like Müller and Sternefeld (1993) is that they can explain the reordering of all types of elements by invoking just a single process, scrambling.

With respect to (b), Müller and Sternefeld (1993) do not question the contrasts in the German structures in (26) and (27), but disagree in the way such contrasts have been treated in A-movement proposals (example (27) from Müller, 1995):

(26) A-bar movement is not clause-bound. Scrambling is clause-bound
a. *Das Buch*$_i$ *glaubt Maria hat er gestern* t_i *gelesen*
the book-ACC thinks Maria-NOM has he yesterday read
"Maria thinks that he read the book yesterday"
b. **Gestern*$_j$ *glaubt das Buch*$_i$ *Maria hat er* t_i t_j
yesterday thinks the book-ACC Maria-NOM has he
gelesen
read
"Maria thinks that he read the book yesterday"

c. **Gestern$_j$ glaubt Maria das Buch$_i$ hat er* t_i t_j
yesterday thinks Maria-NOM the book-ACC has he
gelesen
read
"Maria thinks that he read the book yesterday"

d. *Maria glaubt er hat das Buch$_i$ gestern* t_i *gelesen*
Maria-NOM thinks he has the book-ACC yesterday read
"Maria thinks that he read the book yesterday"

(27) Predicates, focused material can be A-bar-moved. Predicates, focused material cannot scramble

a. *Die Suppe essen$_i$ hat keiner* t_i *wollen*
the soup-ACC eat has no-one-NOM wanted to
"No one wanted to eat the soup"

a'. *Das BUCH$_i$ hat Maria* t_i *gekauft, nicht die Zeitungen*
the book-ACC has Maria-NOM bought not the newspapers-ACC
"Maria bought the book, not the newspapers"

b. ??*dass die Suppe essen$_i$ hier keiner* t_i *so richtig*
that the soup-ACC eat here no-one-NOM really
wollte
wanted-to
"that no one really wanted to eat the soup"

b'. ??/**dass das BUCH$_i$ Maria* t_i *gekauft hat*
that the book-ACC Maria-NOM bought has
(und nicht die Zeitungen)
and not the newspapers-ACC
"that Maria bought the book, and not the newspapers"

Examples in (26) illustrate the clause-boundedness of scrambling ((26d) vs (26b) and (26c)) as opposed to the non-clause-boundedness of topicalisation (26a). The A-movement approach explains the opposition in terms of the local binding of the trace left by *das Buch* within the VP (Chomsky, 1981). The presence of an intermediate trace in Spec, CP of the embedded clause guarantees this local binding:

(28) a. $_{CP}$[*Das Buch*$_i$ *glaubt Maria* $_{CP}$[t_i' *hat er* $_{VP}$[*gestern* t_i *gelesen*]]]

b. *$_{CP}$[*Gestern*$_j$ *glaubt das Buch*$_i$ *Maria* $_{CP}$[t_i' *hat er* $_{VP}$[t_i t_j *gelesen*]]]

c. *$_{CP}$[*Gestern*$_j$ *glaubt Maria das Buch*$_i$ $_{CP}$[*hat er* $_{VP}$[t_i t_j *gelesen*]]]
d. $_{CP}$[*Maria glaubt* $_{CP}$[*er hat das Buch*$_i$ $_{VP}$[*gestern* t_i *gelesen*]]]

However, this presence also makes the trace in the embedded VP qualify as a variable.[9] Since variables must be uniformly A-bar-bound, it follows that the contrast between (28a) and (28b), (28c) reduces to a case of 'proper'/ 'improper movement' (Chomsky, 1981): all the links in the chain in (28a) A-bar-bind the trace in the VP (proper movement), but the first link in both (28b) and (28c) A-binds it (improper movement). As expected, (28d) is grammatical: *das Buch* may locally bind t_i, and no movement through intermediate positions is required.

The A-movement approach also predicts the contrast in (27), albeit only partially. It makes the correct predictions with respect to (27a) vs (27b): scrambling is movement to Spec, AgrO, and movement to Spec, AgrO is restricted to DP arguments. But it leaves the opposition between (27a') and (27b') unexplained: if accusative Case may be optionally assigned either within VP or in Spec, AgrOP, why are focused argumental DPs systematically barred in Spec, AgrOP?[10]

As indicated above, Müller and Sternefeld (1993, 1994), and Müller (1995) treat the data in (26) and (27) in a different way that makes them compatible with an A-bar movement approach to German scrambling. Their basic assumption is that scrambling is crosslinguistically adjunction, and that the differences between scrambling languages may be explained as due to the interaction between the parametrisation of adjunction sites and the 'Principle of Unambiguous Binding'. With respect to parametrisation, German grammar allows for only two adjunction sites, IP and VP, which are respectively reflected in pre-subject and post subject scrambling:

(29) a. $_{CP}$[*dass* $_{IP}$[*das Buch*$_i$ $_{IP}$[*Maria* $_{VP}$[*gestern* t_i *gelesen*] *hat*]]
that the book Maria yesterday read has
"that Maria read the book yesterday"
b. $_{CP}$[*dass* $_{IP}$[*Maria* $_{VP}$[*das Buch*$_i$ $_{VP}$[*gestern* t_i *gelesen*] *hat*]]
that Maria the book yesterday read has
"that Maria read the book yesterday"

The fact that the CP is not a possible adjunction site for German scrambling entails that the only escape hatch a scrambled constituent may have in order to leave its own clause is Spec, CP. The question now is what prevents movement through this position. Müller and Sternefeld's answer is the 'Principle of

Unambiguous Binding' (PUB), which disallows binding from positions belonging to different types:

(30) Principle of Unambiguous Binding (Müller and Sternefeld, 1993: 461)
A variable that is α-bound must be β-free in the domain of the head of its chain (where α and β refer to different types of positions).

On this basis, the ungrammatical examples of (26)/(28) receive a straightforward treatment: the trace in the VP is ambiguously bound by t_i' in the Spec, CP of the embedded clause (an α-type position), and *das Buch* adjoined either to IP (26b, 28b) or to VP (26c, 28c) (β-type positions).

Müller and Sternefeld contend that the PUB may also explain why scrambling as A-bar movement is restricted with respect to certain constituents, as shown in (27) above. They argue that elements such as predicates or focused constituents are characterized as operators, which entails that they must undergo movement at LF so as to occupy an adequate operator position there. If, as Müller and Sternefeld hypothesise, the PUB applies at both SS and LF in German, the LF representation of a structure containing a scrambled operator would violate it, as shown in (31a') and (31b'), the LF representations that correspond, respectively, to the surface structures in (31a) and (31b):

(31) a. ??$_{CP}$[*dass* $_{IP}$[*die Suppe essen*$_i$ $_{IP}$[*keiner* $_{VP}$[*so richtig* t_i *wollte*]]]
that the soup to-eat no-one really wanted
"that no one really wanted to eat the soup"
a'. ??$_{CP}$[α_i *dass* $_{IP}$[t_i' $_{IP}$[keiner $_{VP}$[so richtig t_i wollte]]]
b. ??/*$_{CP}$[*dass* $_{IP}$[*das BUCH*$_i$ $_{IP}$[*Maria* $_{VP}$[t_i *gekauft*] *hat*]]
that the book Maria bought has
"that Maria bought the book"
b'. ??/*$_{CP}$[α_i *dass* $_{IP}$[t_i $_{IP}$[*Maria* $_{VP}$[t_i *gekauft*] *hat*]]

In (31a', b'), t_i in the VP is bound by both t_i' adjoined to IP (an β-type position) and α_i in Spec, C (an α-type position). Consequently, it is ambiguously bound.[11]

Müller and Sternefeld's (1993) basic claim that German scrambling is just an instance of A-bar-movement affected by the PUB finds additional support in Müller and Sternefeld (1994) and Müller (1995), where two sets of data already used by the proponents of the A-movement approach are reviewed: parasitic gaps, and binding facts. They take the former to be decisive evidence for an A-bar approach. However, as shown in the preceding section, Fanselow's (1993, 2001) analysis of scrambling as a process completely independent of the

A/A-bar distinction is superior in one fundamental respect: it accounts for the peculiar properties of parasitic gap constructions licensed by scrambling chains, which make them parallel to conjunction reduction structures. Therefore, I shall follow Fanselow in assuming that the presence of parasitic gaps does not tell us much with respect to the A-bar nature of German scrambling.

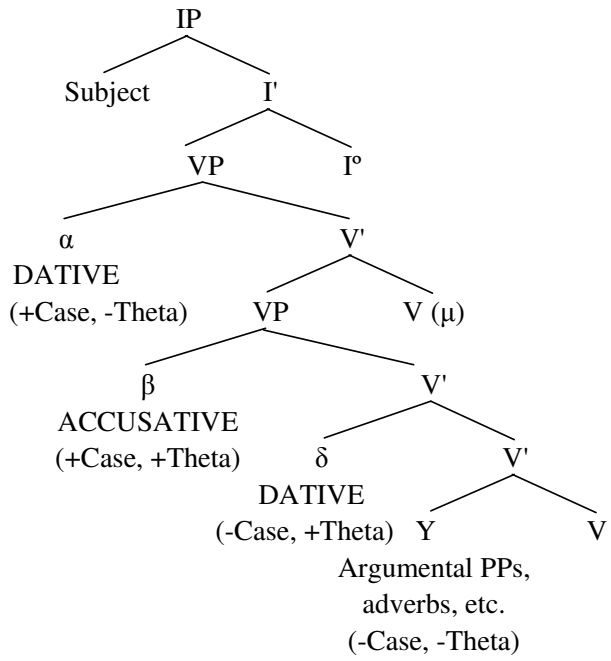
Regarding binding facts, Müller and Sternefeld (1994) and Müller (1995) capitalise on the problematic (15) above (repeated here as (32)), and add (33):

(32) **Gestern habe ich den Gästen*$_{i}$ *einander*$_{i}$ *vorgestellt*
yesterday have I the guests-DAT each-other-ACC introduced
"Yesterday I introduced each other to the guests"

(33) *dass sich*$_{i}$ *der Fritz*$_{i}$ t_{i} *hasst*
that himself Fritz-NOM hates
"that Fritz hates himself"

As we saw in the section dealing with A-movement approaches, (32) questioned the A-nature of scrambling in cases in which the displacement of the accusative made binding of the dative anaphor possible (**Gestern habe ich einander*$_{i}$ *die Gäste*$_{i}$ *vorgestellt* vs *Gestern habe ich die Gäste einander* t_{i} *vorgestellt* for "Yesterday I introduced the guests to each other"). The problem was why in (32), given a base-generated DAT-ACC order, the dative cannot bind the accusative anaphor. Müller and Sternefeld argue that this is due the obligatory movement the dative undergoes to the specifier of an empty verbal head μ, which they characterise as A-bar: although it is a position for Case-assignment (dative), no argument can ever be located there, as shown in the articulated structure they propose for the German VP:

(34)



Notice that adopting Müller and Sternefeld's account of (32) without further stipulations does not rule out the cases in which scrambling of the accusative seemed to feed binding of the dative: scrambling of the accusative to an A-bar position should be as ungrammatical as movement of the dative to Spec, μ, another A-bar position. But, as argued by the proponents of the A-movement approach, this is not so:

(35) a. **Gestern habe ich einander$_i$ die Gäste$_i$ vorgestellt*
yesterday have I each-other-DAT the guests-ACC introduced
"Yesterday I introduced the guests to each other"

b. *Gestern habe ich die Gäste$_i$ einander$_i$ vorgestellt*
yesterday have I the guests-ACC each-other-DAT introduced
"Yesterday I introduced the guests to each other"

However, Müller and Sternefeld state that these cases of a scrambling do not go against an A-bar analysis if both base-generated and surface strings are taken into account. With respect to the former, Müller and Sternefeld maintain their general proposal of a base-generated order ACC-DAT, in which the accusative object in *β,* a theta position, can bind the dative in *δ*. With respect to

surface structure, they assume that dative movement does not take place because German anaphors do not require structural Case,[12] which would explain why the accusative may still bind the dative at SS. Nevertheless, notice this account does not explain why (35b) does not present maximal focus, i.e. cannot serve as an answer to a 'what-happened-question'. A possible solution for this difficulty would be to argue that ACC-DAT is always marked in German, however it is generated. But it would require a theory of unmarked stress different from Cinque's NTPS, which is lacking in Müller (1995).

Furthermore, examples such as (36) question both the existence of dative movement and the A-bar nature of scrambling (from Bayer and Kornfilt, 1994):

(36) a. *Wir wollten dem Professor*$_i$ *seine Sekretärin*$_i$ *vorstellen*
we wanted the professor-DAT his secretary-ACC to-introduce
"We wanted to introduce his secretary to the professor"

b. **Wir wollten* [*seine Sekretärin*$_i$]$_j$ *dem Professor*$_i$ t_j *vorstellen*
we wanted his secretary-ACC the professor-DAT to-introduce
"We wanted to introduce his secretary to the professor"

c. [*Seine Sekretärin*$_i$]$_j$ *haben wir dem Professor*$_i$ t_j *noch nie*
his secretary-ACC have we the professor-DAT yet not
vorgestellt
introduced
"His secretary, we haven't introduced to the professor yet"

According to Müller and Sternefeld's hypothesis, (36a) must be the result of movement of the dative from its base position below the accusative to Spec, μ. If Spec,μ is an A-bar position, the grammaticality of the structure is unexpected. On the other hand, even assuming that the well-formedness of (36a) may be explained otherwise, scrambling of the accusative in (36b) should not disrupt the licit binding relation of (36a), if, as Müller and Sternefeld argue, scrambling targets an A-bar-position. That true instances of A-bar-movement in German do not bleed binding is demonstrated by (36c), in which the accusative in Spec, CP is still bound by the dative. The GB model accounts for this by resorting to reconstruction, an LF operation that forces A-bar-moved constituents to be interpreted, as far as binding is concerned, in their base position.

With respect to (33) above (repeated for convenience as (37), Müller (1995) argues that it also supports the A-bar nature of scrambling drawn from binding facts. He regards it as parallel to cases such as (38) below, where topicalisation of an anaphor does not prevent the DP subject from binding it:

(37) *dass sich*$_i$ *der Fritz*$_i$ t_i *hasst*
that himself Fritz-NOM hates
"that Fritz hates himself"

(38) *Sich*$_i$ *(selbst) hat Fritz*$_i$ *schon immer* t_i *gemocht*
himself has Fritz-NOM always liked
"Fritz has always liked himself"

Reconstruction is again responsible for the grammaticality of (37), (38): in (38) A-bar-movement of the anaphor to Spec, CP allows for reconstruction of the binding relation between *Fritz*$_i$ and t_i at LF. If structures such as (37), where the anaphor undergoes scrambling to an IP-adjoined position, also allow for reconstruction, the conclusion is that pre-subject scrambling targets an A-bar position. But this is not the only conclusion that can be drawn from such German structures. For example, Santorini (1990) makes them compatible with the A-movement approach by claiming that Inflexion can act as a binder for the adjoined anaphor; Bayer and Kornfilt (1994) treat them as instances of cliticisation of the anaphor to C, which entails proper binding between the subject and the VP-internal trace. Furthermore, the adoption of the 'VP-internal subject hypothesis' makes it possible to reduce both IP and VP adjunction cases to only one type, VP-adjunction. From this perspective, there is no reconstruction at all: it is LF movement of the subject to Spec, IP the operation that permits the binding of the VP-adjoined anaphor (Fanselow, 2001, on ideas by Kim and Sternefeld, 1997).

Before concluding the present section, I would like to point out the general merits of the A-bar approach to German scrambling as developed in Müller and Sternefeld (1993, 1994) and Müller (1995), as well as its flaws. From an empirical point of view, its most remarkable advantage is exhaustivity: all sets of data traditionally associated to scrambling are dealt with, even those previously considered irrefutable evidence for the A-approach. In addition, mechanisms such as the 'Adjunction Site Parameter' and the PUB possess a great deal more explanatory power (and elegance) than the *ad hoc* characterisations of the A/A-bar positions the A-approach has resorted to in its different versions. At the same time, it is clear that Müller and Sternefeld's system does not deal with the binding facts any better than A-movement analyses do, and that most of their evidence for an A-bar approach may be considered dubious (parasitic gaps; reconstruction). Besides, it must be noticed that they do not treat the semantic restrictions on scrambling appearing in the generalisations of the final section of Chapter 3, a serious obstacle for any theory contending that scrambling is a completely optional process.[13]

From a theoretical perspective, Müller and Sternefeld's proposal is very well integrated in the framework it adopts, the GB model. But just this makes it clearly incompatible with current models of grammatical explanation, where operations such as the free IP/VP-adjunction process Müller and Sternefeld argue for are no longer possible. We will revisit this issue in Section 1.2 below.

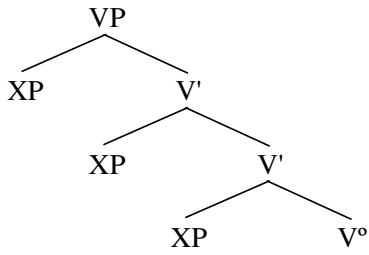
1.1.4 *Scrambling as adjunction: A-movement*. As noted above, the A/A-bar distinction is based on the interaction between the nature of the projection targeted (L-related vs non-L-related) and the kind of operation 'Move α' entails (substitution vs adjunction). The standard assumption has been that A-movement corresponds to substitution into an L-related projection, although Chomsky's (1991, 1993) suggestion about the existence of both 'narrowly-L-related' and 'broadly-L-related' positions makes adjunction compatible with properties traditionally ascribed to conventional A-chains. This is the position taken by Haider and Rosengren (1998, 2003), where German scrambling is analysed as A-movement to a VP-adjoined position.

Haider and Rosengren argue that scrambling results from the requirements Universal Grammar imposes on the well-formedness of projections and the licensing of arguments, according to standard GB tenets and Haider's (1992) 'Basic Branch Condition', which are summarised below:

(39) Well-formedness conditions on projection structure (Haider and Rosengren, 1998: 48)
   a. The head of the projection occurs in the foot position.
   b. The projection must obey the 'Basic Branch Condition': the branching node of the projection line is to the right of its sister node.
   c. The head licenses the nodes attached to the projection line directionally, and parametrically either to the right, or to the left.

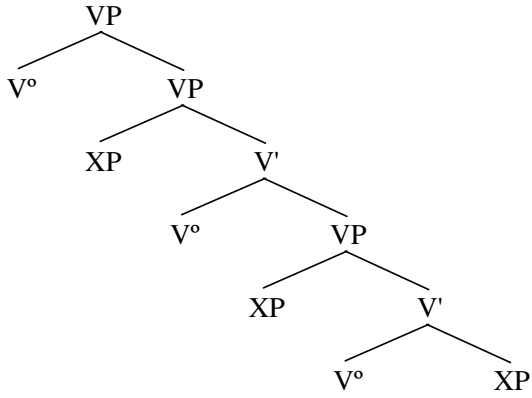
OV-languages meet these structural requirements straightforwardly: in (40), the final V of a German ditransitive predicate occurs in the foot position (39a), on the right of its sister node (39b), and licenses its arguments parametrically to the left (39c):

(40)



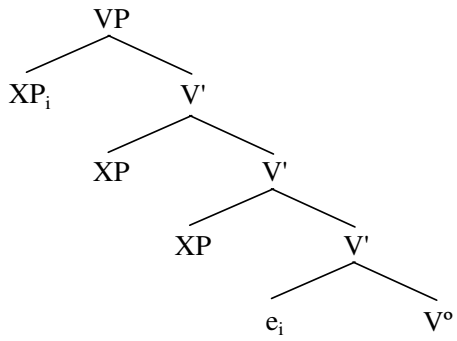
However, in VO languages there is a conflict between (39a), (39b) and the head parameter: the head must occupy the foot position and license its arguments to the right, which, given the BBC, allows for the licensing of just one of them. The solution to the conflict is head movement, which results in the Larsonian VP-shell structure for English ditransitive predicates (Larson, 1988):

(41)



Haider and Rosengren note that the type of projection structure in OV languages allows for alternative positions for argument identification, which are completely barred in the case of VO. These alternative positions are the ones created by adjunction, which, in the case of a head-final lexical head, is equivalent to X'-recursion: the left-adjoined constituent can be identified as argument by a head that licenses to the left. In other words, left-adjunction in OV languages extends the identification domain:

(42)



(42) illustrates the alternative identification domain corresponding to (40) above. The only difference between them is that, whereas in (40) the lowest argument is identified in the lowest position, in (42) identification takes place in the adjoined position created by 'Move α'. Haider and Rosengren call structures such as (40) 'Minimal Argument Projection Complex' (MAC), since they contain all argument positions of the head within the minimum number of projected nodes. On the other hand, structures such as (42) are 'extended projection complexes', insofar as at least one more node needs to be projected: in (42) the V' immediately dominated by the phrasal node. From this perspective, scrambling is simply the instantiation of the option of extending the projection domain that OV languages have and VO languages lack.

If adjoined positions are identification positions, the question becomes why is it necessary at all to propose a projection structure encompassing both base-generation and adjunction (XP_i and e_i in (42))? In other words, why must scrambling involve a chain? Haider and Rosengren's answer is the 'Principle of Monotonic Mapping':

(43) Principle of Monotonic Mapping (Haider and Rosengren, 1998: 52)
The A-structure ranking in the lexical A-structure of a lexical head is mapped onto a syntactic c-command hierarchy.

Thus, (42) is completely justified: the lower position responds to the demands imposed by the 'Principle of Monotonic Mapping'; the higher position is the result of the choice of an extended domain over a simple MAC.

As it stands, Haider and Rosengren's account can explain with no further stipulations the most uncontroversial property of scrambling, namely its clause-boundedness: if scrambling is argument identification, it must take place within the limits of the phrasal projection of the lexical head. Furthermore, since the

identification mechanism itself requires the lexical head to be final, it predicts why argument reordering is also possible within APs (44) but not within NPs (45):

(44) a. *ein* $_{AP}$[*jedem an Kraft überlegener*] *Sportler*
an everyone-DAT in power superior athlete
"an athlete superior to everyone in power"
b. *ein* $_{AP}$[[*an Kraft*]$_i$ *jedem* t_i *überlegener*] *Sportler*
an in power everyone-DAT superior athlete
"an athlete superior to everyone in power"

(45) a. *die* $_{NP}$[*Versendung von Briefen an Verwandte*]
the forwarding of letters to relatives
"the forwarding of letters to relatives"
b.**die* $_{NP}$[*Versendung* [*an Verwandte*]$_i$ *von Briefen* t_i]
the forwarding to relatives of letters
"the forwarding of letters to relatives"

However, Haider and Rosengren's proposal does not explain data of the kind presented in our examples (32d,e) and (36a,a') in the preceding chapter (repeated here for convenience as (46) and (47)), which clearly indicate that reordering of an element of a head final projection may target a position beyond the limits of the MAC:[14]

(46) a. *Er war wahrscheinlich an diesem Sport*$_i$ *immer allen* t_i
he was probably in this sport always all-DAT
überlegener
superior
"Probably, he was always superior to everyone in this sport"
b. *Er war wahrscheinlich diesen Männern*$_i$ *immer an Sport* t_i
he was probably these men-DAT always in sport
überlegener
superior
"Probably, he was always superior to these men in sport"

(47) *Peter ist den Fluss*$_i$ *gestern nicht* t_i *entlang gefahren*
Peter has the river-ACC yesterday not along driven
"Peter didn't drive along the river yesterday"

With respect to binding facts, Haider and Rosengren contend that they constitute a proof for the A-chain involved in their proposal. Unlike Müller (1995), they assume that ditransitive verbs are divided into two main groups as far as base-generation of arguments is concerned, those presenting DAT-ACC, and those presenting ACC-DAT. The distinction, they argue, is not stipulative, but depends on the mapping of the verbal conceptual structure onto thematic structure: for example, a ditransitive verb whose conceptual structure involves a possessor (DAT) and a theme (ACC) would make DAT precede ACC, since possessors are ranked higher than themes. But ACC will precede DAT if the conceptual structure requires a source/goal (DAT) and a theme (ACC). In the case of the problematic examples with *vorstellen* discussed by Müller (1995), in which anaphor binding is possible only if ACC is the binder and DAT the bindee (48), Haider and Rosengren (1998, 2003) contend that, if one assumes DAT-ACC as base-generated, such examples do not undermine their main claim, that is, that the extended verbal domain contain only A-positions (including the scrambling ones):

(48) a. *dass man die Gäste$_i$ einander t$_i$ vorstellte*
that one-NOM the guests-ACC one-another-DAT introduced
"that someone introduced the guests to each other"
b. **dass man den Gästen$_i$ einander$_i$ vorstellte*
that one-NOM the guests-DAT one-another-ACC introduced
*"that someone introduced each other to the guests"

(48a) is derived by base-generation of DAT-ACC in the MAC, plus further displacement of the accusative to a position within the extended projection (i.e. scrambling). On the other hand, (48b) is clearly ungrammatical, but this does not demonstrate either that DAT-ACC is not base-generated or that the dative position is not an A-position, as shown by the well-formedness of (49) below (Haider and Rosengren, 2003):

(49) a. *Ich habe den Gästen$_i$ von einander$_i$ erzählt*
I have the guests-DAT of each-other told
"I told the guests about each other"
b. *Ich habe den Gästen$_i$ Gerüchte über einander$_i$ erzählt*
I have the guests-DAT rumours-ACC about each-other told
"I told the guests rumours about each other"

The only difference between (48b) and (49) is the syntactic status of the bindee, i.e. the anaphor, a coargument in the former case, and a complement

within the prepositional coargument (that is, not a coargument itself) in the latter. On this basis, Haider and Rosengren conclude (contra Müller, 1995) that it is not the status of the position occupied by the dative which accounts for the impossibility of (48b), but rather a ban on lexically Case-specified arguments binding coarguments with structural Case.[15]

The second set of examples that Haider and Rosengren (1998) consider as potential counterevidence for their approach are those constituted by pre-subject scrambling, in which a scrambled anaphor is still bound by a structurally lower subject ((34), (38a) above, repeated here as (50)):

(50) *dass* *sich*$_i$ *der Fritz*$_i$ t_i *hasst*
that himself Fritz-NOM hates
"that Fritz hates himself"

Such examples as (50) were unproblematic for A-bar analyses of German scrambling, and, as discussed in the preceding section, several devices may make them compatible with those proposals that argue for standard A-movement. But things are more complicate in Haider and Rosengren's system: if any other argument than the subject may occupy the higher position in the extended projection, nominative Case cannot be the product of the relation between INFL (or AgrS) and the highest argument within VP, as the VP-internal subject hypothesis (Koopman and Sportiche, 1991) predicts. Therefore, they defend the view that nominative Case is just the reflex of a feature matrix present on both the subject and the finite verb. Since, by being the head of the projection, the finite verb c-commands all the phrases within it, *sich* in (48) does not need to be bound by the subject below, because it is effectively bound by the phrasal head, which, in turn, agrees with the subject.

Despite arguing for a movement approach to scrambling, Haider and Rosengren contend that scrambling structures are not subject to 'Freezing'. They argue that all the examples given in the literature as supporting the impossibility of displacement out of a scrambled constituent may be explained otherwise, although, in fact, they deal with only one type ('Freezing' in *was für* constructions), and disregard the rest. They justify the lack of 'Freezing' on the basis of an allegedly clear-cut distinction between substitution and adjunction operations: whereas the former create opaque domains for extraction, the latter do not. But examples such as (51) below, in which movement out of Spec, CP is possible, casts doubt upon the sharpness of the opposition (Chomsky, 1986):

(51) ?Who$_j$ do you wonder $_{CP}$[[which pictures of t_j]$_i$ t_i are on sale]?

Besides, the preponderance of Haider and Rosengren's examples for 'Anti-Freezing' comes from scrambling of coherent infinitival clauses, which, in their account, parallels extraposition in that "neither has an effect on extractability" (p. 33). Nevertheless (as shown in the preceding chapter), extractability seems to be sensitive to the type of movement involved only in the scrambling case (52), and not in extraposition structures (53) (examples in (52) from Grewendorf and Sabel, 1994):

(52) a. *Wen*$_j$ *hat* [t$_j$ *zu füttern*]$_i$ *keiner* t$_j$ *versucht?*
who-ACC has to feed no-one-NOM tried
"Who did no one try to feed?"

b. **dass den Hund*$_j$ *zweifellos* [t$_j$ *zu füttern*]$_i$ *keiner*
that the dog-ACC undoubtedly to feed no-one-NOM
t$_i$ *versuchte*
tried
"that, undoubtedly, no one tried to feed the dog"

(53) a. *Wen*$_j$ *hat keiner* t$_i$ *versucht* [t$_j$ *zu füttern*]?
who-ACC has no-one-NOM tried to feed
"Who did no one try to feed?"

b. *dass den Hund*$_j$ *zweifellos keiner* t$_i$ *versuchte*
that the dog-ACC undoubtedly no-one-NOM tried
[t$_j$ *zu füttern*]$_i$
to feed
"that, undoubtedly, no one tried to feed the dog"

Haider and Rosengren's proposal predicts the grammaticality of (52a): the adjoined position occupied by the infinitival clause belongs to the extended V-projection, and is transparent for extraction. But their analysis cannot rule out (52b), in which movement of *den Hund* past the matrix sentence adverb makes the structure ungrammatical. Although they do not address this kind of example, let us assume that (52b) is ill-formed not because *[t$_j$ zu füttern]* cannot be identified as an argument of *versuchen* in its derived position,[16] but rather because *den Hund* has moved to a position which is outside the extended projection of the VP headed by *zu füttern*. That this is not the case, however, can be demonstrated by resorting to Haider and Rosengren's own theory. Haider and Rosengren distinguish between regular scrambling and T-scrambling: regular scrambling is restricted to arguments targeting an adjoined position within the extended VP-projection; T-scrambling displaces both arguments and non-arguments to the specifier of a split CP-projection. Now let us assume that *[t$_j$ zu*

füttern] has undergone regular scrambling, whereas *den Hund* has T-scrambled, which bars an analysis in which failure of proper identification between *den Hund* and its predicate is responsible for the ungrammaticality of (52b). Haider and Rosengren claim that, contrary to regular scrambling, T-scrambling is not clause-bound, which, apart from leaving the opposition between (52a) and (52b) completely unexplained, runs against the grammaticality of (54):

(54) *dass den Hund*$_i$ *zweifellos keiner* [t_i *zu füttern*] *versuchte*
that the dog-ACC undoubtedly no-one-NOM to feed tried
"that, undoubtedly, no one tried to feed the dog"

In (54) the infinitival clause appears within the MAC, that is, it has not been displaced to the optional adjoined position that regular scrambling targets. If, according to Haider and Rosengren, both the MAC and extended positions are transparent for extraction, it is surprising that the alleged T-scrambling of *den Hund* is possible from the former but not from the latter. The conclusion seems that the strong prediction Haider and Rosengren's system makes with respect to '(Anti-)Freezing' is not empirically supported.

With respect to the properties that characterise scrambled elements at LF and PF (i.e. presuppositionality and destressing), Haider and Rosengren agree with most researchers that they are uncontroversial. Destressing of the scrambled constituent (and hence the absence of maximal focus in scrambled structures) derives straightforwardly from their account: if scrambling involves chain formation, a scrambling trace in a lower position would prevent stress on a higher constituent from being associated to maximal focus, on the assumption that maximal focus requires stress on the lowest argument position in the VP:

(55) *Was passiert?*
"What happens?"
a. *dass Linguisten Bal**LAD**en interpretieren*
that linguists-NOM ballads-ACC interpret
"that linguist interpret ballads"
b. *#dass Balladen*$_i$ *Lingu**IST**en* t_i *interpretieren*
that ballads-ACC linguist-NOM interpret
"that linguists interpret ballads"

Regarding the presuppositional meaning of scrambled constituents, Haider and Rosengren try to make it compatible with one of the core properties their proposal assigns to scrambling: its optionality. They depart from theories that adopt derivational economy as a constraint,[17] and instead argue for economy of

representation: for a given array of terminals the minimal convergent structure is projected. In this light, a structure for scrambling and a structure with base order are different structures, but each of them may be the minimally convergent one for different array of terminals. Thus, scrambling and non scrambling strings are equally economical.

Recall that both base-generated and scrambling orders come for free in OV languages, basically due to the way the head parameter interacts with the other constraints on the well-formedness of projections. This gives OV languages the possibility of exploiting the distinction between the two at the interfaces. At the semantic interface, Haider and Rosengren adopt Diesing's (1992) 'Mapping Hypothesis',[18] according to which syntactic c-command domains are mapped onto hierarchically structured semantic type-domains. In the case of any discrepancy between c-command domains at SS and semantic type-domains (for example, an accusative object within VP, the domain of existential closure, and its specific or generic reading), VO languages must resort to operations such as LF movement. But this is not necessary in OV languages, where scrambling structures may be exploited as to overtly adjust syntax and semantics. With respect to what they call the 'information structure interface', Haider and Rosengren contend that scrambling structures are exploited in two different ways: they allow foci to appear closer to the end of the clause (a requirement imposed by the focus theory they develop); they help to restrict the focus domain. In this view, presuppositional elements do not necessarily scramble:

(56) *Wem hast du das Geld gegeben?*
"Who did you give the money?"
a. *Ich habe dem Kas**SIE**rer das Geld gegeben*
I have the teller-DAT the money-ACC given
"I gave the money to the teller"
b. *Ich habe das Geld*$_i$ *dem Kas**SIE**rer* t$_i$ *gegeben*
I have the money-ACC the teller-DAT given
"I gave the money to the teller"

In (56b) scrambling of the accusative object allows the dative to appear in the lowest phonetically realised argumental position. But (56a) is also a well-formed answer. If scrambling had to obligatorily apply to presupposed elements, (56a) would be ruled out.

This will conclude our summary of Haider and Rosengren's account of German scrambling. As noted at the beginning of the section, theirs is the only analysis of German scrambling that contends that adjunction may create an A-

chain. But what are its advantages with respect to more traditional substitution A-chain/adjunction A-bar-chain approaches? In my view, the main advantage is the correlation it establishes between scrambling and the head-final parameter, and the parallelism derived from it between reordering processes in the VP and reordering processes in other head-final projections such as APs. It also explains some data frequently disregarded in the literature, such as the one illustrated in (57) (from Haider and Rosengren, 1998):

(57) [*Sein Argument*$_j$ *allen* t_j *erläutert*]$_i$ *hat er doch gestern* t_i
his argument-ACC all-DAT explained has he PART yesterday
"He explained his argument to everyone yesterday"

(57) is an instance of VP-topicalisation, with the VP headed by *erläutert* in Spec, CP. If, as traditionally assumed, no category larger than VP can be topicalised in German,[19] scrambling of the accusative object past the dative must obligatorily take place within VP. Thus, the grammaticality of (57) is a proof supporting the view of scrambling as a VP-internal process.

However, Haider and Rosengren's hypothesis does not fare any better than previous analyses have done with respect to conflicting sets of evidence. Thus, the 'Freezing/Anti-Freezing Paradox' is solved less persuasively than in Müller and Sternefeld's system by eliminating potential counterexamples, as has been suggested above. In the same vein, although they deal with the complexity of binding facts, their analysis resorts to assumptions that, merely by not being discussed in the light of more traditional theories, are completely stipulative. For instance, there are no clear reasons why the dative of ditransitive predicates must be lexical in German, or why the account of nominative Case as shared feature matrix is superior to the standard one, except that, in both cases, they favour Haider and Rosengren's conception of scrambling. Finally, their claim that reordering is truly optional is the same claim that appears in all the studies of the phenomenon within a GB framework, without exceptions. In that respect, while their hypothesis may avoid obvious handicaps, it does not offer any positive advantages.

1.1 *Scrambling as 'Move' (the 'Minimalist Program')*

In the preceding section, it was shown that GB analyses of German scrambling are mainly concerned with its characterisation as an instance of A- or A-bar-movement. As argued there, this is merely a consequence of the model adopted, in which movement operations are considered to apply optionally. With the advent of the 'Minimalist Program' (MP) (Chomsky 1993; 1995; 2000; 2001; 2004), the fundamental issue became not what kind of

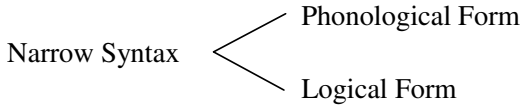
movement process displaces scrambled constituents, but rather why they are displaced at all. And, as in the GB case, this is required by the model itself, in all its different versions. Nonetheless, at this juncture, the discussion will focus exclusively on the way 'Move' is envisaged in the earliest minimalist literature (Chomsky 1992; 1995), since it constitutes the background for the analyses of German scrambling to be reviewed in this section. The modifications appearing in subsequent works will be treated in Chapter 5 (Section 1.3), where they become more relevant.

Chomsky (1995, 2000) suggests that in fact the 'Minimalist Program' is a logic extension of the GB framework for two reasons: first, because both are versions of the more general 'Principle and Parameters' (PP) approach, in which grammars of natural languages are simply the combination of invariable, biologically determined, principles (Universal Grammar) with others that are variously fixed on the basis of primary linguistic data (parameters); second, because the MP benefits from the way any other previous version of the PP approach, especially GB, has contributed to solving the tension between descriptive and explanatory adequacy: once the tension has proved not to be an insurmountable obstacle, other, some new questions about the faculty of language may be addressed.

One of those questions is whether language is optimally designed, where 'optimally designed' must be understood with regard to the interaction of language with other, non-linguistic systems. Those non-linguistic systems are of two types: sensorimotor systems, since sentences, phrases, etc. are pronounced; and systems of thoughts, insofar as sentences, phrases, etc. are interpreted. Thus, if language is optimally designed, the null (minimalist) hypothesis is that it must be necessarily endowed with two separate levels, one interfacing with sensorimotor systems ('Phonological Form', PF), the other interfacing with systems of thought ('Logical Form', LF). Since no more levels are conceptually required, Chomsky (1995) eliminates the two additional levels the GB model proposed ('Deep Structure' and 'Surface Structure'), showing that the empirical evidence that led to adopting them may be explained in other terms.

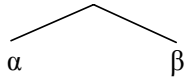
But that language must optimally consist of more than the two interface levels is clearly seen in the fact that words are put together in larger units (phrases), and, in turn, phrases are combined into other, still larger, units. The minimalist assumption is that language is endowed with a transformational component, 'Narrow Syntax' (NS), where lexical items are assembled. NS interacts with the two interface levels according to the standard Y-diagram in (58), which replaces the GB-diagram in (5):

(58)



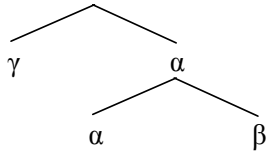
It will be noticed that the only specifications (58) would require would be those referred to the exact set of words that enter the computation, and the kind of operation responsible for their combination. With respect to the former, Chomsky (1995) argues that for each language there exists an inventory of lexical items, phonologically and semantically characterised in terms of features, the lexicon (Lex). A subset of Lex (the numeration), selected at the beginning of the derivation, serves as an input for subsequent syntactic operations in 'Narrow Syntax' and the interface levels. With respect to the kind of procedure that combines the different lexical items of the numeration, Chomsky states that the basic one is Merge, which, in the simplest case, adds an element α to other β:

(59)



The new category thus formed receives a label, either α or β, and may be further combined:

(60)



Once all the lexical items of the numeration have been merged in 'Narrow Syntax', they are handed over to the interface levels, where they must result in strings fulfilling the legibility conditions imposed by the external systems. This means that only those features phonologically legible are allowed at PF, and only those semantically legible are allowed at LF. If this is the case, the derivation converges (both at PF and LF); otherwise, it crashes.

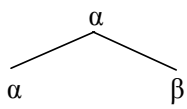
But it is obvious that a design of the kind proposed so far cannot accommodate two of the most pervasive properties of natural languages, two apparent imperfections, in Chomsky's (2000) words: the phonological/ morphological encoding of grammatical information (inflectional affixes), and the possibility of dislocating constituents.

With respect to the presence of inflectional affixes in lexical items, the GB framework considered it as a manifestation of the existence of two different types of phrasal projections: lexical projections, headed by the contentful part of the lexical item (the stem), and functional projections, headed by the inflectional affix itself. In the Minimalist Program, this analysis is maintained in a simplified form: lexical heads are occupied by both the stem and the inflectional affix; the inflectional affix is associated with a certain kind of feature, and functional projections are headed by the same kind of feature. These features are what Chomsky (1995) calls formal features, which, in the earliest version of the program, are basically divided into two main types: V(erbal)-features (tense), and N(ominal)-features (phi-features and Case features). As might be expected, verbs are endowed with V-features, and nouns with N-features. However, all the functional projections involved in the Case-agreement system are headed by both V- and N-features (AgrOP, TP, AgrSP). Generally speaking, formal features are not legitimate objects at the interfaces, insofar as they cannot be interpreted there.[20] This entails that they must be prevented from accessing PF and LF by means of their elimination in 'Narrow Syntax'.

The procedure envisaged in Chomsky (1995) for eliminating uninterpretable features is 'Feature Checking'. In order for 'Feature Checking' to take place, the presence of the uninterpretable feature must be correlated with the presence of another one matching it on an element located in the 'Checking Domain' of the constituent carrying [–Int]. The 'Checking Domain' of a head H includes the specifier of H, a head position adjoined to H, a position adjoined to the maximal projection of H, and a position adjoined to the specifier of H. In the simplest case, direct merge of an element of the numeration in any of those positions would result in elimination of the uninterpretable feature, if the merged element bears an appropriate, matching feature. However, it will be noticed that no checking can take place between a head and its complement.

Assume that verbs (α) are first merged with their complements (β), and that accusative Case is the surface manifestation of a formal uninterpretable feature [Case] both on the nominal and the verb. Given Chomsky's definition of 'Checking Domain', it is obvious that a design of the kind in (61) would not prevent the illegible Case feature from being handed over to the interfaces:

(61)



Nevertheless, after merging of the subject, the derivation proceeds by inserting the inflectional head AgrO, hosting two uninterpretable features, a V-feature that must be checked by a verbal counterpart, and an N-feature, whose elimination requires a nominal constituent in its 'Checking Domain'. Thus, the presence of AgrO would force both the verb α and the object β to undergo remerging, in an instance of the second pervasive property of natural languages: dislocation, or 'Move'. In this light, the fact that language allows for dislocation appears inextricably related to the existence of morphological, formal features. Chomsky (2000) hypothesises that, probably, formal features and dislocation may reduce to a single property, dislocation, which, given minimalist assumptions, must be required by interface conditions: dislocation seems to involve semantic distinctions of the kind of topic-comment, presupposition, focus, specificity, new/old information, etc. If this were so, the existence of formal uninterpretable features and an operation such as Move (dislocation) would constitute an optimal solution to the conditions imposed by the external systems.

The application of Move is variously constrained. First, since it involves remerging of an already merged constituent, it applies only to elements c-commanded by the attracting head, that is, the head carrying the [–Int] feature. Second, it obeys economy conditions. One of them is 'Greed' (Chomsky, 1995), later reformulated as 'Suicidal Greed' (Chomsky, 2000), which restricts the sets of possible 'goals' (that is, elements movable to the checking domain) with regard to their feature characterisation: apart from carrying compatible, matching features, they must also carry uninterpretable ones, so that the checking procedure established with the head (the 'probe') results in the elimination of uninterpretable features both on the probe and goal. The second important economy constraint is the 'Minimal Link Condition', which states that only closest goals may undergo dislocation for 'Feature Checking':

(62) 'Minimal Link Condition' (Chomsky, 1995: 311)
  (i) K attracts α only if there is no β, β closer to K than α, such that K attracts β
  (ii) α is closer to target K than β if α c-commands β

The general conclusion is that 'Feature Checking' is possible only if a c-commanding [–Int] head attracts to its checking domain the closest c-commanded constituent carrying both a feature matching [–Int] on H, and a feature that needs to be eliminated.

The null minimalist assumption is that natural languages do not differ with respect to their inventory of formal features, and that formal (uninterpretable)

features are crosslinguistically illegible at the interfaces. Thus, uninterpretable features must be invariably eliminated in 'Narrow Syntax' by means of dislocation, i.e. the operation 'Move'. However, evidence points to the contrary, as shown by the contrast between the English structures in (63) and the German structures in (64) below (German examples based on Fanselow, 2004):

(63) a. Girls have not kissed him yet
b. *have not girls kissed him yet

(64) a. *dass getantz wird*
that danced is
"that one dances"
b. [*Mädchen geküsst*] *haben ihn noch nie*
girls-NOM kissed have him-ACC yet never
"So far girls haven't kissed him"

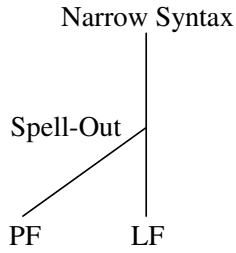
Assuming the VP-internal hypothesis (Koopman and Sportiche, 1991), subjects are base-generated within VP and subsequently moved to Spec, AgrS. From a minimalist perspective, nominative Case is the result of the checking relation established between a probe, Agrs, and the subject in Spec, VP: the uninterpretable N-feature on the probe (AgrS) attracts the interpretable N-feature of the goal, the c-commanded subject. Besides, the uninterpretable feature [–Case] on the nominal also allows it to undergo displacement (according to 'Greed'). In consequence, the subject moves to the checking domain of AgrS, specifically to Spec, AgrS. This straightforwardly accounts for the opposition between (63a) and (63b): (63a) is grammatical because no uninterpretable, i.e. illegible, feature is transferred to the interface levels; in (63b) the uninterpretable features of AgrS and the uninterpretable [–Case] feature on *girls* are still visible for at least one of the interfaces. But the displacement of the VP-internal subject to the checking domain of AgrS does not seem to be required in the German examples in (64): although it could be argued that 'Merge' of a non-phonologically realised expletive makes the grammaticality of (64a) parallel to that of *there*-sentences in English, (64b) proves that, in fact, uninterpretable features on AgrS and the VP-internal subject do not necessarily entail 'Move': the whole VP, containing the subject *Mädchen* is topicalised, barring feature checking between AgrS and the nominal subject. However, the sentence is not ruled out.

In order to account for such contrasts, the system developed in Chomsky (1993; 1995) draws a distinction between strong features and weak features. Strong features must be eliminated before the derivation reaches the

phonological interface, that is before 'Spell-Out' (SO) takes place, which is demonstrated by its phonological reflex, namely word order. Thus, strong features require checking by means of 'overt movement'. On the other hand, weak features are eliminated after the derivation has been handed over to PF, that is, following SO, and that is why 'Move' is not phonologically rendered as a change in order: weak features are checked by means of 'covert movement'. In this light, the only difference between the English and German examples above relates to the strength of the features in question.

Notice that making 'Spell-Out' the dividing line between overt and covert movement entails the modification of the possible optimal design for language in (55): if weak features may be checked after SO, and SO is transfer to PF, the computational system (and the operations taking place in it, such as 'Move' itself) must run on line to LF, with the derivation from SO to PF subject to the rules and operations of a separate, phonological component, according to (65):

(65)



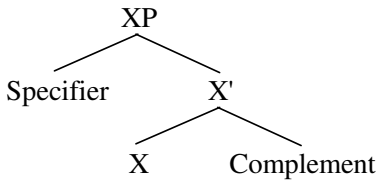
This concludes our summary of the way in which the operation 'Move' is characterised in the version of the MP developed in Chomsky (1993; 1995). Such a characterisation entails for any movement approach to German scrambling that adopts it that if scrambling is 'Move', it must be implemented only for the checking of formal uninterpretable strong features. This, in turn, requires the proper identification of the strong features at stake (for both the probe and the goal), as well as an exact checking domain. In the next section, we will review how the different proposals make these theoretical requirements compatible with the sets of data we have presented in other parts of this work (Chapter 3, and the previous sections of this chapter).

1.2.1 *An excursion into Dutch: scrambling as checking of a [+Case] feature.* The first study that deals with scrambling within a minimalist framework is Zwart (1993), whose main tenets are retained in Zwart (1997). Its proposal is restricted to Dutch scrambling, and constitutes a kind of minimalist revival of

the GB approaches that argued for an analysis of the process in terms of substitution in an A-position (Mahajan, 1990; Déprez, 1989; Moltmann, 1990; etc.).[21]

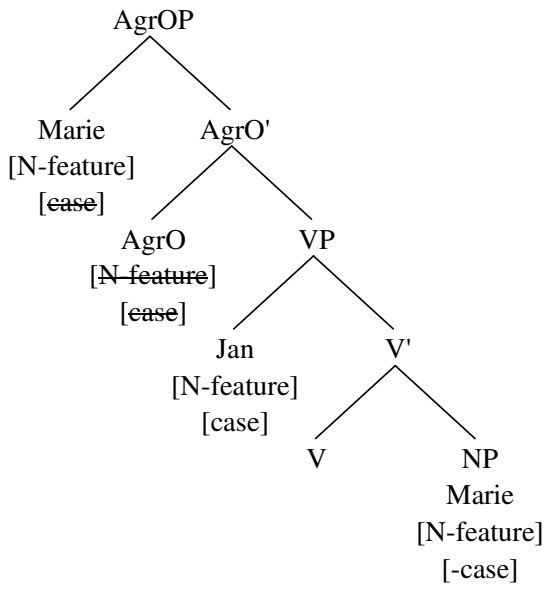
Zwart (1993, 1997) shares with those earlier proposals that scrambling displaces a nominal object to the specifier of AgrO, but departs from them in two fundamental respects. The first is related to Zwart's adoption of Kayne's (1994) 'Linear Correspondence Axiom' (LCA) (see Chapter 2, Section 1), according to which phrases are universally built up as in (66), with specifiers to the left, and complements to the right of the projection line:

(66)



The second derives from the way Case movement is rendered within the minimalist framework. According to minimalist tenets, all instances of overt (that is, visible) displacement are the result of the checking of a formal uninterpretable strong feature. In the case at hand, Zwart proposes that the N-feature in AgrO provokes movement of the object to Spec, AgrO, an operation that, as in Chomsky (1993), causes the elimination of both that N-feature and the [Case] feature on the object. Therefore, scrambling responds to the needs of both probe and goal, as shown in the Dutch example in (67):

(67) *dat Jan Marie gisteren gekust heeft*
that Jan-NOM Marie-ACC yesterday kissed has
"that Jan kissed Marie yesterday"

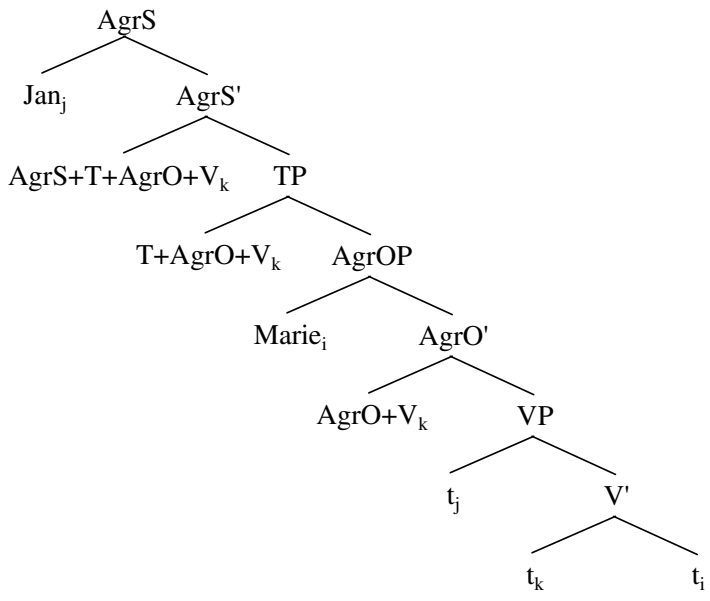


Zwart's analysis raises several questions, which he answers by resorting to further theoretical refinements. The first one is already addressed by Chomsky (1993), and refers to the compatibility of the VP-internal subject hypothesis (Koopman and Sportiche, 1991) with the minimalist approach to scrambling as Case checking. As illustrated by (67) above, where the subject has not moved yet to its canonical position in Dutch (Spec, AgrS), movement of the object to Spec, AgrO apparently goes against economy considerations of the type of the 'Minimal Link Condition' in (62): how can *Jan*, in Spec, VP target Spec, AgrS for nominative Case checking, if the intervening *Marie* is the closest goal? Chomsky's system makes the issue dependent on the obligatory raising of the V-head for the elimination of the verbal feature on AgrO, T and AgrS, and the notion of 'Equidistance' derived from it:

(68) Equidistance
If α, β are in the same minimal domain, they are equidistant from γ.

The minimal domain of a head includes its complement, its specifier, and whatever is adjoined to the head, to its specifier, or to its maximal projection. Notice that, in (69), a full-fledged version of (67) above, 'Equidistance' allows not only for subject movement to Spec, AgrS across the intervening object in Spec, AgrO, but also for object movement itself: the displacement of the object to Spec, AgrO across the subject in Spec, VP is a problem of 'Relativised Minimality' (Rizzi, 1990), on the basis that the two positions involved are of the same type, A-positions. 'Relativised Minimality' has clearly an economy aspect of the kind defended in the 'Minimalist Program', insofar as it predicts that movement operations must be highly local. 'Equidistance' makes it compatible with the model in Chomsky (1993): V-raising to AgrO creates the chain $\{V_k+AgrO, t_k\}$, which enlarges the minimal domain of the verbal element. This makes Spec, AgrO and Spec, VP be equidistant from the object position within the VP. On the other hand, failure of the MLC in ruling out the movement of the subject to Spec, AgrS across the object in Spec, AgrO is explained by successive raising of V to AgrS, which would also make Spec, TP and Spec, AgrO equidistant to VP and everything it contains, including the subject. Thus, movement of the object to the lower agreement projection does not preclude displacement of the subject to the higher one:

(69)



Although Chomsky's model explicitly requires overt object movement of the kind Zwart proposes for Dutch to be possible only with overt V-raising, the fact is that structures such as (70) are completely ungrammatical (from Neeleman and Reinhart, 1998):[22]

(70) Dutch
*dat Jan $_{AgrOP}$[het boek$_i$ $_{AgrO}$[las$_j$ $_{VP}$[langzaam t_j t_i]]]
that Jan-NOM the book-ACC read slowly
"that Jan read the book slowly"

The ungrammaticality of (70) was not a problem for the GB approaches that treated scrambling as Case checking: since economy considerations were completely lacking, equidistance and obligatory V-to-AgrO raising were irrelevant. Even in the cases in which verb raising were to be maintained, claiming the head-final character of agreement projections in Dutch would discard (70) as a case of illegal movement to the right. But recall that Zwart adopts Kayne's antisymmetry hypothesis, while being forced to assume V-to-AgrO movement in order to preserve the advantages of Chomsky's notion of 'Equidistance'. To reconcile both tenets with the ill-formedness of (70), Zwart contends that, although verb raising is overt in Dutch as Chomsky's system predicts, its effects are invisible due to the fact that it is restricted to formal features only. Zwart's solution fits the earliest version of the 'Minimalist Program', where feature movement was a possibility,[23] but is obviously rather difficult to test empirically.

The second question raised by Zwart's analysis relates to the reason why GB analyses of scrambling as Case checking were abandoned with the advent of the 'Minimalist Program', namely the apparent optionality of the process. It will be recalled that, as extensively shown in the preceding chapter, existential DPs invariably resist scrambling in German, and definite DPs do not always scramble. This seems to be true also for Dutch, as illustrated by the examples below (from Zwart, 1997):

(71) a. *dat Jan gisteren een meisje gekust heeft*
that Jan-NOM yesterday a girl-ACC kissed has
"that Jan kissed a girl yesterday"
*"that Jan kissed a particular girl yesterday"
b. *dat Jan een meisje gisteren gekust heeft*
that Jan-NOM a girl-ACC yesterday kissed has
"that Jan kissed a particular girl yesterday"
*"that Jan kissed a girl yesterday'

(72) a. *dat Jan gisteren Marie gekust heeft*
that Jan-NOM yesterday Marie-ACC kissed has
"that Jan kissed Marie yesterday"
b. *dat Jan Marie gisteren gekust heeft*
that Jan-NOM Marie-ACC yesterday kissed has
"that Jan kissed Marie yesterday"

If the N-feature of AgrO is strong in Dutch, and accusative Case is checked by means of overt movement of the object to Spec, AgrO, (71a) and (72a) should be ruled out as the products of derivations in which uninterpretable features reach the interface levels. Since both of them are grammatical, Zwart argues that feature checking has in fact taken place, and there is no difference between the structures in (a) and (b) with respect to the position occupied by the object: in the four structures, the accusative has moved to Spec, AgrO. He contends that it is rather the complex interaction between prosodic phrasing and the placement of the different types of adverbs the element responsible for the facts in (71) and (72), on the basis of the correlation between stress and new information. Briefly, Zwart assumes that a stressed object in Spec, AgrO always constitutes a prosodic phrase with the final verb, and prosodic phrases cannot be nested, that is, they cannot contain other prosodic phrases (Truckenbrodt, 1995). Thus, if existential interpretation correlates with new information, and new information, in turn, correlates with stress, the existential reading in (71b) is ruled out by assuming that *gisteren*, a sentence adverb for Zwart, receives a secondary pitch accent, which would allow it to form its own prosodic phrase. With respect to (72), since definites are optionally D-linked, they may appear unstressed in Spec, AgrO, which would prevent them from forming a prosodic unit with the verb, thus enabling the adverb to form its own licit prosodic phrase (72b). On the other hand, if a definite is to be interpreted as non-D-linked, it will follow the adverb, in the traditional non-scrambling string (71a). Zwart's analysis makes both D-linking and stress assignment completely independent of syntactic position, against syntactic approaches to nuclear stress of the kind in Chomsky and Halle (1968), or Cinque (1993). Therefore, it is expected that a non-D-linked object may precede an adverbial, if the adverbial, in turn, is unstressed. Zwart contends that (73a) below illustrates such a case:

(73) a. *dat Jan Ma**RIE** gisteren gekust heeft*
that Jan-NOM Marie-ACC yesterday kissed has
"that Jan kissed Marie yesterday"

b. *dat Jan gisteren Ma**RIE** gekust heeft*
that Jan-NOM yesterday Marie-ACC kissed has
"that Jan kissed Marie yesterday"

According to Zwart, the reason that both structures in (73) are well-formed is that *gisteren* does not receive the secondary pitch accent that permits it to form its own prosodic phrase. But this contradicts his account of the existential reading in (71) above: why is it that *gisteren* is more generally stressed if the object is indefinite, and less generally if the object is definite? In fact, Zwart suggests that it is possible to construct examples in which an existential indefinite precedes an unstressed sentence adverb, but he does not give them, since "they are rarely encountered in everyday speech" (1997: 100). Obviously, this does not extend to the corresponding structure with the definite object (73a), which, Zwart claims, is normally found in Dutch.

But this is not the only objection to Zwart's minimalist proposal for the apparent optionality of scrambling in Dutch on the basis of (71)-(73). As Neeleman and Reinhart (1998) demonstrate, Zwart's conclusion that both scrambled and unscrambled objects occupy Spec, AgrO is based on an incorrect judgement for (73a), which is, in fact, ill-formed if no secondary stress falls on the verb, as in (74):

(74) *dat Jan Ma**RIE** gisteren geKUST heeft*
that Jan-NOM Marie-ACC yesterday kissed has
"that Jan kissed Marie yesterday"

Neeleman and Reinhart argue that the opposition between (73a) and (74) clearly shows that main stress on the scrambled object is not nuclear stress, but rather contrastive stress (in their account contrastive stress was the result of the special operation of stress strengthening, which kept a secondary pitch on the element receiving nuclear stress according to Cinque's (1993) NTPS). They associate the movement of the accusative past the adverb to a special syntactic operation, 'Focus scrambling' (Neeleman, 1994),[24] which is probably triggered by the presence of a [focus] feature on a focus phrase. If they are correct, scrambling and non-scrambling positions remain distinct, and Zwart's proposal faces the same empirical problem that led researchers to the abandonment of the GB case approach to scrambling: how can Dutch check accusative Case in two different configurations? To put it in minimalist terms, how can Dutch allow for both strong and weak N-features on AgrO?

The third general question raised by Zwart's analysis relates to the categorial restrictions on scrambling. In the preceding chapter, we concluded that German

scrambling does not seem to be categorially restricted, apparently applying to all kinds of arguments.[25] Neeleman (1994) claims that the same is true of Dutch scrambling, where PP complements may precede VP-adjoined material without triggering focus (which would discard 'Focus Scrambling') (examples from Neeleman, 1994):

(75) a. *dat Jan nauwelijks op mijn opmerking reargeerde*
that Jan-NOM hardly on my remark reacted
"that Jan hardly reacted to my remark"
b. *dat Jan op mijn opmerking nauwelijks reargeerde*
that Jan-NOM on my remark hardly reacted
"that Jan hardly reacted to my remark"

This concludes the review of some of the issues that Zwart's minimalist account of Dutch scrambling leaves unsolved. Although neither Zwart (1993) nor Zwart (1997) extend such a proposal to German scrambling, I will conclude this section by noting that such hypothetical extension is untenable, for several reasons. First, all the flaws considered with respect to Dutch apply invariably in German: 'Equidistance' is needed in order to prevent movement of the object in Spec, AgrO to Spec, AgrS, which entails that V-to-AgrO movement must be exclusively featural; scrambling is optional with definite DPs and impossible with indefinite, existential ones, and the interaction of prosodic phrasing and adverb placement does not seem to explain all the relevant sets of data; elements categorially distinct from DPs may scramble. Second, as shown in the preceding chapter, German scrambled DPs exhibit a greater freedom than their Dutch counterparts: they may appear preceding the subject position (76a), and may not obey ordering constraints in double object constructions (76b), two options not possible in Dutch (77a, 77b):

(76) a. *dass die Maria der Hans gestern geküsst hat*
that Maria-ACC Hans-NOM yesterday kissed has
"that Hans kissed Maria yesterday"
b. *dass er das Buch gestern dem Kind gegeben hat*
that he the book-ACC yesterday the child-DAT given has
"that he gave the book to the child yesterday"

(77) a. **dat Marie Jan gisteren gekust heeft*
that Marie-ACC Jan-NOM yesterday kissed has
"that Jan kissed Marie yesterday"

b. **dat de vrouw de film waarschijnlijk de mannen*
that the woman-NOM the film-ACC probably the men-DAT
toont
shows
"that the woman probably shows the picture to the men"

(76a) is not a serious obstacle if one assumes that *die Maria* occupies, in fact, the specifier of AgrO, and precedes *der Hans* in Spec, VP.[26] However, (76b) entails a violation of the MLC, as the grammaticality of the German and Dutch structures in (78) demonstrates:[27]

(78) a. *dass er dem Kind das Buch gestern gegeben hat*
that he the child-DAT the book-ACC yesterday given has
"that he gave the child the book yesterday"
b. *dat de vrouw de mannen de film waarschijnlijk*
that the woman-NOM the men-DAT the film-ACC probably
toont
shows
"that the woman probably shows the picture to the men"

In Zwart's analysis, both structures in (78) receive a straightforward explanation: the accusative targets the agreement projection immediately above the VP, where the adverb is adjoined, and the dative moves to a second, higher one, in the typical 'crossing paths' configuration for Case checking (Chomsky, 1993):

(79) Object movement in double object constructions (before subject movement)
$_{\text{AgrIOP}}$[*dem Kind*$_j$ $_{\text{AgrOP}}$[*das Buch*$_i$ $_{\text{VP}}$[*gestern* $_{\text{VP}}$[*er* t_j t_i *gegeben*]]]
$_{\text{AgrIOP}}$[*den mannen*$_j$ $_{\text{AgrOP}}$[*de film*$_i$ $_{\text{VP}}$[*waarschijnlijk* $_{\text{VP}}$[*de vrouw* t_j t_i *toont*]]]

In the light of (79), the well-formedness of (76b) is surprising: if object movement to the specifier of an agreement projection were obligatory in German as Zwart contends it is in Dutch, *dem Kind* in (76b) must appear in that position (with the adverb attached to AgrIOP). Therefore, what is the position for *das Buch*? And, most importantly, why does the feature characterising that position fail in attracting the closest *dem Kind*, thus violating the MLC?[28]

Finally, I would like to add that a potential extension of Zwart's analysis to German would be empirically flawed also with respect to two other properties

of German scrambling appearing in (1): phonological destressing, and 'Freezing Effects'. With regard to destressing, Neeleman and Reinhart's objections to the validity of the Dutch example in (73a) above also hold for German: in other words, objects displaced by regular scrambling cannot bear nuclear stress, in opposition to their non-scrambled counterparts. Thus, as noted above, if nuclear stress assignment is dependent on syntactic position, scrambled and non-scrambled objects cannot uniformly occupy Spec, AgrO. The same can be argued with respect to 'Freezing': in the absence of an independent factor that accounts for the (at least relative) islandhood of scrambled constituents, theories that make it dependent on a structural position different from that of non-scrambled elements cannot be completely dispensed with.

1.2.2 *Scrambling as checking of a [+Topic] feature*. Before turning to the second group of minimalist proposals for German(ic) scrambling, we may note an element common to all the analyses reviewed so far, namely the indirect correlation they establish between scrambling and the interpretive effects that derive from it. It is generally assumed that the generalisations that appear in Section 2.2 of the preceding chapter are descriptively adequate: scrambling is impossible with either existential indefinite or focalised objects, and is optional with definite DPs. Neither GB approaches nor Zwart's minimalist account deny this, but make it dependent on different factors completely alien to the movement operation scrambling entails. Those factors may be related to a pragmatic component outside the realm of syntax (Müller and Sternefeld, 1993; Haider and Rosengren, 1998, 2003), or to prosodic, phonological factors (Zwart, 1993; 1997). Thus, it may be concluded that, with respect to the last property of scrambling in table (1), all the preceding analyses contend that scrambling is not semantically/pragmatically triggered.[29]

However, the second group of hypotheses for German(ic) scrambling maintain an opposing view. They capitalise on previous theories that argue for a direct connection between syntactic position and semantic meaning (especially Diesing, 1992), and extend them to cover cases in which semantic meaning is replaced by discourse information. This is the approach in Meinunger (1995), Delfitto and Cover (1997), among others, to which we will turn after having surveyed the main tenets of their immediate precursor, namely Diesing (1992).

1.2.2.1 *The syntax-semantics connection: Diesing's (1992) 'Mapping Hypothesis'*. Diesing's (1992) 'Mapping Hypothesis' is based on the conclusions of previous studies on the different interpretations indefinites may receive crosslinguistically (Kamp, 1981; Heim, 1982; Partee, 1987). Those studies

reject the traditional idea that all indefinites are semantically existential quantifiers, and propose instead that they correspond to different semantic types. Such semantic types, in turn, are distinguished by the number of variables the indefinite DP introduces in the logical representation of the sentence for each of the relevant readings, as shown in (80) (Partee, 1987; Diesing, 1992; Diesing, 1996):

(80) Indefinite nominals and semantic types

Semantic Interpretation	Semantic Structure
(i) Weak: existential, predicational, cardinal, non-presuppositional.	<e, t>
(ii) Strong: quantificational, pressuppositional.	<<e,t>, t>

The type in (i) roughly corresponds to those DPs that are compatible with *there*-insertion contexts (Milsark, 1974), where the existence of whatever entity appearing in them is merely asserted:

(81) There is/are a/some/a few/many/three/ø llama(s) in the garden

Their predicational, cardinal, non-presuppositional reading results from binding of their single variable by an implicit existential quantifier, inserted by prefixing ∃ if there is no other quantifier available. The existential quantifier 'existentially' closes off the nuclear scope (the domain of existential closure), preventing the occurrence of unbound variables, as shown in (82) below:

(82) There are some llamas in the garden
∃x llamas (x) and in the garden (x)

The type in (ii) represents the tripartite structure of those DPs that denote an entity whose existence is presupposed, and are incompatible with *there*-insertion:

(83) *There is/are every/all/most llama(s) in the garden

In this case, the presuppositional, quantificational reading is the result of the presence of quantifiers like *every, all, most*, etc. Their main characteristic is that they quantify over a restricted set, which is formally represented by a

restrictive clause containing a variable bound by an operator (the quantifier itself). Although overt in the cases of quantified NPs, Diesing claims that the operator can also be covert, which derives the generic reading of indefinites: the restrictive clause their <<e,t>, t> type contains is bound by (Gen). Existential closure, in turn, binds all the remaining variables introduced in the nuclear scope:

(84) a. Every llama is Peruvian
EVERY$_x$ [llama (x)] Peruvian (x)
b. Llamas are Peruvian
(GEN)$_x$ [llama (x)] Peruvian (x)

Diesing observes that, in languages like German, the different semantic types of indefinites are confined to different types of positions. For example, whereas <e,t> (existential) indefinites must obligatorily appear after elements traditionally assumed to mark the VP-boundary (the particles *ja, doch*, time adverbs, etc.),<<e,t>,t> types have to precede them, as shown by (85a) and (85b) respectively:

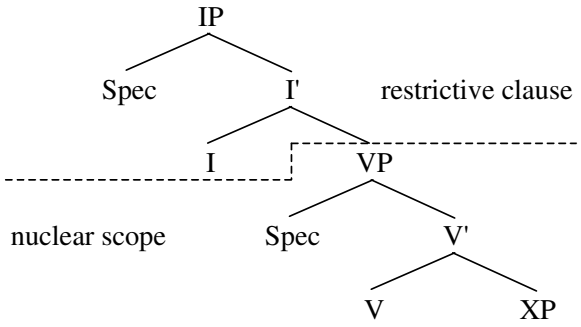
(85) a. *dass Stefan immer Bücher über Insekten liest*
that Stefan-NOM always books-ACC about insects reads
"that Stefan always reads books about insects"
always$_t$ [t is a time] ∃x [x=a book about insects and Stefan reads x at t]
b. *dass Stefan Bücher über Insekten immer liest*
that Stefan-NOM books-ACC about insects always reads
"that Stefan always reads books about insects"
always$_{t,x}$[t is a time and book about insects (x)] [Stefan reads x at t]

This is corroborated by the behaviour of individual level predicates, which, as noted by Carlson (1977), only combine with the generic reading. According to Diesing, that is the reason why they are ruled in before the VP-particles (86a), and ruled out after them (86b) (from Diesing, 1992):

(86) a. *weil Skorpione ja doch giftig sind*
because scorpions-NOM PART PART poisonous are
"since scorpions are poisonous"
b. **weil ja doch Skorpione giftig sind*
because PART PART scorpions-NOM poisonous are
"since scorpions are poisonous"

Therefore, Diesing concludes, there is an exact correlation between the semantic type instantiated in each of the interpretations an indefinite may receive and syntactic representation. This exact correspondence is obtained by means of a procedure that (i) splits the syntactic tree in two parts, and (ii) maps the two parts of the sentence into the two major parts of logical representation (nuclear scope and restrictive clause), according to the 'Mapping Hypothesis' (Diesing, 1992):

(87) Mapping Hypothesis
Material from VP is mapped into the nuclear scope
Material from IP is mapped into a restrictive clause



Since it mediates between syntax and logical representations, the mapping procedure is envisaged by Diesing as an LF-process. In languages like English, in which indefinite objects occupy a fixed position independently from semantic interpretation, quantificational, presuppositional objects must raise by Quantifier Raising at LF, thus allowing both operator and restrictive clause to escape from the domain of existential closure. On the other hand, in languages like German, in which scrambling is available, raising takes place in 'Narrow Syntax', which straightforwardly derives (85b) and (86a) above. Nevertheless, it is clear that, besides the exact formulation of the syntactic feature allowing overt movement of the object in German but disallowing it in English,[30] 'Split Tree' accounts face an important problem, namely the apparent optionality of the process for DPs that are interpreted as presuppositional in both positions, as already shown in the examples of (109) and (113) in the preceding chapter, repeated here as (88) and (89) respectively:

(88) a. *weil der Peter gestern das Buch gelesen hat*
because Peter-NOM yesterday the book-ACC read has
"because Peter read the book yesterday"
b. *weil der Peter das Buch gestern gelesen hat*
because Peter-NOM the book-ACC yesterday read has
"because Peter read the book yesterday"

(89) a. *dass Max immer Primaballerinas bewundert*
that Max-NOM always primaballerinas-ACC admires
"that Max always admires primaballerinas"
b. *dass Max Primaballerinas immer bewundert*
that Max-NOM primaballerinas-ACC always admires

How can the presuppositional DPs in (88a) and (89a) receive the correct semantic interpretation, if they are mapped into the Nuclear Scope? The most frequent solution is to resort a LF-movement, and state that the nominals at hand may be overtly or covertly raised to the restrictive part of the clause. Obviously, this is just a re-statement of the problem, insofar as no reasons are given for the delay to LF of a process that German grammar may activate in the strictly syntactic part of the derivation.

Although Diesing's 'Mapping Hypothesis' leaves many questions unsettled, it opens new ways to make German scrambling compatible with the earliest versions of the 'Minimalist Program'. The following section will be devoted to revising the most developed example of those theories that explore such new ways, namely Meinunger (1995).

1.2.2.2 *[+Topic] on Agreement projections: Meinunger (1995).* Meinunger (1995) is an investigation of the possibility that natural languages may count with a device mapping discourse representation onto syntactic structure of the same sort proposed by Diesing (1992) for the connection between syntax and semantics. His starting point is Krifka's (1991/1992) formal account of topic - comment structures, according to which sentences are informationally divided into two distinct parts, the topic and the comment. The topic comprises those elements that (i) are familiar to the speaker, and (ii) are commented on, which basically entails their characterisation as anchors in the conversation for the new information to be linked to the old one. On the other hand, the comment is just that new information, constituting the range where focus may project (i.e. where more than one constituent can be understood as new, see Section 2.1.2 in the preceding chapter). This is simply exemplified by (90), where *Frank,* already present in the context, as its mentioning in the question demonstrates,

is the topic, of which the comment formed by three different new informative elements (*read, a book, about Italian cuisine*) is asserted.

(90) What did Frank do?
[Frank] $_T$ [$_F$ read [$_F$ a book [$_F$ about Italian cuisine]]]]$_C$

Meinunger notices that all the cases studied by Diesing in which scrambling was obligatory involve an interpretation of the object that fits the topic requirements above. On this basis, he argues that discourse structure is mapped onto syntactic structure according to the representation in (91), by which topic material outside the VP boundary precedes the comment within the VP (1995: 135):

(91) [CP...[.... ‖ [VP ([discourse new adjuncts]) [VP...]]
topic(s) comment

Meinunger argues that the exact way in which the mapping takes place in German is in the form of feature checking: the constituent endowed with an appropriate [+topic] feature is forced to target a functional projection, which, in Meinunger's account, is AgrSP (for topical subjects), or AgrOP/AgrIOP (for topical accusative or dative objects). Since, under standard minimalist assumptions, the probe, that is, the targeted functional head, must be in the need of eliminating an uninterpretable feature of its own in order to license movement of the DP to its specifier, Meinunger must resort to obligatory linking of Case assignment and [+top]: in other words, it is not [+top] which makes the nominal constituent scramble, but rather its clustering with the proper [+Case] feature. In this respect, notice that, if both features do not concur, the argumental DP remains within VP, where its Case is otherwise licensed. Meinunger admits that the final picture is not compatible with the Case checking mechanism of the Minimalist Program (Chomsky 1992, 1995):[31] if DPs enter the computation fully inflected, i.e. bearing a [+Case] feature that must be checked, one expects arguments of the same kind to have their Case uniformly licensed. Thus, Meinunger adopts a system by which Case is strictly tied to the position in which it is assigned or checked: strong Case for elements in Spec, Agr, weak Case for VP internal arguments.[32] In this respect, such an adoption allows Meinunger to account for the properties that distinguish scrambling from topicalisation in Spec, CP, a classical example of [+topic] feature checking, namely its A-properties (binding, absence of reconstruction, absence of parasitic gaps, etc... see previous sections). Therefore, (91) is, in fact, (92):

(92) [CP... [AgrPs... ‖ [VP ([discourse new adjuncts]) [VP...]]
topic(s) comment

How does Meinunger's hypothesis cope with the sets of examples problematic for Diesing's 'Mapping Hypothesis', i.e. optionality of scrambling with definite and indefinite generic DPs? Regarding the former, Meinunger contends that the statement that topics must be familiar does not hold in the reverse formulation, i.e. familiar DPs must be topics and therefore scramble. In other words, unscrambled definite DPs are licit. Obviously, this requires the speaker to choose or not a definite DP marked as [+topic], depending on the way he conceives it in informational terms. This is, perhaps, the most glaring flaw in Meinunger's approach: it makes his system totally incompatible with minimalism, and leaves things as before, that is, unexplained. With respect to the case of optionally scrambled generics, Meinunger simply denies the existence of such examples: generics always undergo scrambling,[33] and illustrates it with an example parallel to that in (87) in the preceding chapter, ruling out the unscrambled version:[34]

(93) a. *weil ich eine Wagneroper immer mag*
because I a Wagner-opera-ACC always like
"since I always like a Wagner opera"
b. **weil ich immer eine Wagneroper mag*
because I always a Wagner-opera-ACC like
"since I always like a Wagner opera"

The last point I would like to consider in this short summary of Meinunger's proposal for German scrambling is the question of multiple scrambling. Recall that one of the uncontroversial assumptions in the literature is that scrambling may iterate. For Meinunger's analysis, in which scrambling is movement of a [+topic] DP to an Agr projection, this means that iterability is restricted to three argumental DPs as maximum, which represents a standard three-place predicate:

(94) a. *dass die Frau der Nachbarin den Hund gestern*
that the woman-NOM the neighbour-DAT the dog-ACC yesterday
gegeben hat
given has
"that the woman gave the dog to the neighbour"

b. *dass die Frau den Hund der Nachbarin gestern*
that the woman-NOM the dog-ACC the neighbour-DAT yesterday
gegeben hat
given has
"that the woman gave the dog to the neighbour"

(94a) is unproblematic: Meinunger states that, except for a certain class of ditransitive verbs whose unmarked serialisation is ACC-DAT (*ausetzen* "to expose", *ausliefern* "to extradite", *unterziehen* "to submit", *unterwerfen* "to subject", etc.), the base structure of German is DAT-ACC. Thus, since the relative order between agreement projections is fixed, (94a) is justifiedly ruled in. However, in (94b) the order between DAT and ACC is reversed. Obviously, this cannot be due to AgrO preceding AgrIO. Meinunger accounts for it by resorting to the notion of prominence, according to which arguments are serialised according to the ranked hierarchy NOM>DAT>ACC. If a speaker conceives DAT as more prominent than NOM, or ACC as more prominent than DAT or NOM, DAT, this would be reflected in the final string. Meinunger envisages shift of prominence as a syntactic operation targeting an A-bar position. Unfortunately, he is not very specific regarding it.

The conclusion we may draw from the discussion of shift of prominence is very similar to the one reached in the case of the optionality of scrambling of definite DPs: despite his attempt to establish a direct link between discourse and syntactic structures, Meinunger cannot overcome the main obstacle movement approaches to scrambling have traditionally encountered, that is, its apparently untriggered nature.

2. *Base-generation approaches*

As noted at the beginning of this chapter, generative analyses of German scrambling are traditionally divided into two main types: those that consider scrambling strings as the result of the strictly syntactic operation 'Move (α)', and those that equate them to non-scrambling structures, insofar as both are the product of base-generation (i.e. direct 'Merge'). In the preceding sections, we have reviewed the most influential studies adopting the first approach, and pointed out some of their shortcomings. In the following, the focus will be on those that argue for base-generation.

The first proposals that treat German scrambling as base-generation are elaborated within the GB framework. Most of them are characterised by presenting interesting counterevidence against the view of scrambling as a movement operation, but fail in offering a well-grounded alternative account. This point is illustrated by the papers by Bayer and Kornfilt (1994), and

Neeleman (1994), where both the A- and A-bar analyses are criticised on the basis of the dubious parasitic gaps structures and the lack of ordering restrictions for multiple scrambled constituents respectively. On the other hand, since the two studies agree that the phenomenon is strictly clause-bound and affects binding relations, their common claim is that reordered constituents are directly inserted in the position they appear in, an A-position. This direct insertion is possible only in OV languages like German, but not in VO languages like English, due to its interaction with other syntactic rules: for Bayer and Kornfilt, it is dependent on the availability of a procedure called 'Complex Category Formation', by which INFL and V constitute a single node; for Neeleman, it is linked to the existence of a single domain for argument and adjunct licensing, and the assumption that the hierarchy of theta-roles is not expressed via c-command relations (see Chapter 1, Section 1).

In spite of the remarkable findings in both Bayer and Kornfilt and Neeleman, such as the relevant connection between coherent constructions and German scrambling (Bayer and Kornfilt), and the irrefutable distinction between focus scrambling and ordinary scrambling (Neeleman, see Chapter 1, Section 5), their account of free constituent order in terms of base-generation is somewhat sketchy and conflicts with several standard tenets not only of the GB framework, but also of the 'Minimalist Program'. However, subsequent more refined, full-fledged theories capitalise on the fundamental role they attribute to theta-role assignment (Neeleman), and conflating heads (Bayer and Kornfilt), and relate it to the minimalist procedure for Case-checking. These theories will be the subject of the following sections, where two of the most representative hypotheses will be reviewed in more detail.

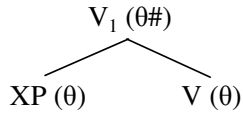
2.1 *Base-generation, theta-role assignment, and Case-checking at PF: Neeleman and Reinhart (1998)*

As the reader will recall, some parts of Neeleman and Reinharts's study were already examined in the previous chapter, where we discussed the empirical adequacy of several traditional claims about German(ic) scrambling, among which: (i) scrambling is incompatible with the unmarked word order, i.e. multiple foci; (ii) scrambled constituents are obligatorily destressed. It was shown there that, according to Neeleman and Reinhart, (i) is false in the light of a right proper theory of focus, and (ii) is merely the result of nuclear stress assignment of the kind in Cinque (1993). On this basis, their main conclusion is that scrambling is not phonologically or semantically triggered: it does not displace constituents so that they may be destressed, or interpreted as unfocused. Rather, it is because constituents may appear scrambled that they are prevented from receiving nuclear stress and, consequently, must be interpreted as dis-

course-given (i.e. unfocused). If, in the absence of a phonological or semantic trigger, there is no displacement at all, the pending problem is how West Germanic languages may allow some constituents appear in two different positions, an unattested option, for example, in English. Neeleman and Reinhart's solution is related to theta-role assignment and Case-checking in their interaction with the head parameter.

Neeleman and Reinhart assume standard tenets of the 'Government and Binding' framework (Chomsky, 1981; 1986) with respect to the way arguments of a predicate are licensed: they must be theta-marked (i.e. assigned a thematic role) and, if DPs, also Case-marked by the verb. But they propose to reformulate the conditions in which theta-marking and Case-marking take place according to Chomsky's (1995) 'Minimalist Program', where syntactic operations are rendered as feature checking between two elements endowed with the relevant feature in a specific configuration. In this light, Neeleman and Reinhart reduce theta-marking to a checking relation between the verbal head, endowed with as many theta (θ-)features as arguments it takes, and a phrase carrying one of those appropriate θ-features, in a configuration where both are sisters, as shown in (95):

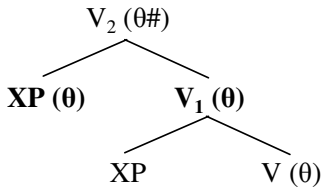
(95)



In (95), the θ-features of the XP and the verbal head are in a sisterhood configuration. As a consequence, θ-features are eliminated according to the minimalist checking procedure. This, in turn, makes V_1, the projection of V, lack θ-features completely (θ#), which entails that no additional arguments may be licensed. Notice that although (95) represents theta-marking in an OV-language, nothing prevents a VO grammar from licensing an argument in the same fashion, given that the required sisterhood relation between the verbal head and the XP equally obtains.

Neeleman and Reinhart contend that (95) does not necessarily imply that arguments must be inserted at the bottom of the tree. In fact, they may be inserted after adjuncts. Since the latter are characterised as constituents lacking a θ-feature, it is possible for an argument to be merged after V has projected into V_1, due to the fact that it still preserves its θ-feature:

(96)



As was the case with (95), nothing precludes (96) from occurring in a VO language. Nevertheless, whereas (95) and (96) are both found in OV (scrambling) languages (97), VO (non-scrambling) languages only present the former (98) (Dutch examples from Neeleman and Reinhart, 1998):

(97) a. *dat Jan langzaam het boek las*
that Jan-NOM slowly the book-ACC read
"that Jan read the book slowly"
b. *dat Jan het boek langzaam las*
that Jan-NOM the book-ACC slowly read
"that Jan read the book slowly"

(98) a. that John read the book slowly
b. *that John read slowly the book

Neeleman and Reinhart state that the contrast between (97b) and (98b) has nothing to do with the checking procedure for theta-marking, as apparently corroborated by the grammaticality of (99), where a PP argument is licensed after an adjunct:

(99) that John reads slowly to his children

Rather, they derive the ill-formedness of (98b) from the second checking relation that verbal heads and crucially only argumental DPs must establish: Case-checking. As happened with theta-marking, Case-checking requires both the verbal head and the argumental DP to bear a [Case] feature. But [Case] features on the verb and on the argument are checked in slightly different ways: whereas [Case] features on the verb can be checked by any category in the appropriate configuration, [Case] features on the argument can only be checked against matching (i.e. identically specified) features of the verb. With respect to the exact configuration in which Case-checking takes place, Neeleman and Reinhart propose (100):

(100) a. The verbal head (V) and the constituent (C) must be contained in the same local domain, where local domain can be defined either phonologically or syntactically.
b. The phonological local domain is the phonological phrase.
c. In the phonological domain, V must precede or follow C.
d. The syntactic local domain is the m-command domain[35]
e. In the syntactic domain, V must follow C.

What is new in (100) in comparison with the standard minimalist view of Case-checking is that it is not restricted to 'Narrow Syntax', but may also take place in the phonological component. Neeleman and Reinhart defend this assumption as a theoretical necessity: if, as suggested by Chomsky (1995), order is just a requirement exclusively imposed by the phonological component, a configuration such as that in (100), where precedence plays a role (100c,e), makes sense only if it holds in that component. Notice that (100b) and (100d) entail that that the phonological component must have access to syntactic information, a controversial assumption on standard minimalist grounds.[36] But, according to Neeleman and Reinhart, syntactic information is accessed only in a restrictive way, that is, only in those cases in which phonological checking fails.

The system proposed by Neeleman and Reinhart produces different results in VO and OV languages. In VO languages, phonological checking will always be possible if no material intervenes between the verbal head and its argument:

(101) a. {that John} {reads the book} {slowly}
b. *{that John} {reads slowly} {the book}

In (101a) the verb and the DP *the book* constitute a single phonological phrase, according to the mapping procedure Selkirk (1986) proposes for phonological phrase (φ) formation:[37]

(102) φ-Formation
Close φ when encountering $]_{XP}$

Consequently, Case-checking may proceed. However, (101b) is ruled out: since now the adverb and the verbal head are included within the same phonological phrase, the [Case] feature of V will be deleted, and hence not available for checking [Case] on the object, either in the phonological or the syntactic domain.

In OV languages phonological Case-checking is always impossible: the verbal head and its argument never share the same phonological phrase, insofar as the right XP bracket of the argument itself or any other phrasal constituent provokes φ-closure. Thus, Case-checking in OV languages is confined to the syntactic domain. Since adjacency between V and C is not necessary (100d,e), both scrambling and non-scrambling orders are well-formed:

(103) a. *{*dat Jan*} {*langzaam*}{*het boek*} {*las*}
that Jan-NOM slowly the book-ACC read
"that Jan read the book slowly"

b. *{*dat Jan*} {*het boek*} {*langzaam*}{*las*}
that Jan-NOM the book-ACC slowly read
"that Jan read the book slowly"

c. *dat Jan* $_{VP}$[[*langzaam*] [*het boek*] *las*]
that Jan-NOM slowly the book-ACC read
"that Jan read the book slowly"

d. *dat Jan* $_{VP}$[[*het boek*] [*langzaam*] *las*]
that Jan-NOM the book-ACC slowly read
"that Jan read the book slowly"

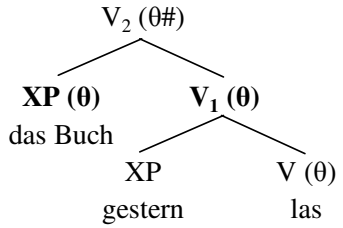
(103c) and (103d) fulfil the conditions syntactic Case-checking requires (100d,e): the verbal head follows *het boek* in the m-command domain.

The claim that there exist two different procedures for Case checking, and that the head parameter is responsible for the choice of one or the other explains why scrambling is apparently restricted to OV languages. On the other hand, it also accounts for at least two of the uncontroversial properties of the phenomenon listed in (1): its iterability, as far as syntactic Case checking may license as many arguments as the verb has; and its clause-boundedness, since Neeleman and Reinhart's system requires strict locality conditions that prevent the appearance of arguments beyond the boundaries of the maximal projection of the licensing head.[38] Besides, it rightly predicts the interaction between scrambling and binding observed in West Germanic: base-generated arguments always occupy an A-position, hence the lack of reconstruction effects.

In conclusion, there are few objections against Neeleman and Reinhart's proposal as far as empirical coverage is concerned, despite their silence about controversial issues such as 'Freezing' or adjunct scrambling, directly ruled out by their analysis. One of those few objections relates to the consequence their system of theta-marking entails for their own account of the semantic effects of scrambling. Recall that, according to Neeleman and Reinhart, scrambled elements may be interpreted as D-linked merely because they are merged after

adverbial insertion, which is, in turn, possible because adverbials do not satisfy any of the verb's theta roles (see (98) above, and (104) below). However, that adverbials do not satisfy theta-roles does not mean that, when merged first, they do not occupy the most deeply embedded position on the recursive side. If, on the other hand, Cinque's (1993) NTPS assigns nuclear stress to that position on an exclusively structural basis, there is no explanation of why the syntactic representation in (104) corresponds to the phonological shape of (105a) and not to that of (105b):

(104)



(105) a. *dass Hans das Buch gestern* ***LAS***
that Hans-NOM the book-ACC yesterday read
"that Hans read the book yesterday"

b. *dass Hans das Buch* ***GES****tern las*
that Hans-NOM the book-ACC yesterday read
"that Hans read the book yesterday"

The facts in (104) are unproblematic for Cinque's theory, since he traditionally assumes that the adverb, an adjunct, appears in a high, VP-adjoined position. But they are incompatible with Neeleman and Reinhart's proposal for theta-role assignment, in which adverbs and arguments only differ in their selectional properties. Therefore, Neeleman and Reinhart are forced to modify Cinque's main tenet slightly: nuclear stress is assigned to the most deeply embedded constituent on the recursive side of the tree, "only if selected". The obvious question is how a phonological rule may be sensitive to notions such as selection. This would appear to be a significant shortcoming in Neeleman and Reinhart's approach.

Finally, I would like to point out some of the theoretical complications Neeleman and Reinhart's analysis entails for a minimalist design of the language faculty of the kind defended in Chomsky (1993, 1995). On one hand, their claim that features such as [+Case] may be checked at PF necessarily entails the revision of the basic feature classification proposed in the 'Minimalist Program': does the existence of checking at PF imply that there is another type

of feature apart from phonological, semantic and formal features, or does it merely indicate that formal uninterpretable features may be of two different sorts? An answer to any of the two questions would require an exact characterisation of the feature at stake. On the other hand, the free interaction they propose between PF and 'Narrow Syntax' relaxes the rigid cyclicity defended by standard minimalist approaches, which amounts to a higher degree of complexity that must be avoided, if possible.

2.2 *Base-generation, theta-role assignment, and Case-checking at LF: Fanselow (2001, 2003)*

Fanselow's (2001) study of German scrambling as a base-generation phenomenon combines the exhaustive empirical refutation of movement approaches that usually characterises GB studies on the matter with the attempt to adhere to the standard minimalist view as much as possible. With respect to the former, Fanselow demonstrates that evidence such as the one based on parasitic gaps, 'Freezing', or the existence of reconstruction with pre-subject scrambling, etc., is not conclusive enough, as far as it is amenable to alternative explanations. On the other hand, he assumes with Chomsky (1993, 1995) that strict syntactic relations must be rendered in the form of the checking of formal features, and that that checking may take place either overtly or covertly (i.e. before or after 'Spell-Out') depending on feature strength: checking of a strong feature requires the implementation of 'Move' before 'Spell-Out', with consequences for the linear order of constituents in the final string; checking of a weak feature may be delayed to LF, where movement of the attracted constituent is not reflected in the final surface linearisation.

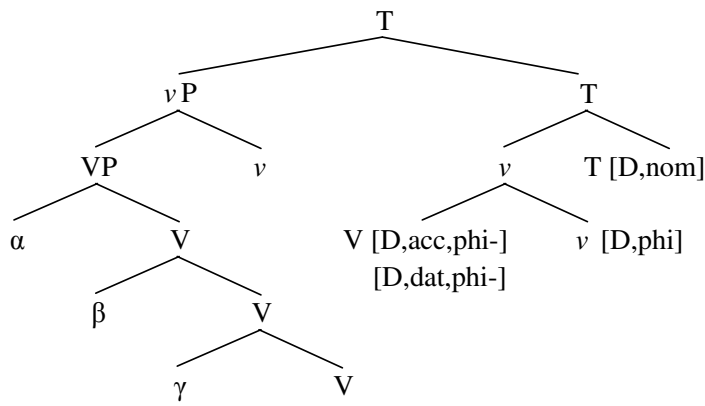
Similarly to Neeleman and Reinhart (1998), Fanselow rejects the configurational view of theta-marking adopted in both the GB framework and the 'Minimalist Program', which basically consists in linking theta-role assignment to structural position. Instead, he proposes that theta-roles are linked to a formal feature that a verb specifies for its arguments, and are 'assigned' in the process of f(ormal)-feature checking. When selection for 'Merge' takes place, the formal features a verb is endowed with are selectional features ([C] or [D],[39] for clausal or DP complements, respectively), to which Case and phi-features may be added (at least for internal arguments). Each of these features requires being checked by a DP fully specified for Case and phi-features.

Fanselow follows the conclusions in Chomsky's 'Categories and Transformations' (in Chomsky, 1995), according to which agreement projections of the sort proposed in Chomsky (1993) must be dispensed with, due to their lack of a truly semantic content. He also agrees with Chomsky in the new locus for the [D] (or [N]) feature responsible for the checking of nominative

Case, namely T. But they differ in the head hosting the [D] feature responsible for accusative Case: Chomsky proposes that it is a light verb *v*, whose specifier is occupied by the base-generated subject of certain predicates; Fanselow contends that it is the lexical verb V, restricting the role of *v* to that of subject licensing. Finally, and according to empirical evidence, Fanselow assumes that both [D] and [V] (the verbal feature attracting the lexical verb to T) are weak in German and, therefore, may be checked after Spell-Out.

On the basis of the considerations above, Fanselow gives the following representation for the German structure with a three-place predicate after 'Spell-Out', that is, at LF:

(106)



The argumental DPs α, β, and γ appear VP-internal, as the weakness of the D features on V, *v* and T demands. On the other hand, V raises to *v* and to T covertly, since the V feature on T is also weak in German. Once that covert raising has taken place, the uninterpretable features on the V-*v*-T complex must attract the corresponding features on the DPs to its checking domain. Fanselow argues that it is unnecessary to have three different process of attraction implemented, one for each attracting feature: once a feature raises to T, the other two are pied-piped with it. If V's D-feature attracts, the 'Minimal Link Condition' implies that the DP closest to V (α) moves. But this may result in an illegitimate structure, depending on whether α also bears accusative Case. That is why he concludes that the attracting feature is V's Case feature: only the accusative feature of the relevant DP will be able to move, pied-piping its D and phi-features. Notice that the analysis accounts for the different order possibilities among NOM-DAT-ACC attested for German, and also for theta-role assignment independent of syntactic position within the VP, if theta-marking is linked to Case checking as Fanselow contends. But it also entails a relativisa-

tion of economy principles such as the 'Minimal Link Condition': V must attract the closest DP with a matching Case, irrespective of whether DPs bearing different cases intervene.

Fanselow's analysis seems to accord well with respect to two of his fundamental tenets: (i) [D] features are weak in German, which would explain why no argumental DP appears in a fixed position; and (ii) complex heads are attracting heads for all the features they include (even for those belonging to incorporated elements).

(i) is fairly uncontroversial since Haider (1990), who showed that derived and underlying subjects can be a part of a fronted constituent in German. The examples in (107) illustrate this for passives (107a), unaccusatives (107b), unergatives (107c), and transitives (107d):

(107) a. [*Ein Orden verliehen*] *wurde ihr erst gestern*
a medal-NOM awarded AUX her-DAT just yesterday
"It just happened yesterday that she was awarded a medal"

b. [*Ein Fehler unterlaufen*] *ist ihrem Mann noch nie*
a mistake-NOM happened is her husband-DAT yet never
"It never happened that her husband made a mistake"

c. [*Aussenseiter gewonnen*] *haben hier noch nie*
outsiders-NOM won have here yet never
"It never happened before that outsiders won here"

d. ?[*Ein Millionär einem Studenten einen Wagen geschenkt*]
a millionaire-NOM a student-DAT a car-ACC given
hat hier noch nie
has here yet never
"It has never happened here that a millionaire gave a student a car"

On the other hand, for the case of the strength of the [D] feature for objects, I refer the reader to the discussion about Zwart's (1997) proposal (1.2.1, this chapter), where object movement was proven to be untenable for Dutch and also for German.

Fanselow takes (ii) to be irrefutable on the basis of so-called 'long scrambling' (Grewendorf and Sabel, 1994), that is, the extended reordering possibility with coherent infinitives (see Chapter 1, Section 2, and 1.5.1 and 1.6 in Chapter 3): if different heads H and K check the formal features of α and β, respectively, it follows that α can be merged with a projection of K and ordered freely with respect to β if H incorporates into K at some level. For a coherent construction, this simply means that, after complex head formation and raising

to T, the formal features of the infinitive may be checked by those of an argumental DP merged in the matrix clause, as in (108) (from Fanselow, 2001):

(108) *dass den Peter niemand zur Party einzuladen wagte*
that Peter-ACC nobody-NOM to-the party to-invite dared
"that nobody dared to invite Peter to the party"
$_{TP}$[$_{vP}$[*den Peter niemand....*] $_{T}$[[FF] *(einzuladen)* FF (*wagen*)] T]]

But German is a V-2 language, which means that the finite verb moves to C (or any other position of the CP system) in matrix clauses. If, on the other hand, head raising makes scrambling available, why is it that there are not scrambled arguments in Spec, C? Fanselow rules out this possibility by resorting to two standard minimalist claims (Chomsky, 1995): (i) only expletives check features by 'Merge', which would prevent arguments from appearing base-generated in Spec, C; and (ii) the strong features of X must be checked before the maximal projection of X is merged with some K, which would bar DP movement to check a strong feature of V on C, on the assumption that, before raising of V-to-C, Merge of the VP with another element (for instance, T) involves the absence of any kind of strong feature (including Case-features) on V.

The use that Fanselow's system makes of notions such as feature movement and a relativised MLC allows it to account for the great freedom of German scrambling: if subjects, due to their [+nominative] specification, do not need to be the highest merged arguments within the *v*P/VP, any other element may precede them, and the same goes for accusative or dative objects. But that such a system is too unconstrained is revealed by its interaction with other grammatical processes, like, for example, nuclear stress assignment. If, as argued by Chomsky and Halle (1968) and Cinque (1993), nuclear stress falls on the most deeply embedded constituent, one would expect to find in German unmarked structures in which a nominative subject, sister to the lexical verb, may carry the most prominent pitch. This kind of structures is obviously not attested. Besides, recent versions of the 'Minimalist Program' (Chomsky 2000, 2001) have questioned the theoretical necessity of processes such as feature movement, which, in turn, casts some doubts on the validity of Fanselow's analysis. Perhaps these are the reasons for the partial revision in Fanselow (2003), which, although less explicit with respect to technical details, dispenses with problematic devices.

Unlike Fanselow (2001), Fanselow (2003) does not link theta-role assignment to formal feature checking. Instead, it proposes (109):

(109) An argument A can be merged with a projection P only if the head of P (or a sublabel of the head) selects A as an argument.

(109) is illustrated for a ditransitive predicate in (110), where, following Fanselow and standard minimalist tenets, the agentive predicate cannot be merged below the projection of the head that selects it (*v*). On the other hand, and due to (109), the accusative and dative objects may appear merged with *v*P, since their selecting heads constitute a sublabel of *v*. Besides, they may precede or follow each other within the VP, on the assumption that their selecting heads also form a complex, V+V, head:

(110) $_{v\text{P}}$[ACC/DAT $_{v\text{P}}$[SUBJ $_{\text{VP}}$[DAT/ACC ACC/DAT V]]

This is an improvement as far as the positions traditionally assigned to adverbials are concerned: notice that in (111) all adverbials (including sentence adverbs and time frames) must be VP internal, insofar as they can intervene between different arguments:

(111) *dass das Buch* *wahrscheinlich keiner* *gelesen hat*
that the book-ACC probably no-one-NOM read has
"that no one probably read the book"

It also solves the problem raised by nuclear stress assignment, albeit partially: for a scrambling monotransitive structure, neither the object (merged with *v*P) or the verb (raised to *v*, a necessary precondition for (109), according to Fanselow) remain within the VP, so the nuclear stress rule fails to apply. However, the explanation does not work with scrambling of a co-argumental object across the other (110), or with the impossibility of having a stressed scrambling constituent signalling narrow focus.[40] This leads Fanselow to agree with Müller (1999) that the distinction between marked and unmarked stress is a matter of violating or respecting certain surface based serialisation principles: 'Subject First!', 'Animate XP First!', 'Topic First!', etc. The more a structure fits such principles, the more unmarked it is; the more a structure departs from such principles, the more marked it is. Now, as Haider and Rosengren (2003) put it, the question is to clarify the exact way in which notions such as animacy and the like interface with grammar. This will not be a trivial issue for proposals such as Fanselow's that argue that those notions are syntactically active, insofar as they determine order of 'Merge', a core syntactic operation.

As stated above, Fanselow (2003) is not very explicit about the technical details involved in (109). We have already seen that, with respect to lower

bounds, (109) implies that no argument must be merged below the head that selects it. With respect to upper bounds, the only limit is that imposed by the position reached by the incorporating head. It is not very clear how this system may prevent an argument from being licensed on TP or CP, if checking of strong features is not involved any more.

In conclusion, the base-generation proposal in Fanselow (2001) and Fanselow (2003) restricts scrambling to arguments, thus explaining why the process is clause-bound and gives rise to new binding possibilities. It relates the unmarked word order to factors different from nuclear stress assignment, which interact with grammar in a very unclear way. Nor is it clear how the semantic effects associated to scrambled constituents are derived, except for the examples Fanselow gives for the ordering constraints on adverb placement with respect to argumental DPs, and the claim that the serialisation principles invoked for deriving the unmarked word order normally force topical elements to precede focused ones. On the other hand, the proposal is not very elaborated either with respect to 'Freezing': if scrambled elements are base-generated, one would expect movement out of them to be always possible. Fanselow (2001) contends that, in fact, this is the case, and that the general pattern is constituted by the bulk of 'Anti-Freezing' examples. Fanselow accounts for their 'Freezing' counterparts by resorting to a combination of the serialisation principle 'Topic First!' and a proposal by Guéron (1981): the more referential a phrase is the less transparent is for movement. If constituents base-generated in scrambling positions are topics, topics are usually referential, and referential phrases are opaque, the 'Freezing' effects of scrambling become unproblematic. However, an exact definition of referentiality fitting the 'Freezing' and 'Anti-freezing' data is lacking, as well as the reasons why it must be relevant for 'Narrow Syntax'.

The base-generation approach to scrambling Fanselow defends has as its main advantage that it avoids two of the most pervasive problems of the phenomenon as appears in German: its multiple ordering possibilities, and the lack of a trigger. In fact, however, these complications are not solved: they are merely shifted to other components of grammar. It may be doubted that Fanselow's intuition is correct and such complications are indeed completely alien to 'Narrow Syntax'. Clearly, more research on the nature of those components is needed.

3. *Conclusions*

In light of the preceding sections of this chapter, a basic conclusion may be drawn from them: German scrambling does not seem amenable to a treatment within the limits of 'Narrow Syntax', and perhaps Ross (1967) and Chomsky

(1995) are right in assigning it to a different component, whatever this may be. This is an obvious consequence of the important problems any of the revised theories must face in trying to account for the complexity of the empirical evidence while respecting the fundamental tenets of the generative model it adopts.

Among the different obstacles those theories encounter, two are crucial: the trigger for scrambling, and the locus where it takes place. The trigger is, in turn, linked to the matter of apparent optionality and the issue of the phonological and semantic/pragmatic effects. With respect to the trigger itself, movement approaches fare worse than base-generation ones: neither Case licensing (Mahajan, 1990; Moltmann, 1990, etc.; Zwart, 1993, 1997) nor the checking of a feature such as [+topic] (Meinunger, 1995) is compatible with the lack of ordering restrictions or the optionality observed in German scrambling, unless stipulative solutions are adopted. But the trigger is not an obstacle for base-generation analyses (Neeleman and Reinhart, 1998; Fanselow, 2001, 2003), and those proposals that defend the existence of untriggered movement (Müller and Sternefeld, 1993; Haider and Rosengren, 1998, 2003). Base-generation is, by definition, a costless process, only limited by the conditions theta-marking requires, still an open question. The adoption of untriggered movement is controversial from a theoretical point of view, and requires the support of empirical evidence different from that based on scrambling itself.[41]

To claim that scrambling is triggered or untriggered has a bearing on the connection between scrambling and the phonological and semantic/pragmatic effects associated with it. For those theories that defend a syntactic trigger, that connection is straightforward: on the phonological side, obligatory syntactic displacement of the scrambled constituent to a higher position makes nuclear stress fall on a trace, which cannot bear it for obvious reasons (Meinunger, 1995). This, in turn, gives rise to a marked intonation pattern. On the semantic/pragmatic side, elements placed above VP, the domain of existential closure, must receive a strong, topic interpretation, if some process such as the mapping procedure defended by Diesing (1992) and Meinunger (1995) actually holds. However, for those theories that contend that scrambling is untriggered the connection is simply indirect, and justified on the basis of the rejection of the 'Nuclear Stress Rule' and the adoption of independent principles, rules, constraints, etc. (Fanselow's (2003) surface serialisations principles, Haider and Rosengren's (1993) information structure interface utility, etc.).

The second important obstacle scrambling theories encounter is the exact location of scrambled elements. This exact location not only refers to the problematic pre- and post-subject scrambling found in German, but also to the no less problematic scrambling within lexical projections (VPs, APs, and post-

positional phrases). As was the case with the trigger, movement approaches fare worse than base-generation ones: the different orders constituents may exhibit are dependent on 'Merge' (base-generation), and 'Merge' is an operation involved in the construction of all kinds of lexical projections. Thus, one only needs a reason why scrambling (that is, different ordering options in 'Merge') is permitted in some phrases but barred in others (for example, Haider and Rosengren's (1998, 2003) head-final requirement). On the other hand, movement approaches are forced either to identify multiple projections as potential scrambling sites, or to reject some of the empirical evidence as an instance of processes different from scrambling. Thus, if scrambling is taken as displacement to a functional projection, reordering within lexical projections must picture an unrelated phenomenon. But the conclusion may be premature, since, again, the German data are more complex than they appear at first sight: recall that arguments of adjectival and postpositional heads may be reordered outside the maximal projection of the element selecting them (examples (46) and (47) above). This is not expected if scrambling is restricted to the extended MAC (Haider and Rosengren, 1998; 2003), to the standard maximal projection of the selecting head (Neeleman and Reinhart, 1998), or to the maximal phrase projected by a complex head in its final landing site (Fanselow 2001, 2003).[42]

Besides the two main obstacles constituted by the trigger and the locus of scrambling, there are other residual problems. One of them is the relation between scrambling and binding, although here the conclusion seems that it is quite uncontroversial that scrambling both feeds and bleeds binding relations,[43] at least in the case of co-arguments of ditransitive predicates, and that the murkiness of the facts just reduces to the impossibility for a German dative to bind an accusative anaphor, probably an unconnected issue. Another one is the 'Freezing/Anti-Freezing Paradox', which does not support either base-generation or movement approaches: judgements of the contraposed sets of data are not refuted, and, with the exceptions of Müller and Sternefeld (1993) and Müller (1998), no scholar gives well-grounded reasons why German grammar allows for both 'Freezing' and 'Anti-Freezing' effects in scrambled constituents.

The general conclusion has been that movement and base-generation approaches to German scrambling are incompatible, and that the acceptance of one view necessarily excludes the other. But, in my opinion, this conclusion is incorrect. The following chapter presents an alternative proposal for German scrambling, modelled on a recent analysis of Scandinavian 'Object Shift' developed by Chomsky (2001). The reader will find that the basic assumption there is that, in the light of most recent versions of the 'Minimalist Program', movement approaches are superior to base-generation ones, despite the fact

that they face a wider array of empirical problems. Nevertheless, I will contend that they must be enriched with some of the fundamental insights in base-generation theories. If the suggestions in Chapter 5 are correct, movement and base-generation approaches are simply complementary, insofar as they focus on two different aspects of the same complex phenomenon.

CHAPTER 5
THE PHONOLOGICAL SIDE OF REORDERING PROCESSES

A cursory look at the conclusions drawn in Chapter 3 and Chapter 4 of the present study reveals that the main problem any proposal for German scrambling faces is the incompatibility of the wide array of scrambling structures attested in that language with the restrictions any theoretical model imposes on syntactic operations. The point is illustrated by confronting our table in (1) (Chapter 4) with the predictions of movement and base-generation approaches:

(1) Syntactic properties of German scrambling

ROUGH SYNTAX	Iterability
	Syntactic position: arguments/arguments and adjuncts
	~~Category: DPs/DPs and other categories~~
	Syntactic projection: VPs/VPs and other categories
	Clause-boundedness
	'Freezing'/'Anti-Freezing'
LF	Semantic/pragmatic effects as trigger vs Semantic/pragmatic effects as a by-product
PF	Destressing

As discussed in the preceding chapter, the properties in white boxes are unproblematic for both approaches, assuming that the evidence for adjunct scrambling is not conclusive, and A-bar theories such as Müller and Sternefeld (1993) or Müller (1995) are not on the right track. Movement theories are inadequate to accounts for the less restrictive version of the property in the striped box: if scrambling displaces categories other than DPs, scrambling cannot be Case-checking (Moltmann, 1990; Zwart, 1993, 1997, etc.), or checking

of another feature tied to Case (Meinunger, 1995).[1] But base-generation analyses have to resort to special devices to explain the characteristics that scrambled elements exhibit at PF and LF (in grey boxes). Finally, empirical evidence partially goes against the two types of proposals with respect to a couple of aspects (in black boxes): the projection in which scrambling takes place, and 'Freezing' (or 'Anti-Freezing'). It is true that, as argued by the defenders of base-generation (Fanselow, 2001) and untriggered movement (Haider and Rosengren, 1998, 2003), there is reordering within VP, and also within projections different from VP (cf. the cases of scrambling within APs or postpositional phrases). But it is also true that that kind of reordering may occur beyond the verbal, adjectival or postpositional maximal projection itself, which seems to support the unique position advocated for by regular movement theories. The same picture arises with the 'Freezing/Anti-Freezing Paradox': if Müller (1998) is right, extraction out of a scrambled constituent is sensitive to the type of the displacement involved. Except for Müller's own attempt, no account can handle the relevant differences systematically.

Those two properties that are problematic for both base-generation and movement approaches constitute the focus of the present chapter. The main claim will be that they are linked to two of the most important theoretical findings about the connection between phonological features and 'Narrow Syntax' in Chomsky (2001): (i) the existence of special operations that spell out phonological features at points different from the completion of strong phases (Dislocation); and (ii) the sensitivity of strictly syntactic operations to the presence (or absence) of phonological features. Chomsky argues that these generalisations are reflected in the basic characteristics of Scandinavian 'Object Shift', and the way preceding analyses (especially Holmberg, 1999) have capitalised on them. These two issues will be dealt with in Sections 1.1 and 1.2 respectively, whereas Chomsky's own proposal will be presented in 1.3. In the last section of the chapter (Section 2) it will be claimed that German scrambling behaves similarly to Scandinavian 'Object Shift' with respect to (i) and (ii) above, and that the complexity of the data derives from the existence of another, 'scrambling-like', process along with the one resembling 'Object Shift'. The unified treatment these two phenomena have received in the literature on German scrambling is the reason why both movement and base-generation approaches seem to be (at least partially) right.

1. *The phonological side of Scandinavian 'Object Shift'*

The label 'Object Shift' was first used by Holmberg (1986) to refer to the kind of structure found in all Scandinavian languages in which a DP object

may appear preceding clause-medial adverbs, as exemplified in (2b) vs (2a) for Icelandic:

(2) a. *Nemandinn las ekki bókina*
student-the-NOM read not book-the-ACC
"The student didn't read the book"
b. *Nemandinn las bókina ekki*
student-the-NOM read book-the-ACC not
"The student didn't read the book"

As Holmberg already notices, the structure is subject to different restrictions, some shared by the whole group of languages, some holding just in Mainland Scandinavian (Danish, Norwegian, and Swedish) and Faroese, but not in Icelandic. In the following, I will briefly review the most important ones.

1.1 *Scandinavian 'Object Shift' from a descriptive perspective*

1.1.1 *The 'shifted' object*. All Scandinavian languages disallow 'Object Shift' with constituents different from DP objects of verbs. Thus, 'Object Shift' is impossible with DP objects of prepositions (3b), PPs (3c) or APs (4b) (Icelandic examples from Thráinsson, 2001):

(3) a. *Jón talaði ekki við Maríu*
John-NOM spoke not with Mary
"John didn't speak with Mary"
b. **Jón talaði Maríu ekki við*
John-NOM spoke Mary not with
"John didn't speak with Mary"
c. **Jón talaði við Maríu ekki*
John-NOM spoke with Mary not
"John didn't speak with Mary"

(4) a. *Fyrirlestrar hans eru alltaf skemmtilegastir*
Talks-NOM his are always most-interesting
"His talks are always very interesting"
b. **Fyrirlestrar hans eru skemmtilegastir alltaf*
talks-NOM his are most-interesting always
"His talks are always very interesting"

However, regarding the class of 'shiftable' objects, i.e. DP objects of verbs, there is a division between Icelandic, on the one hand, and Mainland Scandina-

vian and Faroese, on the other: whereas in Icelandic definite and indefinite DPs may appear as shifted objects, regardless of whether they are nominal or pronominal (5), (6), (7), in Mainland Scandinavian and Faroese only simple, unstressed definite pronouns occur in 'Object Shift' structures (8), (9) (Icelandic examples in (5), (6) and (7) from Thráinsson, 2001; Danish examples in (8) and (9) from Vikner, 1994):

(5) a. *Nemandinn las ekki bókina*
student-the-NOM read not book-the-ACC
"Nobody read the book"
b. *Nemandinn las bókina ekki*
student-the-NOM read book-the-ACC not
"Nobody read the book"

(6) a. *Nemandinn las ekki þrjár bækur*
student-the-NOM read not three books-ACC
"The student didn't read three books"
b. *Nemandinn las þrjár bækur ekki*
student-the-NOM read three books-ACC not
"The student didn't read three books"

(7) a. **Nemandinn las ekki hana*
student-the-NOM read not it-ACC
"The student didn't read it"
b. *Nemandinn las hana ekki*
student-the-NOM read it-ACC not
"The student didn't read it"

(8) a. *Hvorfor læste studenterne ikke artiklen?*
why read student-the-NOM not article-the-ACC
"Why didn't the student read the article?"
b. **Hvorfor læste studenterne artiklen ikke?*
why read student-the-NOM article-the-ACC not
"Why didn't the student read the article?"

(9) a. **Hvorfor læste studenterne ikke den?*
why read student-the-NOM not it-ACC
"Why didn't the student read it?"

b. *Hvorfor læste studenterne den ikke?*
why read student-the-NOM it-ACC not
"Why didn't the student read it?"

Notice that in both (7) and (9) the presence of the pronoun in a position following negation renders the (a) sentences ungrammatical, in Icelandic as well as in Danish.[2] From this it is generally concluded in the literature that 'Object Shift' is obligatory for simple, unstressed, definite pronouns, whereas it is optional —if possible— in the rest of the cases. This amounts to saying that 'Object Shift' is obligatory in the only case in which it is possible in Mainland Scandinavian and Faroese (exemplified in (9) above), whereas it is optional in the rest of the cases in Icelandic (exemplified in (5) and (6)). However, as will be shown in the next section, this optionality is just apparent.

1.1.2 *Semantic interpretation*. As frequently observed in the literature, notably in the work by Diesing (1992, 1996, 1997), and Diesing and Jelinek (1993, 1995) among others, in all Scandinavian languages the shifted object of 'Object Shift' structures receives a certain semantic interpretation that, depending on the different cases,[3] may not be available otherwise (i.e. if the object is not shifted). This is visible in Mainland Scandinavian and Faroese, and is still clearer in the case of Icelandic, as shown below (Norwegian examples in (10) and Icelandic examples in (11) based on Thráinsson, 2001):

(10) a. **Hun så ikke meg*
she saw not me
"She didn't see me"
a'. *Hun så meg ikke*
she saw me not
"She didn't see me"
b. *Hun så ikke MEG*[4]
she saw not ME
"She didn't see ME"
b'. **Hun så MEG ikke*
she saw ME not
"She didn't see ME"
c. *Hun så ikke meg og deg*
she saw not me and you
"She didn't see me and you"

c'. **Hun så meg og deg ikke*
she saw me and you not
"She didn't see me and you"
d. *Hun så ikke ham på sykkelen*
she saw not him on bike-the
"She didn't see him on the bike"
d'. **Hun så ham på sykkelen ikke*
she saw him on bike-the not
"She didn't see him on the bike"

(11) a. *Nemandinn las ekki þrjár bækur*
student-the-NOM read not three books-ACC
"It is not the case that the student read three books"
b. *Nemandinn las þrjár bækur ekki*
student-the-NOM read three books-ACC not
"There are three books that the student didn't read"

In (10), whereas 'Object Shift' is obligatory with an unstressed, definite pronoun ((10a) vs (10a')), it is not possible if the pronoun is stressed ((b) vs (b')), conjoined ((c) vs (c')) or modified ((d) vs (d')). On the other hand, (11) illustrates how the 'Object Shift' structure in (b) yields a specific/quantificational interpretation that (a) lacks. For Diesing (1992, 1996, 1997) and Diesing and Jelinek (1993, 1995) the two contrasts may be unified by assuming that (i) the shifted object has moved from a position within the VP (the one following the clause-medial adverb) to a VP-external one (preceding the adverb), which is, of course, hierarchically higher (in fact, this is the most common account of OS within the generative framework since Holmberg (1986)); and (ii) syntactic structures are related to semantic structures according to the 'Mapping Hypothesis' (Diesing, 1992), which, as shown in the preceding chapter, basically states that elements within VP receive an 'existential closure' interpretation, generally associated to new information in relation to discourse, whereas elements outside VP are in the presupposition domain, the domain of old (presupposed) information. In this light, the examples in (10) are straightforwardly accounted for: the unstressed pronoun is incompatible with the focus information of the VP-internal position, but focus information is the only one available for the stressed counterpart.[5] On the other hand, in the Icelandic sentences, the object within VP receives a predicational reading with no presupposition of existence, but the shifted object is understood as specific/quantificational; in other words, since its existence is presupposed, it is old information regarding discourse.

1.1.3 *'Holmberg's Generalisation'*. According to the sketchy summary of the interplay between semantic meaning and syntactic structure above, one would expect sentences as the following ones to be ungrammatical in both Icelandic (12) and Mainland Scandinavian (here exemplified by Danish) (13), since the simple, unstressed pronoun within VP, that is, within the focus domain, cannot be interpreted as presupposed (Icelandic example adapted from Thráinsson, 2001; Danish example from Vikner, 1994):

(12) *Af hverju hafa nemendurnir ekki lesið hana?*
for what have students-the-NOM not read it-ACC
"Why haven't the students read it?"

(13) *Hvorfor har Peter ikke købt den?*
why has Peter-NOM not bought it-ACC
"Why hasn't Peter bought it?"

Nevertheless, both are fully grammatical in the intended interpretation. Similarly, non-shifted nominal objects in Icelandic can be interpreted as specific or quantificational, although they remain within VP (examples from Thráinsson, 2001):

(14) *Nemandinn hefur ekki lesið þrjár bækur*
student-the-NOM has not read three books-ACC
"There are three books that the student hasn't read, namely..."

Holmberg (1986) observed that, in cases such as the ones in (12), (13), and (14), in which the correlation between meaning and syntactic structure of the kind stated in the 'Mapping Hypothesis' does not obtain, 'Object Shift' seems to be prevented from occurring by the presence of the verb within VP (notice that, in the three examples, the verb appears after negation and preceding the non-shifted object). This apparent dependence of 'Object Shift' on verb movement is known as 'Holmberg's Generalisation', and holds for the whole Scandinavian family. Thus, given general assumptions of verb movement in each of the relevant languages, 'Holmberg's Generalisation' entails that:
(i) In Mainland Scandinavian, in which there is no verb movement to T, but only to C in root clauses, 'Object Shift' is applicable if the main verb is finite and the clause is root ((15a), (15b)), but it is not applicable if either the main verb is non-finite (independently of clause-type, (15c)), or if the clause is embedded (independently of verb finiteness, (15d))[6] (Danish examples, from Vikner, 1994):

(15) a. *Peter købte den ikke*
Peter-NOM bought it-ACC not
"Peter didn't buy it"
b. *Hvorfor købte Peter den ikke?*
why bought Peter-NOM it-ACC not
"Why didn't Peter buy it?"
c. **Hvorfor skal Peter den ikke købe?*
why shall Peter-NOM it-ACC not buy
"Why shall not Peter buy it?"
d. **Det var godt at Peter den ikke købte*
it was good that Peter-NOM it-ACC not bought
"It was good that Peter didn't buy it"

(ii) In Icelandic, in which there is generalized verb movement to T, and also to C in root clauses, 'Object Shift' is applicable if the main verb is finite (independently of clause type, (16a), (16b), (16c)), but it is not applicable if the main verb is non-finite (independently of clause type, (16d)) (examples based on Thráinsson, 2001):

(16) a. *Nemendurnir lásu bækurnar ekki*
students-the-NOM read books-the-ACC not
"The students didn't read the books"
b. *Af hverfu lásu nemendurnir bækurnar ekki?*
for what read students-the-NOM books-the-ACC not
"Why didn't the students read the books?"
c. *Hún spurði af hverfu stúdentarnir læsu bækurnar ekki*
she asked for what students-the-NOM read books-the-ACC not
"She asked why the students didn't read the books"
d. **Nemendurnir hafa bækurnar ekki lesið*
students-the-NOM have books-the-ACC not read
"The students haven't read the books"

The descriptive generalisations above seem to indicate that 'Object Shift' is one of the options Scandinavian languages have in order to license an obligatory relation between the verb and the object that, nevertheless, may be licensed otherwise, as long as the verb remains within VP. Given that, as noticed in the first section of this chapter, only DP complements of verbs are 'shiftable', the most frequent conclusion in the literature is that the relation at stake is Case (Holmberg, 1986; Chomsky, 1993; Holmberg and Platzack, 1995, among others). This would also help explain why there is a wider range of

'shiftable' objects in Icelandic than in Mainland Scandinavian, since the former shows morphological case in both pronouns and nouns, whereas the latter does so only in the case of pronouns.

The picture is, however, complicated by another set of Scandinavian data already pointed out by Holmberg (1986), where it is argued that it is not only the presence of the verb within VP that blocks 'Object Shift', but also that of some other elements, namely prepositions, indirect objects, and verb particles[7] (Swedish examples, from Holmberg, 1999):

(17) a. **Jag talade henne inte med*
I spoke her not with
"I didn't speak with her"
b. **Jag gav den inte Elsa*
I gave it not Elsa
"I didn't give it to Elsa"
c. **Dom kastade mej inte ut*
they threw me not out
"They didn't throw me out"

The ungrammaticality of structures such as the ones in (17) casts some doubts on the account of 'Object Shift' in terms of Case, which, if it is to be maintained at all, makes it necessary to posit a different hypothesis for the examples in which, despite the absence of the verb in VP, another constituent prevents 'Object Shift' from occurring. Furthermore, even if resorting to two different explanations could cover a larger set of constructions, it would not solve the problems the 'Case hypothesis' has on its own: thus, for example, the grouping of Faroese, a language with morphological case on nouns, with Mainland Scandinavian with respect to 'shiftable' objects, as observed by Vikner (1994); and, most importantly, the semantic effects on the nominal that seems to accompany 'Object Shift' even irrespective of 'Holmberg's Generalisation', since there are nominals, such as non-specific objects, that never shift although the verb has left VP.

The failure of Case-related accounts in explaining all the complexity of the factors involved in 'Object Shift' satisfactorily is the main reason that led Holmberg (1999) and Chomsky (2001) to adopt an alternative view, characterised by the adoption of three basic tenets:

(i) Case is not the only relevant factor in 'Object Shift', if it is relevant at all.
(ii) The two sets of data involved in 'Holmberg's Generalisation' must be treated in a unified way.

(iii) The semantic meaning present in 'Object Shift' structures is inextricably linked to the syntactic operation that shifts the object.

Their specific proposals will be respectively dealt with in Sections 1.2 and 1.3.

1.2 *Scandinavian 'Object Shift' in 'Stylistic Syntax': Holmberg (1999)*

On the basis of Swedish verb topicalisation constructions, in which non-finite verb movement to the CP projection leaves a shifted object behind, Holmberg calls for a unified treatment of the two sets of data involved in 'Holmberg's Generalisation'. Since, as observed above, the conclusion seems to be that the only characteristic shared by all the blocking elements is that they are phonologically realized constituents, he proposes a reformulation of 'Holmberg's Generalisation' as in (18):

(18) 'Holmberg's Generalisation'
'Object Shift' cannot apply across a phonologically visible category asymmetrically c-commanding the object position except when that category is an adjunct.

Given this, the next step is to try to establish a link between the different semantic interpretations the nominal may receive and the presence/absence of those phonologically visible categories (recall that, for instance, presupposed , 'topic-like' elements may remain within VP with the right interpretation if the main verb, a verb particle, a preposition, or an indirect object also appears there). For this purpose, Holmberg assumes that, just because they are phonologically visible as VP constituents, all those elements also bear a [+Focus] feature, differently from adverbs, which, as shown by the fact that they do not prevent 'Object Shift' from occurring, are marked [–Focus]. Likewise, any nominal object appearing within VP would also carry a [+Focus] feature, which would explain why some objects may receive an 'existential closure' reading disregarding 'Holmberg's Generalisation', that is, disregarding the presence or absence of phonologically overt constituents c-commanding them. But, as said above, the central part of Holmberg's analysis is concerned with the question why elements with a non-focused, 'topic-like', presupposed, specific, quantificational, etc., meaning may get that interpretation within VP only when c-commanded by phonologically visible material. Holmberg's answer to this question is that the only way Scandinavian languages have to license a [–Focus] feature (the feature at stake in this kind of reading) is government by an element characterized as [+Focus]. Thus, if the object bearing [–Focus] stays within VP, it will be licensed only in case a c-commanding constituent which

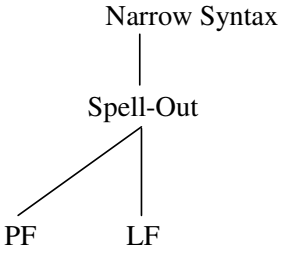
is phonologically realised, and hence [+Focus], appears also there; otherwise, the object will be forced to move to a position where it may be governed by another, VP-external, [+Focus] category (the verb), which accounts for the movement operation, i.e. the 'shift' itself.

Holmberg adopts the minimalist approach to syntax in Chomsky (1993, 1995) (see Section 1.2 in Chapter 4). Within that framework, both the nature of the feature he contends is responsible for 'Object Shift', and the dependence of its licensing on phonological features seem to be alien to what is usually considered purely syntactic: in a system in which all syntactic operations must take place before the derivation has access to the PF component, there is no place for operations dependent on phonological features, which are, by assumption, elements pertaining to PF. In other words, if Holmberg's proposal were to be stated in strictly syntactic terms, the system would have to allow for both countercyclicity (as far as, after realisation of phonological features, an extra strictly syntactic operation may be required to shift the object to the position preceding clause-medial adverbs), and violations of the 'Extension Condition'[8] (since, for example, in the case of Swedish verb topicalisation, movement of the nominal to a higher position would have to take place only once the complete sentence is constructed). These are the main reasons that make Holmberg place 'Object Shift' within a component called 'Stylistic Syntax', which takes as input the output of syntax proper, with the addition of phonological features. However, as Chomsky (2001) argues, there seems to be no need for resorting to components different from the strictly syntactic one, if a different view of the transfer of the derivation to PF is adopted, as I will discuss in the following section.

1.3 *Scandinavian 'Object Shift' in 'Narrow Syntax': Chomsky (2001)*

Chomsky's "Derivation by Phase" (Chomsky, 2001) follows the conclusions the author drew in the preceding "Minimalist Inquiries" (Chomsky, 2000) with respect to the relation between the strict syntactic derivation and the interfaces, which, in turn, entail a clear departure from previous models. Until the appearance of both 'Minimalist Inquiries' and 'Derivation by Phase', the common minimalist assumption had been that the product of the core syntactic derivation (what Holmberg (1999) calls 'Strict Syntax', and Chomsky (2000, 2001) calls 'Narrow Syntax') was transferred to the PF component by means of the procedure called 'Spell-Out' once all the required strict/narrow syntactic operations had been performed, in what is known as the standard 'Y-model' in (19) (see Section 1.2 in Chapter 4):

(19)



Recall that, within this general framework, lexical items are bundles of features, some of which are legible at PF (in general terms, phonological features), some of which are legible at LF (in general terms, semantic features). There exists, however, a third kind of features, those which Chomsky (1995) calls formal features, divided into interpretable and uninterpretable. They differ greatly as far as LF is concerned: formal interpretable features are legible there, but formal uninterpretable ones are not. However, they are similar with respect to PF: if both interpretable and uninterpretable features may have a phonetic reflex (i.e. inflectional affixes may be phonetically realised), they must be in some sense available at PF irrespective of interpretability. What seems to be required, then, is a syntactic mechanism that makes formal uninterpretable features disappear before accessing LF, but, at the same time, preserves them for PF. That mechanism is the operation 'Spell-Out', which removes LF-uninterpretable material from the syntactic object and transfers it to the phonological component. On the other hand, recall also that uninterpretable features are considered responsible as well for the implementation of other syntactic operations whose main objective is to delete them, which constitutes the core of 'feature checking' (Chomsky, 1993, 1995).

However, the Y-architecture is problematic with respect to two different issues. First, as Chomsky (2000, 2001) already notices, it entails great computational complexity, insofar as the whole syntactic object in its integrity must be present in active memory until it reaches the final ('Spell-Out') point. Second, as Epstein and Seely (2002) argue, the model also suffers from important drawbacks having to do both with the way uninterpretable features are checked (or licensed) and the way they may or may not access inteface levels, namely: (i) if formal uninterpretable features are uninterpretable at LF, how can 'Spell-Out', which has no direct access to the LF interface, distinguish them?; and (ii) if feature checking results in uninterpretable feature deletion, how can uninterpretable features be available at PF in the instances in which they present phonetic reflexes?[9]

Chomsky tries to solve these contradictions in "Minimalist Inquiries" and "Derivation by Phase" by reformulating both the feature checking procedure and the 'Y-model' itself. With respect to feature checking, he refines it in terms of feature valuation, according to which the difference between interpretable and uninterpretable features lies in when they receive a value: whereas interpretable features are already valued before they enter the derivation, uninterpretable ones get their value in the course of it. As Epstein and Seely (2002) notice, this is a good solution for the problem posed by 'Spell-Out' having access to LF information, i.e. one of the contradictions pointed out by Epstein and Seely themselves: 'Spell-Out' does not distinguish between interpretable/uninterpretable features, but crucially between valued and unvalued ones. On the other hand, it also seems to improve the picture with respect to another of the problems mentioned above, as far as valuation does not imply deletion, which would account for the presence of phonetic reflexes of uninterpretable features at PF.

Nevertheless, as Chomsky observes in "Derivation by Phase", replacing feature deletion with feature valuation, while completely useless as a remedy to the issue of computational burden, creates a new complication for the Y-model: once an uninterpretable feature is valued, how can 'Spell-Out' tell interpretable from uninterpretable material? There are two possible solutions: (i) Backtracking: 'Spell-Out' reconstructs the derivation searching for all the occurrences of a valued feature in order to check if its valuation took place in the course of the derivation or not. But this solution would entail the same kind of computational burden the system is expected to get rid of, making the 'Y-model' even worse; (ii) 'Spell-Out' applies shortly after an uninterpretable feature has been assigned value. This means, of course, that, differently from what was assumed in the 'Y-model', 'Spell-Out' does not take place at a single (final) point at the end of the narrow syntactic computation, but rather at several ones, which, in turn, amounts to characterizing 'Spell-Out' as multiple and cyclic. The task is now to determine the precise points of the cycle at which 'Spell-Out' is available, and this is just what the notion of phase tries to delimit.

Chomsky (2000, 2001) makes cyclic 'Spell-Out' contingent on the completion of what he calls 'strong phases'. In other words, once the iterative combination ('Merge') of a group of lexical items results in a syntactic object characterized as a strong phase, the object may be spelled out (i.e. deprived of all its phonological and formal uninterpretable features). The crucial question here is what kind of syntactic object may be characterized as a strong phase. For Chomsky, the answer is given by the only elements (apart from lexical items) that are ineliminable on minimalist grounds: the PF and LF interface levels.

Thus, he argues, any syntactic object that is relatively independent at the interface is a strong phase. For the LF component, this means that it must behave as a proposition; for the PF one, it refers to properties that allow it to appear more freely distributed than the rest of the linguistic expression (for example, in fronting, extraposition, pseudo-cleft constructions, etc.). The syntactic objects that seem to display this independent behaviour in natural languages are *v*Ps (the projections of *v*, the light verb head of constructions with full argument structure, i.e. experiencer and transitive predicates), and CPs. Hence, both *v*Ps and CPs, once constructed, may be spelled out.

As it stands, the new model reaches one of Chomsky's main objectives with respect to computational complexity, since entire strings of the derivation (i.e. lower phases) may completely disappear from active memory, but it also brings in new problems, since it seems to forbid the presence of a phonologically realized lexical item (or a group of them, i.e. a phonologically realised constituent) beyond the limits of the strong phase where it has been first merged, which would wrongly rule out standard cases of cyclic A/A-bar movement. In order to avoid this unwelcome result, Chomsky resorts to the interaction of a condition on phases (i), and a property intrinsic to strong phases (ii), as they appear in (20):

(20) (i) Phase Impenetrability Condition: in a strong phase HP, in the configuration $[_{ZP}$ Z… $[_{HP}$ α [H YP]]], ZP the next strong phase:
  a. The domain of H (here, YP) is not accessible to operations at ZP, but only H and its edge.
  b. Interpretation/evaluation for PH_1 (HP, here) is at PH_2 (ZP)
  (ii) A strong phase may be optionally assigned an [+EPP] feature.

From (i) it follows that all those elements that by 'Spell-Out' occupy the edge of the phase (specifiers and/or adjuncts) need not be obligatorily spelled out at the completion of the phasal cycle: the interaction of (a) and (b) makes it possible for a constituent to participate in operations at higher phases, while rendering the lower one free of uninterpretable features. On the other hand, (ii) is absolutely necessary in a system where movement operations are not free, but strictly feature-driven: in other words, if not directly merged at the edge of the phase, the element that is available for subsequent phases must have been moved there, and the only reason for this movement must be feature checking/valuation. Notice also that, since resorting to the [+EPP] feature seems to be motivated exclusively on empirical grounds (i.e. on the existence of cyclic movement itself), EPP feature elimination will always entail pied-piping, which, in turn, always requires phonological content. In this respect, the EPP

feature constitutes the correlate of the notion of strong feature of the earliest versions of the MP (Chomsky 1993, 1995): features that provoke overt movement (i.e. movement with a reflex in linear order) are not strong features on the target, but rather features that appear associated to another, EPP feature. To put it differently, the distinction between strong and weak features collapses, which makes Chomsky redefine covert movement in terms of 'Agree' (i.e. the 'feature checking' of Chomsky 1993, 1995) between the probe and the closest c-commanded goal in its base position.[10]

Chomsky makes extensive use of the conception of cyclic 'Spell-Out' in terms of phases in his analysis of Scandinavian 'Object Shift'. The first consequence of his adoption of it is that 'Object Shift' must be characterized as a process pertaining to the lower phasal cycle, i.e. the *v*P cycle, since the shifted object always appears in a position that follows the subject in Spec TP but precedes the clause-medial adverb signalling the left-hand VP boundary. The second consequence is that, just because *v*P is a strong phase with the ability of being optionally assigned an EPP feature, movement of the nominal to the position in which it is phonetically realised may be understood as movement for EPP feature elimination. There are three things, however, that the phasal account itself —if compared to Holmberg's (1999) proposal— does not explain without further assumptions: (i) why the presence of phonological material within VP may block 'Object Shift'; (ii) why there are different semantic interpretations available for the nominal depending on the presence/ absence of phonological features; and (iii) how optionality in EPP feature assignment (that is, optionality in the shift of the nominal) may be possible in a system in which no optionality is allowed.

Chomsky answers the first question by claiming that phonological features, although not directly involved in pure 'Narrow Syntax' processes such as feature valuation, may nevertheless trigger them by simply appearing or not in the strict syntactic component. This basic intuition is refined in the notion of 'phonological border':

(21) The phonological border of HP is a position not c-commanded by phonological material within HP.[11]

The interplay of the notion of 'phonological border' and the second statement of the 'Phase Impenetrability Condition' above, according to which a phase is interpreted/evaluated at the next strong phase, entails that the DP_2 in (22) will appear at the phonological border of α if both V and DP_1 undergo further raising to another higher phase:

(22) $[_{\alpha}\ DP_1\ [V\ \ DP_2]]$

Hence, the lack of phonological features on V and DP_1 are directly responsible for the status of DP_2 as an element 'at the border'. Notice that, from this perspective, any Scandinavian unstressed definite object pronoun in a transitive configuration in which there is V to T (or C) raising as well as movement of the subject to Spec TP would be 'at the phonological border'.

With respect to the question (ii) above, i.e. how shifted/non-shifted nominals may present different semantic meanings in connection with the presence/absence of phonological features, Chomsky proposes that, for languages in which the 'Object Shift' parameter holds, elements at the phonological border receive an interpretation different from that assigned to those not at the phonological border. He labels the first one as INT' (encompassing basically the meanings Diesing (1992) and also Holmberg (1999) associate with 'existential closure', i.e. non-specific, focused, new information, etc.), and the second one INT (specific, quantificational, non-focused, presupposed, old information, etc.). Thus, for example, it is derived that in 'Object Shift' languages simple, unstressed definite pronouns would receive the interpretation that corresponds to them (that is, INT) only if they are not at the phonological border, that is, only in the case that the verb or any other constituent remains within VP. At the phonological border, on the other hand, they would be assigned an INT', hence deviant, interpretation.

But can 'Object Shift' languages avoid these deviant interpretations of nominals when the computational operations that leave them at the phonological border are implemented? Chomsky links the answer to this question to our third question above, i.e. how to constrain optionality in EPP feature assignment in a system in which optionality is not possible at all. He argues that an EPP feature may be assigned only if it has an effect on outcome, that is, only if it has a bearing on semantic interpretation. In this light, the only cases at stake are those in which a nominal intended to be interpreted as specific, presupposed, quantificational, etc., remains within VP once all the rest of the VP elements have moved anywhere else, that is, when it becomes an element at the phonological border. Only in these cases is an EPP feature assigned, whose elimination, of course, may require the displacement, i.e. the shift, of the object. This is what, according to Chomsky, underlies 'Holmberg's Generalisation'.

So far, Chomsky's phasal account of Scandinavian 'Object Shift' seems to give the right results, to the extent that it brings together 'Holmberg's Generalisation', the different semantic interpretations the nominal may have, and the fact that movement of the object is always movement within the lower cycle,

and it does so without departing from fundamental minimalist tenets. Nevertheless, it also faces both theoretical and empirical problems whose solution may require extra mechanisms, among which:
(i) As stated in the 'Phase Impenetrability Condition', in the configuration

$[_{ZP}$ Z.... $[_{HP}$ α [H YP]]]

both ZP and HP strong phases, α and H are accessible to operations outside HP, which, for the case of Scandinavian 'Object Shift' understood as movement to the *v*P edge, entails that the shifted object should induce intervention effects[12] with respect to the relation established between T and the subject at the edge of *v*P. This is not confirmed by empirical evidence, as illustrated by (23), where the subject in the innermost specifier of *v* agrees with T despite the shifted object:

(23) *Nemandinn*$_{\text{SUBJ/ NOM,SING}}$ *las* $_{\text{V, SING}}$ [*bækurnar*]$_{\text{OBJ / ACC PL}}$ *ekki*
student-the read books-the not
$_{v}$P[t_{obj}[t_{subj} [*v*...]]]
"The student didn't read the book"

The shifted object does not prevent raising of Subj to Spec TP.
(ii) Chomsky, citing Holmberg (1999), notices that in Mainland Scandinavian 'Object Shift' the pronoun seems to occupy a position higher than the *v*P edge, since it precedes negation (24a), and negation, in turn, precedes the auxiliary verb's base position, as demonstrated by embedded clauses containing auxiliary verbs —(24b)— (there is no verb movement in Mainland Scandinavian embedded clauses) (Swedish examples, from Holmberg, 1999):

(24) a. *Jag kysste henne inte*
I kissed her-ACC not
" I didn't kiss her"
b. *Det är möjligt* [*att jag inte har kysste henne*]
it is possible that I not have kissed her-ACC
"It is possible that I haven't kissed her'

Chomsky overcomes these difficulties by invoking a language-specific operation called DISL (a dislocation rule). DISL is reminiscent of normal syntactic displacement in that it moves a constituent to a higher position (in (23) the position immediately preceding negation). But, unlike strictly syntactic movement, it does not correlate with a change in semantic interpretation.[13] This

leads Chomsky to characterise DISL as an operation of the phonological component: at the relevant stage of the cycle, the object in Spec, *v*P is transferred to the phonological component, where it undergoes displacement to its ultimate position in the string (preceding negation in (24)). This entails that the narrow syntactic computation must proceed with a Spec, *v*P phonologically empty even prior to the strong-phase level, at which point the position would have become phonologically empty even if not subject to DISL. Although a phonological operation, the effects of DISL in 'Narrow Syntax' are important, especially due to Chomsky's (2001) principle (46), which states that only "the phonological edge of HP is accessible to probe P" (recall that 'phonological edge' refers to an edge element with no phonological material c-commanding it within the category). Chomsky links this principle on two properties characterising inactive traces: (i) they disallow pied-piping, insofar as they lack phonological features; (ii) they cannot induce intervention effects, insofar as they are inactive, that is, all their uninterpretable features have already received a value. In this light, if Scandinavian shifted objects also undergo DISL, the subject in situ becomes the closest goal not only with respect to the [+EPP] feature elimination on T, but also with respect to valuing the uninterpretable phi-features of this functional head.

From the discussion above, it is concluded that Chomsky motivates the existence of an operation such as DISL in Scandinavian 'Object Shift' exclusively on a theoretical basis, since it makes his account compatible with economy considerations that are central to the 'Minimalist Program'. This is probably the reason why DISL has been considered highly controversial, and criticised on several grounds. For instance, Svenonius (2001) contends that it is completely dispensable, and that the high position occupied by the shifted constituent as well as the absence of intervention effects must rather be explained in terms of the direct movement of the shifted object to TP (or even CP), which is possible by assuming a modified version of Chomsky's multiple, cyclic 'Spell-Out'. According to this modified version, 'Spell-Out' is not contingent on the completion of a strong phase, but rather on the total elimination of uninterpretable (unvalued) features within a phrase (not phase), which implies that 'Spell-Out' happens as quickly as possible, in the spirit of Pesetsky's (1989) 'Earliness Principle', or the 'Spell-Out within the Rule' in Epstein and Seely (1999, 2002). Since, at the same time, 'Holmberg's Generalisation' must be accounted for, Svenonius proposes a formulation of early 'Spell-Out' as in (25):

(25) A phrase goes to 'Spell-Out' if
  (i) it no longer contains any unvalued features, and
  (ii) its head has reached its final landing site

(25) amounts to saying that, if the verb must undergo raising to T or C, the object will be not transferred to PF, but be available for operations outside *v*P. Thus, 'Holmberg's Generalisation', in its earlier formulation (Holmberg, 1986), is derived.

The only pending problem Svenonius's analysis must face is how to account for the different interpretations shifted vs unshifted nominals may present. Since he rejects movement of the object to the *v*P edge, the relevant semantic meaning must be dependent only on feature elimination at TP or CP. Svenonius argues that this dependence is articulated around two main elements: clause structure at LF, and 'Indirect Feature-Driven Movement' (IFM), i.e. the insertion of strong features (Chomsky, 2000). Given that the clause at LF is split into a topic-comment structure, any DP occupying a position in the lower comment part would be interpreted as comment (i.e. focused, non-specific, etc.), unless it undergoes movement to the topic substructure. This movement may be LF movement or movement in 'Narrow Syntax', which, in the spirit of Pesetsky's 'Earliness Principle' again, is to be preferred. The question now is how something evaluated at LF may be rescued in 'Narrow Syntax'. Svenonius's answer combines IFM with his conception of early 'Spell-Out': once the clash between semantic interpretation of the shiftable object and its position within the comment substructure has been detected at LF, the string may be sent back to 'Narrow Syntax' if no relevant part of it (i.e. the part containing the object) has been previously spelled out, that is, if either unvalued features remain within it, or its head has not reached its final landing site. Once the phrase is in 'Narrow Syntax' again, a strong feature may be inserted allowing the nominal to move there. According to Svenonius, the feature in question is probably a strong Case feature, which would explain why Scandinavian 'Object Shift' affects only DPs. This analysis predicts that only in those languages and in those structures in which the verb moves beyond *v*[14] is 'Object Shift' implemented.

As is evident from the sketchy summary above, Svenonius's analysis crucially depends on considering verb movement as the element regulating the size of the string that may be subject to 'Spell-Out'. Notice, however, that this role of the verb as 'regulating' element is established on the basis of both a stipulation (the second tenet in (25), by which a phrase whose head has not reached its final landing site cannot go to 'Spell-Out'), and the assumption that phonological features, the only uninterpretable ones Svenonius considers the

verb has before reaching its ultimate position, are unvalued with respect to 'Spell-Out' itself, that is, their lack of value prevents 'Spell-Out' from removing them from the strict syntactic derivation (recall that 'Spell-Out', as formulated in Chomsky (2000, 2001), may act only on (recently) valued features). Nevertheless, the picture arising from these two premises has, in my opinion, far-reaching consequences that seem to call for a re-shaping of the minimalist model going even beyond the way phases are conceived.

One of these aspects is related to the way uninterpretable features must be understood. According to the model in Chomsky (1995, 2000, 2001), the existence of uninterpretable features, an apparent imperfection of natural languages, is probably a part of an optimal solution to minimal design specifications (along the lines of what Chomsky (2000, 2001) calls 'the strongest minimalist thesis'), since it allows lexical items or their combination to appear in different (structural) positions (i.e. the 'displacement' property), each conveying a distinct semantic interpretation. However, in Svenonius's account, the presence of uninterpretable phonological features on verbs, while being on a par with the rest of uninterpretable features with regard to barring 'Spell-Out' from acting, fails to make it possible to endow the 'displaced' element (i.e. the verb itself) with a new meaning.[15] Thus, in general terms, since valuing of phonological features seems not to entail differences in semantic interpretation, it is preferable to consider it as an operation taking place exclusively at PF (Chomsky, 2001).

The second aspect in which Svenonius's account departs from common minimalist tenets is his conception of IFM, i.e. the insertion of strong features. This mechanism was first envisaged by Chomsky (2000) as a way to allow for successive cyclic movement while keeping a phasal derivation. But, whereas in Chomsky the insertion of the required strong feature takes place only at the end of a phase (thus targeting its edge), in Svenonius the feature may be inserted in phase-internal positions. This clearly contradicts the 'Extension Condition' (see footnote 8, this chapter).

Svenonius's hypothesis, based as it is on the crucial relevance of uninterpretable phonological features on the verb, also faces some empirical problems. In particular, it takes the analysis of Scandinavian 'Object Shift' back to the stage at which it was impossible to posit a unified treatment of those instances in which the verb blocks the movement of the nominal and those in which some other constituent does, which means, of course, losing Holmberg's (1999) fundamental insight.

In conclusion, I think that Svenonius's proposal fails in its main objective, i.e. to get rid of Chomsky's (2001) DISL. And it fails for two fundamental reasons: (i) as we have discussed in the preceding paragraphs, DISL is dispensed

with only at the cost of increasing theoretical complexity and disregarding one fundamental set of data (those in which non-verbal elements prevent 'Object Shift'); and (ii) as we will see presently, there is empirical evidence supporting the idea that DISL —or some comparable phonological process— is also a part of a phenomenon partially resembling Scandinavian 'Object Shift', namely German scrambling.

2. *The phonological side of German scrambling*

The present section extends Chomsky's analysis of Scandinavian 'Object Shift' to German scrambling structures. As discussed above, such an analysis is based on three fundamental tenets: (i) surface semantic effects are restricted to 'Narrow Syntax'; (ii) phonological features may condition strictly syntactic operations; (iii) there are special procedures that strip the narrow syntactic derivation of phonological features at points different from those coinciding with the completion of strong phases (that is, procedures with the basic properties of DISL). According to Chomsky, the case of Scandinavian 'Object Shift' clearly corroborates (i), (ii) and (iii). With respect to (i), the strong, specific, presuppositional, etc. interpretation a shifted object receives is the result of the strictly syntactic operation 'Move'. 'Move', in turn, takes place in order to get rid of an EPP-feature, optionally assigned to yield a semantic output which is not available otherwise. (ii) is responsible for 'Holmberg's Generalisation': elements that are not at the 'phonological border' may get the interpretation associated to shifted constituents in situ, which prevents EPP-feature assignment and, consequently, object displacement to the *v*P edge. As for (iii), Chomsky's proposal incorporates the notion of DISL, which is absolutely necessary on several grounds: it explains why the shifted object appears in a position higher than that corresponding to the *v*P edge, and why the subject may cross it on its way to Spec, T without violating the MLC.

There seem to be reasons to assume that German scrambling behaves like Scandinavian 'Object Shift' with respect to these three fundamental properties. This claim is not new as far as (i) is concerned: a topical, discourse-linked interpretation is commonly attributed to both shifted and scrambled constituent, and is captured by proposals such as Diesing's (1992) 'Mapping Hypothesis' (Diesing, 1997). My aim is to show that a similar parallelism may be defended also with regard to (ii) and (iii). In other words, I will contend that, like Scandinavian 'Object Shift', German scrambling entails DISL of the scrambled constituent (Section 2.1), and is sensitive to the position the 'scrambable' element occupies, if that position is defined in terms of Chomsky's (2001) 'phonological border' (Section 2.2).

2.1 *Evidence for DISL*

As was detailed above, Svenonius's (2001) main objection against the presence of DISL(ocation) in Chomsky's (2001) account of Scandinavian 'Object Shift' is that it is stipulative. Since the shifted object does not prevent the checking relation between T and the subject in Spec, *v*, it must be stipulated that it lacks phonological features, which makes it an unsuitable goal. On the other hand, since shifted objects linearly precede other elements that are traditionally assigned a structural position above the *v*P edge (for example, negation), it must be stipulated that object displacement from the *v*P periphery to higher sites is merely phonological, a consequence of DISL itself. Svenonius concludes that "Chomsky's account captures the peculiar characteristics of OS, but at some cost; in order to extend the account to Scrambling generally, it is necessary to be more explicit about what forces the object to move across the adverbs"[16] (2001:5).

The next sections constitute an extension of Chomsky's proposal for OS to German scrambling. It provides further independent evidence for the claim that the kind of reordering attested in Germanic has a phonological side. This phonological side accounts for some of the syntactic and phonological properties that reordered sequences exhibit, which go beyond those attributed by Chomsky to Icelandic 'Object Shift'. This is the fundamental claim in the next two sections, where the behaviour of German topicalised VPs and scrambled coherent infinitivals (which, as far as I know, has never been fully explained in the literature) is shown to be a consequence of the phonological aspect of reordering.

2.1.1 *vP/VP-topicalisation, scrambling sites, and DISL*. When dealing with German VP-topicalisation, both base-generation and movement approaches to scrambling have traditionally capitalised on the data that seem to support one view or the other, basically disregarding those that could constitute potential counterevidence. This section explores the possibility of making both sets of data compatible by resorting to a process DISL, which would serve as a diagnosis for distinguishing true (i.e. 'Icelandic-like') instances of scrambling from other German grammatical phenomena. Before dealing with the exact way in which such compatibility may be possible, it may be useful to review some of the properties of German XP-fronting that are relevant to the subsequent discussion.

2.1.1.1 *Some properties of VP-topicalisation in German*. Like all its Germanic relatives except English, German is a V-2 language (Chapter 2, Section 1), which means, basically,[17] that the derivation of root declarative clauses

obligatorily involves two movement operations: the first displaces the finite verb to C (or a C-related head); the second raises an XP to Spec, C (or to the specifier of a Comp-related projection). As far as the raised XP is concerned, there are no categorial restrictions, although the process seems to be subject to other type of constraints ((8) in Chapter 2, repeated here as (26)) (examples a-b from Grohmann, 2000b; c-d from Schwartz and Vikner, 1996):

(26) a. *Viele Bücher hat Peter gestern gelesen*
many books-ACC has Peter-NOM yesterday read
"Peter read many books yesterday"

a'. **Wenige Bücher hat Peter gestern gelesen*
few books-ACC has Peter-NOM yesterday read
"Peter read few books yesterday"

b. *Wahrscheinlich/gestern hat das Buch Peter gelesen*
probably yesterday has the book-ACC Peter-NOM read
"Probably/yesterday Peter read the book"

b'. **Kaum/Komplett hat Peter das Buch gelesen*
barely completely has Peter-NOM the book-ACC read
"Peter (barely) read the book (completely)"

c. *Das Kind hat das Brot gegessen*
the child-NOM has the bread-ACC eaten
"The child ate the bread"

c'. *Das Brot hat das Kind gegessen*
the bread-ACC has the child-NOM eaten
"The child ate the bread"

d. *Es hat das Brot gegessen*
it-NOM has the bread-ACC eaten
"S/he (the child) ate the bread)'

d'. **Es hat das Kind gegessen*
it-ACC has the child-NOM eaten
"The child ate it"

The pair in (a) illustrates the grammaticality of XP-topicalisation containing increasing quantifiers (a), and its ungrammaticality with decreasing ones (a'). The contrast in (b) shows that sentence and time adverbials may appear fronted, but the process is barred in the case of modal adverbs of the kind of *kaum*, or *komplett*. The two sentences in (c) are well-formed, showing that nominal subjects and objects may both occupy Spec, C. Finally, that this is not so if the DP is pronominal is illustrated by the opposition in (d), where fronting of nominative *es*, but not accusative *es*, results in an acceptable structure. I will

not discuss the exact nature of the constraints holding in (a)-(d). Notice, however, that they are independent of grammatical category, and seem to follow semantic properties (at least for (a) and (b), and perhaps also for the opposition in (c)-(d)).

Given (26) and its consequences, there is nothing preventing XP-fronting of projections headed by a lexical verb. And, in fact, this kind of structure is widely attested in German, with topicalisation of the single V head (27a), the head plus one or more of its internal arguments ((27b), (27c) for transitives, (27d) for passives, (27e) for unaccusatives), and even of the external one ((27f) for unergatives, (27g) for transitives) (examples (d)-(g) from Haider, 1990 and Wurmbrand, 2001b):

(27) a. [*Gelesen*] *hat der Peter das Buch noch nie*
read has Peter-NOM the book-ACC yet never
"It has never happened that Peter read the book"

b. [*Ein Buch gelesen*] *hat der Peter noch nie*
a book-ACC read has Peter-NOM yet never
"It has never happened that Peter read a book"

c. [*Einem Studenten einen Wagen geschenkt*] *hat*
a student-DAT a car-ACC given has
ein Millionär hier noch nie
a millionaire-NOM here yet never
"It has never happened here that a millionaire gave a student a car"

d. [*Ein Orden verliehen*] *wurde ihr erst gestern*
a medal-NOM awarded AUX her-DAT just yesterday
"It just happened yesterday that she was awarded a medal"

e. [*Ein Fehler unterlaufen*] *ist ihrem Mann noch nie*
a mistake-NOM happened is her husband-DAT yet never
"It never happened that her husband made a mistake"

f. [*Aussenseiter gewonnen*] *haben hier noch nie*
outsiders-NOM won have here yet never
"It never happened before that outsiders won here"

g. ?[*Ein Millionär einem Studenten einen Wagen geschenkt*]
a millionaire-NOM a student-DAT a car-ACC given
hat hier noch nie
has here yet never
"It has never happened here that a millionaire gave a student a car"

However, it has been frequently noticed in the literature that the structures in (27) are sensitive to a definiteness restriction, according to which while indefinite nominative arguments can be part of a fronted constituent (27), definite nominative DPs and proper names are prohibited (28) (Kratzer 1984; Haider, 1990; Wurmbrand, 2001b):

(28) a. *[*Der Orden verliehen*] *wurde ihr erst gestern*
the medal-NOM awarded AUX her-DAT just yesterday
"It just happened yesterday that she was awarded the medal"
b. *[*Dieser Fehler unterlaufen*] *ist ihrem Mann noch nie*
this mistake-NOM happened is her husband-DAT yet never
"It never happened that her husband made this mistake"
c. *[*Die Aussenseiter gewonnen*] *haben hier noch nie*
the outsiders-NOM won have here yet never
"It never happened before that the outsiders won here"
d. *[*Der Millionär einem Studenten einen Wagen geschenkt*]
the millionaire-NOM a student-DAT a car-ACC given
hier noch nie
here yet never
"It has never happened here that the millionaire gave a student a car"

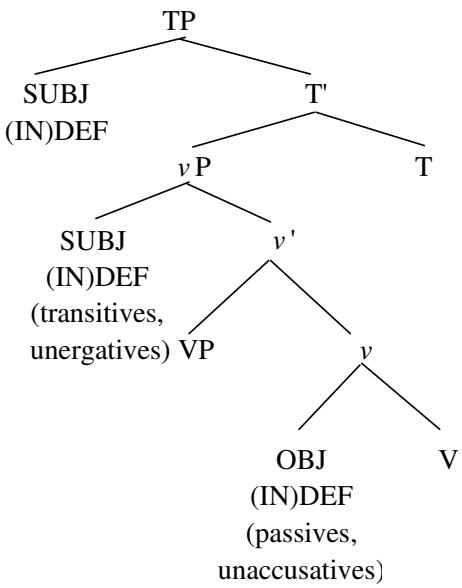
Interestingly, the definiteness restriction does not apply to non-nominative arguments. (29) shows the grammaticality of definite accusatives or datives in fronted constituents:

(29) a. [*Das Buch gelesen*] *hat der Peter noch nie*
the book-ACC read has Peter-NOM yet never
"It has never happened that Peter read the book"
b. [*Dem Studenten das Wagen geschenkt*] *hat der Millionär*
the student-DAT the car-ACC given has the millionaire-NOM
hier noch nie
here yet never
"It has never happened here that the millionaire gave the student a car"

Wurmbrand (2001b) argues that the facts in (27)-(29) and the way the definiteness restriction operates are the result of the interaction of Diesing's (1992) 'Mapping Hypothesis' at LF with the minimalist procedure for Case checking. Wurmbrand standardly assumes that nominative is the reflex of 'Agree'

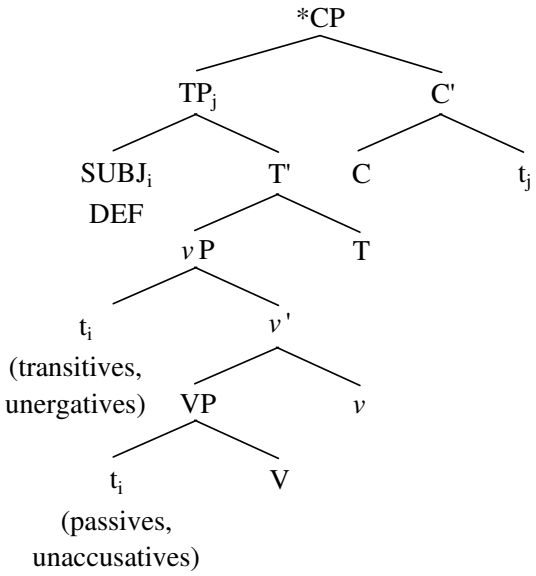
between T and an argument within *v*P/VP (in Spec,*v* for subjects of transitive and unergative predicates, in the sister node to V for passives and unaccusatives). In order for 'Agree' to hold, the argument in question may remain in its base position, or be displaced to Spec, T, whenever T is endowed with an EPP feature, as shown in (30):[18]

(30)



If the argument stays in its base position and the *v*P/VP complex is fronted to Spec,C, the mapping procedure between semantic interpretation and syntactic structure will give the right results only in the case that the nominative argument is associated with the meaning available within the domain of existential closure, namely *v*P: once *v*P/VP moves to Spec, C, it becomes an island for further movement out of it, preventing the definite subject from LF lowering to the T projection. On the other hand, pied-piping of the nominative argument to Spec, T would solve the problem of the mapping. However, since the resulting structure is completely ungrammatical (28), Wurmbrand concludes that TP-fronting is impossible in German:

(31) *TP fronting



Finally, that the definiteness restriction does not hold for objects of transitive predicates is straightforwardly derived: their Case is the result of the 'Agree' relation they establish with *v* (or any other head within the *v*P/VP complex), so no movement out of a frozen constituent is required.

In conclusion, Wurmbrand's discussion of the data in (27)-(29) clearly indicates that, although not subject to categorial restrictions and only partially constrained by semantic ones, XP-fronting in German cannot apply to constituents structurally higher than *v*P.

2.1.1.2 *Scrambling within topicalised VPs*. Defenders of the base-generation approach (Fanselow, 2001), and advocates of untriggered movement within the VP (Haider and Rosengren, 1998, 2003) take structures such as the ones in (32) to be empirical evidence against scrambling as a semantically-driven process (from Frey, 2000):

(32) a. $_{VP}$[*Kindern* *den Sternenhimmel erläutert*] *hat er schon oft*
children-DAT the starry sky-ACC explained has he already often
"He has already explained the starry sky to children"

b. $_{VP}$[*Den Sternenhimmel Kindern erläutert*] *hat er schon oft*
the starry sky-ACC children-DAT explained has he already often
"He has already explained the starry sky to children"

The assumption is that the topicalised constituent in (32a, b) is a VP, and that the possibility of reordering between the accusative and the dative in (31b) supports the existence of VP-internal scrambling. The claim is unproblematic within a pre-minimalist framework, in which all the verbal arguments (including the external one of transitive predicates) are base-generated within VP, and movement always targets a functional projection beyond the VP-periphery. If indeed (32) is a case of VP-internal scrambling, the process cannot be characterised as semantically-driven any more: both the scrambled and unscrambled accusative in (32) are in the domain where non-presuppositional meaning obtains. This view is shared by Fanselow (2001) and Haider and Rosengren (1998, 2003), who find further support for it in three different sets of data:
(i) Existential subjects may precede scrambled objects (Fanselow, 2001). If Diesing (1992) is right, and German existential subjects are syntactically mapped onto the specifier of *v*P/VP, examples such as (33) support the existence of a VP-internal scrambling position, namely the one occupied by the accusative object in (33a) (from Fanselow, 2001):

(33) a. *dass* $_{VP}$[*Studenten das Buch dem Kind zeigen*]
that students-NOM the book-ACC the child-DAT show
"that (some) students show the child the book"
b. *dass* $_{VP}$[*Studenten dem Kind das Buch zeigen*]
that students-NOM the child-DAT the book-ACC show
"that (some) students show the child the book"

(ii) Transparent subjects are compatible with scrambled objects (Fanselow, 2001). According to the standard account of 'Freezing' (Section 1.6, Chapter 3), moved constituents become islands for extraction. Conversely, base-generated constituents allow for the displacement of their internal elements. Thus, Fanselow takes the transparency of the subject in (34) to indicate that it occupies Spec, VP, and not Spec, T. The conclusion is that scrambling of the accusative object in (34b) must have targeted again a VP-internal site:

(34) a. *Was*$_i$ *haben denn damals* $_{vP/VP}$[[t$_i$ *für Studenten*] *dem Kind*
what have PART then for students the child-DAT
das Buch gezeigt]?
the book-ACC showed
"What kind of students showed the book to the child then?"
b. *Was*$_i$ *haben denn damals* $_{vP/VP}$[[t$_i$ *für Studenten*] *das Buch*
what have PART then for students the book-ACC
dem Kind gezeigt]*?*
the child-DAT showed
"What kind of students showed the book to the child then?"

The evidence may, however, be less conclusive than it seems. Recall that De Kuthy and Meurers (2001) and De Kuthy (2002) question the strict correlation between syntactic position and islandhood in German, showing that extraction out of specific subjects is possible (Section 1.6.2, Chapter 3). Similarly, Haider and Rosengren (1998) contend that not all base-generated subjects are transparent, as the ungrammaticality of (35) shows: *wh*-movement out of the subject of an unaccusative subject is barred.

(35) **Was*$_i$ *ist* [t$_i$ *für ein Flugzeug*] *abgestürtz?*
what is for an airplane crashed
"What kind of airplane crashed?"

(iii) Argument scrambling within other, non-verbal, projections (Haider and Rosengren, 1998, 2003). As our review of the main descriptive properties of scrambling showed in Chapter 3, the reordering between the different arguments of a non-verbal lexical head is always possible, provided that it takes place within that head's final projection (example from Haider and Rosengren, 1998):

(36) a. *ein jedem an Kraft überlegener Sportler*
a everyone-DAT in power superior athlete
"an athlete superior to everyone in power"
b. *ein an Kraft jedem überlegener Sportler*
a in power everyone-DAT superior athlete
"an athlete superior to everyone in power"

One must conclude that the proofs are overwhelming, and this is probably what leads Fanselow and Haider and Rosengren to make the strongest possible claim about the nature of German scrambling (see the corresponding sections

in Chapter 4): all instances of reordering with verbal arguments have the same source, base-generation (Fanselow), or untriggered displacement within the extended VP. Besides, there is an underlying aspect that is common to both analyses: base-generation and untriggered movement are restricted to the projection of the lexical head selecting for the scrambled argument. For Haider and Rosengren, who do not agree with Chomsky's assumption that subjects of predicates with full argument structure occupy the specifier of the light verb *v*, the head at stake is V. For Fanselow (2003), who accepts Chomsky's proposal, it is *v* (after V-to-*v* raising). At this point, I would like to draw the reader's attention to the following set of examples ((37) based on Wurmbrand, 2001b; (38) based on Haider and Rosengren, 1998; my informants' judgement):

(37) a. ?[*Ein Millionär dem Studenten einen Wagen geschenkt*]
a millionaire-NOM the student-DAT a car-ACC given
hat hier noch nie
has here yet never
"It has never happened here that a millionaire gave the student a car"

b. *[*Dem Studenten ein Millionär einen Wagen geschenkt*]
the student-DAT a millionaire-NOM a car-ACC given
hat hier noch nie
has here yet never
"It has never happened here that a millionaire gave the student a car"

c. *dass dem Studenten ein Millionär einen Wagen hier*
that the student-DAT a millionaire-NOM a car-ACC here
noch nie geschenkt hat
yet never given has
"that it has never happened here that a millionaire gave the student a car"

(38) a. [*Immer Zigarren geraucht*] *hat damals keiner*
always cigars-ACC smoked has then no-one-NOM
"No one always smoked cigars then"

b. *[*Diese Zigarren immer geraucht*] *hat damals keiner*
these cigars-ACC always smoked has then no-one-NOM
"No one always smoked these cigars then"

c. *dass diese Zigarren immer keiner geraucht hat*
that these cigars-ACC always no-one-NOM smoked has
"that no one always smoked cigars then"

In both Fanselow's and Haider and Rosengren's accounts, pre-subject scrambling (i.e. scrambling of an argument past the subject position) is straightforward, which explains the grammaticality of (37c): for Fanselow, *dem Studenten* is licensed by *v*, which hosts the incorporated V. V has previously licensed the accusative *den Wagen* in VP:

(39) $_{v}$[*dem Studenten* $_{v}$[*ein Millionär* $_{v}$[$_{v}$[$_{VP}$[*einen Wagen* t_i] *v* + V *geschenkt*$_i$]]

For Haider and Rosengren, who do not assign the subject any privileged status apart from its pre-derivationally assigned nominative case, the dative has left its base-generation position below the nominative and undergone re-merging above it, within the boundaries of the extended 'Minimal Argument Projection Complex' (MAC) (that is, the extended VP):

(40) $_{VP}$ [*dem Studenten*$_i$ [*ein Millionär* [t_i [*einen Wagen geschenkt*]]]]

The question now is why (37b) is ruled out, if, as suggested by the grammaticality of (37a), *v*P-fronting is an option in German (see the summary of the discussion in Wurmbrand, 2001b above).

A similar case is illustrated by the sentences in (38), although perhaps less clearly due to the difficulty of establishing the exact position where adverbs are base-generated in German. In any case, the question they raise is obvious, even if we agree with Haider and Rosengren (1998) that *immer* is relatively low in the tree.[19] If in (38c) *diese Zigarren* has been directly merged as sister to the *v*+V complex (Fanselow), or displaced there by means of untriggered, VP-internal scrambling (Haider and Rosengren), why is it that the whole constituent cannot be fronted? Notice that the reason has to be unrelated to the ill-formedness derived from topicalising temporally modified *v*P/VPs:[20] (38a) is fully grammatical, according to Haider and Rosengren's own judgement. The conclusion is that, as also shown by (37), scrambling within topicalised verbal lexical projections seems to be restricted to VPs, and is barred for *v*Ps. This is entirely unexpected within Fanselow's and Haider and Rosengren's analyses, and undermines the traditional generalisation on which Wurmbrand (2001b) capitalises, according to which any verbal projection below TP may be subject to XP-fronting.

As for the additional evidence appearing in (34)-(35), it does appear to support the idea of VP-internal scrambling, but does not tell us anything about the distinction between such a process and the more restrictive type of reordering that takes place past the *v*P-edge (where 'more restrictive' refers to the

impossibility of its appearance in Spec, C). With respect to (36), it argues for VP-internal scrambling on the basis of its correlation with a parallel phenomenon within other lexical (probably head-final, as Haider and Rosengren propose) projections. However, that the facts are again problematic for Fanselow's and Haider and Rosengren's proposals is evidenced by (41) (examples (41a)=(36a) and (41b)=(36b) from Haider and Rosengren (1998), their judgement; (41b), (41c), (41d), (41e) my informants' judgement):

(41) a. *ein* [*jedem an Kraft überlegener*] *Sportler*
a everyone-DAT in power superior athlete
"an athlete superior to everyone in power"

b. *ein* [*an Kraft jedem überlegener*] *Sportler*
a in power everyone-DAT superior athlete
"an athlete superior to everyone in power"

c. *dass er allen gestern überlegener war*
that he all-DAT yesterday superior was
"that he was superior to everyone yesterday"

d. *dass er allen gestern überlegener zu sein versucht hat*
that he all-DAT yesterday superior to be tried has
"that he tried to be superior to everyone yesterday"

e. **dass er einer allen gestern überlegener Sportler war*
that he a all-DAT yesterday superior athlete was
"that yesterday he was an athlete superior to everyone"

f. **dass er einer allen gestern überlegener Sportler zu sein versucht hat*
that he a all-DAT yesterday superior athlete to be tried has
"that yesterday he tried to be an athlete superior to everyone"

Haider and Rosengren contend that (41a) and (41b) support their view (and also Fanselow's): arguments of the adjectival head *überlegener* may show both a canonical, unscrambled order (41a), and also a scrambled one (41b) within the maximal projection of the head selected for them (the AP embedded within the DP headed by the indefinite article *ein*). Their proposal accounts for the grammaticality of (41c) and (41d) in the same terms, on the assumption that adverbials such as *gestern* may be base-generated AP-internal, and the arguments of head-final projections may be freely adjoined within the extended MAC. But that those adverbials must occupy a higher position is shown in (41e), (41f), where embedding of the AP within the DP headed by *einer* results in two ill-formed structures. On the absence of an explanation why the scope of

gestern may be restricted to the adjectival head in (41c) and (41d), but not in (41e) and (41f), the null hypothesis is that the scrambled (pre-adverbial) argument in (41c,d) must uniformly occupy a position structurally higher than the one defended by Haider and Rosengren, certainly outside the adjectival phrase, as in (42) below. Notice that, given the contrast between (41a,b) and (41e,f), this basically entails that scrambling across a co-argument (41a,b) and scrambling across an adverbial (41e,f) must constitute different phenomena also in the case of arguments of adjectival heads.

(42) a. *dass er allen*$_i$ *gestern* $_{AP}$[t$_i$ *überlegener*] *war*
that he all-DAT yesterday superior was
"that he was superior to everyone yesterday"
b. *dass er allen*$_i$ *gestern* $_{AP}$[t$_i$ *überlegener*] *zu sein versucht*
that he all-DAT yesterday superior to be tried
hat
has
"that yesterday he tried to be superior to everyone"

We are thus left with two interesting puzzles: (i) scrambled constituents in German may occur both within the limits of the maximal projection of their selecting head, and beyond them; (ii) the maximal projection that contains them may undergo fronting (if a *v*P) or embedding (if an AP) only in the former case, but not in the latter. Both Fanselow's and Haider and Rosengren's approach to scrambling may account for (i) (by resorting to head incorporation, or to untriggered movement extending the VP); but they clearly fail with respect to (ii). In my opinion, this can be traced back to a questionable assumption underlying nearly every proposal for German scrambling, namely that a single, unique process derives all the order possibilities attested in that language.

2.1.1.3 *Proposal I: Two positions for scrambling in German*. The claim I would like to make in this section is weaker than those found in Fanselow (2001, 2003), or Haider and Rosengren (1998, 2003) in that it does not try to reconcile the puzzling sets of data presented in the preceding section. I propose that German allows for two distinct scrambling sites, and that this dichotomy is responsible for the conflicting evidence we have just reviewed. That there are two scrambling sites in German is not a new assumption, since the traditional division between pre-subject and post-subject scrambling implies precisely that. However, such a division is not the one I maintain here, under the standard view (Haider, 1990) that German subjects may remain in their base-

generated position (see Section 1.5.2 in Chapter 3, and the evidence drawn from VP-topicalisation above).

The first 'scrambling' position I argue for is the one suggested by the examples crucially used to support the base-generation approach: basically, examples of scrambling within topicalised VPs (32), scrambling after existential subjects (33), and scrambling within lexical projections such as APs (36). For these cases, I adopt the main tenet of base-generation studies, according to which the apparently scrambled constituent is directly merged in that position. However, I reject both head incorporation and untriggered movement as the factors responsible for allowing 'Merge' in higher positions. In other words, 'base-generated scrambling' may take place only within the strict limits of the maximal projection of the selecting head in its initial position, i.e. in (43b) but not (43c):

(43) a. *dass der Millionär dem Studenten das Wagen hier*
that the millionaire-NOM the student-DAT the car-ACC here
noch nie geschenkt hat
yet never given has
"that it has never happened here that the millionaire gave the student the car"

b. *dass der Millionär das Wagen dem Studenten hier*
that the millionaire-NOM the car-ACC the student-DAT here
noch nie geschenkt hat
yet never given has

c. *dass das Wagen der Millionär dem Studenten hier*
that the car-ACC the millionaire-NOM the student-DAT here
noch nie geschenkt hat
yet never given has

Excluding (43c) as an instance of base-generation is justified on both theoretical and empirical grounds. Theoretically, this alternative fares better with standard minimalism than Fanselow's or Haider and Rosengren's mechanisms for its base-generation: if Chomsky (2001) is right, the kind of head incorporation Fanselow resorts to is conceivably a PF process, thus probably unconnected to argument licensing;[21, 22] on the other hand, as extensively discussed in Chapter 4, Haider and Rosengren's untriggered movement within 'Narrow Syntax' goes against basic economy conditions that may not be violated. Empirically, the crucial fact is the unexpected contrast between (32) and (37), (38) above, that is, the grammaticality of *v*P/VP-topicalisation if scrambling takes place within the boundaries of VP, and its ungrammaticality if the scrambled

element precedes an element merged higher than VP (the subject of a transitive predicate, or a frequency adverb such as *immer*). As will be shown in the following section, this contrast may be seen as a reflex of the differences between 'base-generation scrambling' and the process responsible for placing a constituent in pre-subject or pre-adverbial position.

There is a further piece of evidence that may support the exclusion of 'base-generated scrambling' in (43c). Fanselow (2003) contends that the base-generation approach he proposes is superior to the standard view that arguments are merged according to a fixed hierarchy, on the basis of the structures below (his judgements):

(44) a. *sollte gestern wen was geärgert haben,*
should yesterday anyone-ACC anything-NOM annoyed have,
dann....
then
"If anything had annoyed anyone yesterday, then…"

b. (?)*sollte gestern was wen geärgert haben,*
should yesterday anything-NOM anyone-ACC annoyed have
dann...
then
"If anything had annoyed anyone yesterday, then…"

Ärgern is a psychological predicate, selecting for two arguments. The normal, unmarked word order is that in (44a), with the accusative experiencer preceding the nominative theme. Nevertheless, although slightly deviant, (44b) is also possible. Notice that both arguments are indefinite, which entails that notions such as topichood, presuppositional meaning, definiteness... are irrelevant for the acceptability of (44b). Fanselow's reasoning is that, if the argument hierarchy view were right, only (44a) would be attested in German. But, obviously, that is not the case, and the slight ill-formedness of (44b) can be made follow from a surface serialisation principle that penalises structures in which inanimate DPs precede animate ones (Hoberg, 1981; Müller, 1999).

The slightly deviant order with psychological predicates becomes, however, completely ungrammatical when the animate argument is agentive. In other words, an indefinite accusative cannot precede an indefinite nominative in the case of transitive predicates:

(45) a. *sollte gestern wer was gesagt haben,*
should yesterday anyone-NOM anything-ACC said have
dann…
then
"If anyone had said anything yesterday, then…"

b. **sollte gestern was wer gesagt haben,*
should yesterday anything-ACC anyone-NOM said have
dann…
then
"If anyone had said anything yesterday, then…"

Surprisingly, the examples in (45) are due to Fanselow himself. But he does not explain how his theory could account for (45b). As shown in Chapter 4 (Section 2.2), Fanselow's system allows arguments of V to be merged with *v*, since V becomes a sublabel of *v* after V-to-*v* raising. The resulting structure is subjected to the surface serialisation principle that accounts for the slight ill-formedness of (44b), namely 'Animate XP First!'. But, unlike (44b), (45b) is completely ungrammatical. To put it simply, 'Animate XP First!' is too weak to rule out (45b). It must be observed that pragmatic ordering principles such as 'Topic First!' and 'Place the focus in the rightmost position!' cannot be invoked either, for both *wer* and *was* are non-given indefinites. In this context, a possible solution could be to enrich Fanselow's set of surface serialisation constraints with an additional one, 'Agents First!', but this alternative is clearly problematic: 'Agents First!' privileges agentive subjects, which amounts to keeping the standard minimalist distinction between *v* and V as two differentiated theta-role assigning heads, despite *v*-to-V movement. Thus, I conclude that the empirical evidence provided by Fanselow does not undermine the common claim that base-generation must take place within the limits of the maximal projection of the selecting head in its initial position, which, in general, entails the impossibility of treating pre-subject scrambling as 'base-generated scrambling'. In other words, 'base-generated scrambling' must obligatorily be 'post-subject scrambling'.

Let us now return to the main point in this section, the proposal that scrambling in the relevant cases is in fact an instance of direct 'Merge' in the VP. I would like to suggest that the availability of this merge position is related to more general properties than those usually invoked in connection with German(ic) scrambling. To this effect, we now consider some evidence from Dutch (Rosengren, 2002; Haider and Rosengren, 2003) but also from a more distant language, namely Persian (Karimi, 2003).

Rosengren (2002) and Haider and Rosengren (2003), drawing on a paper by Broekhuis (2000), report that, while Dutch disallows scrambling of an accusative object past a dative in transitive constructions, it permits a nominative preceding a dative in the case of ergative verbs (examples (46a,a') based on Thráinsson, 2002; (46b,b') from Rosengren, 2002):

(46) a. *dat de vrouw de mannen de film toont*
that the woman-NOM the men-DAT the film-ACC shows
"that the woman shows the picture to the men"

a'. **dat de vrouw de film de mannen toont*
that the woman-NOM the film-ACC the men-DAT shows
"that the woman shows the picture to the men"

b. *dat (er) een meisje erge rampen overkamen*
that EXPL a girl-DAT terrible disasters-NOM happened
"that terrible disasters happened to a girl"

b'. *dat (er) erge rampen een meisje overkamen*
that EXPL terrible disasters-NOM a girl-DAT happened
"that terrible disasters happened to a girl"

(46a,a') are straightforwardly accounted for on the basis of the argument hierarchy view, but (46b,b') are not: along with the normal, unmarked word order in (46b), (46b') is also a grammatical option. Rosengren and Haider and Rosengren observe that reordering necessarily takes place within the (extended) VP, as shown by the existential reading the scrambled nominative receives, and the possibility of there being an expletive on Spec, T.[23] A first conclusion is that, although in a more restrictive way, Dutch is like German in exhibiting different base-generated orders.

Similarly, Karimi (2003) contends that there are two alternative sites for the merging of objects in Persian, one for specific objects, and another for non-specific ones. This is manifested in the syntactic and morphological properties that respectively characterise them, among others:

(i) Specific objects can bind the indirect object; non-specific objects cannot.

(47) a. *man se-tâ bachche-hâ-**ro**$_i$ be hamdige$_i$ mo'arrefi*
I three-PART child-PL-DEF to each-other introduction
kard-am[24]
did-1SG
"I introduced the three children to each other"

b. **man se-tâ bachche$_i$ be hamdige$_i$ mo'arrefi kardam*

(ii) Non-specific objects have to precede the verb and be adjacent to it; specific objects are not subject to this restriction.

(48) a. *Sepide emruz tamiz kard hayât-**o***
Sepide today clean did courtyard-DEF
"Sepide DID clean the courtyard today"
b. **Sepide emruz tamiz kard hayât*

(iii) Specific and non-specific objects cannot appear together in a coordination construction.

(49) **man diruz in aks-**ro** va ketâb xarid-am*
I yesterday this picture-DEF and book bought-1SG
"Yesterday I bought this picture and books"

(iv) Non-specific objects allow for a process of lexicalisation (compounding) with the verb; specific objects do not.

(50) a. **da'vat-**râ** kardan-e Kimea kâr-e dorost-i*
invitation-DEF doing-PART Kimea work-PART right-INDEF
na-bud
NEG-was
"Inviting Kimea was not the right thing to do"
b. *da'vat kardan-e Kimea kâr-e dorost-i*
invitation doing-PART Kimea work-PART right-INDEF
na-bud
NEG-was
"Inviting Kimea was not the right thing to do"

The conclusion Karimi draws from these facts is that Persian specific objects are base-generated in Spec, VP (51a), while non-specific ones are merged as sisters to V (51b), according to her 'Two Object Position Hypothesis' (TOPH) (2003:105):

(51) Two Object Position Hypothesis (TOPH)
a. $_{VP}$[DP $_{[+Specific]}$ $_{V'}$[PP V]
b. $_{VP}$[$_{V'}$[PP $_{V'}$[DP$_{[-Specific]}$ V]

If Karimi is right, Persian would parallel German –in my analysis– but, again, in a more restricted fashion, since the higher site for base-generated ob-

jects is exclusively associated with definiteness. That the restriction does not entirely hold in German is clear from the partial grammaticality of (43b) above, in which an indefinite nominative precedes an indefinite accusative. However, there seems to be a sharp contrast between (52a) and (52b) (my informants' judgement):

(52) a. *dass Studenten das Buch dem Kind zeigen*
that students-NOM the book-ACC the child-DAT show
"that (some) students show the child the book"
b. **dass Studenten etwas/ ein Buch dem Kind zeigen*
that students-NOM something/a book-ACC the child-DAT show
"that (some) students show something/a book to the child"

(52) is parallel to (33) above in that the scrambled accusative object occupies a position following an existential subject probably in Spec, *v*P. In this light, it would constitute an instance of 'base-generated scrambling'. If the ill-formedness of (52b) is the result of a constraint preventing non-specific objects in the higher position of the kind defended by Karimi for Persian, or just a consequence of the application of one of Fanselow's (2003) surface serialisations principles is a matter which I must leave for further research.[25]

Let us now turn to the second type of reordering German grammar allows for, if my analysis is correct. Recall that the primary evidence was based on its distribution: it appears unproblematically in the *Mittelfeld* ((53a),(53b)) (optionally before or after subjects, but obligatorily before frequency and time adverbials), but is forbidden in fronted VPs (53c,d):

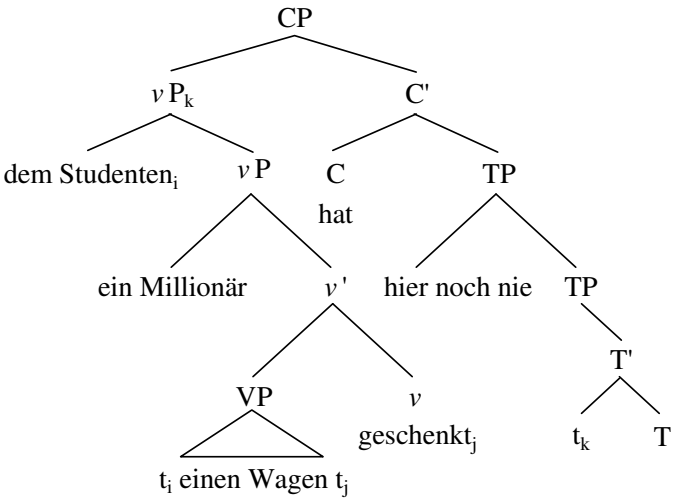
(53) a. *dass dem Studenten ein Millionär einen Wagen hier*
that the student-DAT a millionaire-NOM a car-ACC here
noch nie geschenkt hat
yet never given has
"that it has never happened here that a millionaire gave the student a car"
b. *dass der Millionär dem Studenten immer einen Wagen*
that the millionaire-NOM the student-DAT always a car-ACC
geschenkt hat
given has
"that the millionaire has always given a car to the student"

c. *[*Dem Studenten ein Millionär einen Wagen geschenkt*]
the student-DAT a millionaire-NOM a car-ACC given
hat hier noch nie
has here yet never
"It has never happened here that a millionaire gave the student a car"

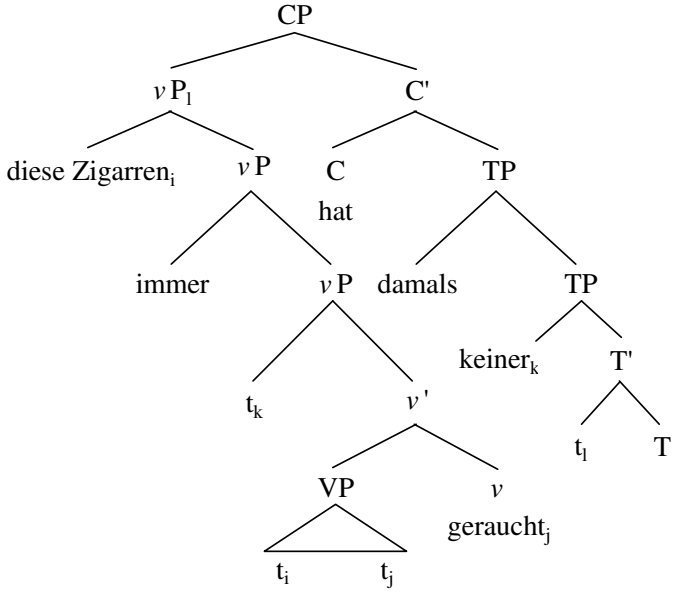
d. *[*Diese Zigarren immer geraucht*] *hat damals keiner*
these cigars-ACC always smoked has then no-one-NOM
"No one always smoked these cigars then"

This is the kind of scrambling to which most of the present work has been devoted: a clause-bound process affecting any kind of arguments, associated to a *v*P/VP-external position, and characterised by the phonological and semantic effects traditionally described in the literature (Lenerz, 1977). With respect to such effects, I refer the reader to Neeleman and Reinhart's (1998) proposal for Dutch (Chapter 3), which I took to be tenable in German also, aside from optional movement in ditransitive predicates. However, as far as 'Narrow Syntax' is concerned, I differ from these authors in that I do not consider all scrambling strings as base-generated. With the exception of those cases I just analysed as 'base-generated scrambling', I agree with the accounts that capitalise on Diesing's (1992) 'Mapping Hypothesis' (among others, Meinunger, 1995) in contending that German scrambling is semantically/pragmatically-driven movement in 'Narrow Syntax'. But I depart from them with regard to the position targeted by the movement operation: it is not an Agr projection, or a topic projection; it is the *v*P-edge, paralleling 'Object Shift' in Scandinavian (Chomsky, 2001), as shown for the ungrammatical (53c) and (53d) in (54a) and (54b) respectively:

(54) a. (corresponding to *(53c))



b. (corresponding to *(53d))



The reasons why the structure in (54a,b), with the scrambled object in Spec, *v*P, is preferable to the structure with the scrambled object in the specifier of a functional projection, as proposed by movement approaches, will be discussed in the next sections. Note, however, that the ill-formedness of both (54a) and (54b) is problematic for any theory defending that German scrambling is always base-generation. Base-generation hypotheses, however, cannot be completely rejected, especially in light of some of the data dealt with in this section: the topicalisation of VPs containing scrambled arguments, the presence of reordered objects after existential subjects, and the scrambling of elements selected for by non-verbal heads. I thus conclude that the kind of 'mixed approach' defended here is empirically more adequate than pure base-generation and movement approaches, insofar as it accounts for the relevant German data without exception.

2.1.1.4 *Proposal II: The interaction of DISL and vP-fronting*. As we know, the model for syntactic derivation developed in Chomsky (2000, 2001, 2004) departs from previous versions in allowing for multiple cyclic 'Spell-Out', which entails that 'Narrow Syntax' may access the phonological interface at several points of the computation. Chomsky makes those points coincide with the completion of what he calls 'strong phases', which, in phonological and interpretive terms, correspond to CPs and *v*Ps. But cyclic 'Spell-Out' does not completely prevent features at a lower phase from establishing 'Agree' operations at a higher one, respecting the 'Phase Impenetrability Condition' ((20) above, repeated here as (55)):

(55) Phase Impenetrability Condition (PIC) (Chomsky 2000:108)
Given HP=[α [H β]], where β is the domain of H and α (a hierarchy of one or more Specs) its edge, in phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.

The PIC is empirically justified by the existence of well-known instances of successive cyclic movement (*wh*-movement, topicalisation...), and the Case-agreement system, if, as standardly assumed since Koopman and Sportiche's (1991) 'VP-internal Subject Hypothesis', subjects are merged in the specifier of the lower phase (*v*P) and value the features of a head in a higher one (T). However, given that the PIC states that not only subjects but any other element at the edge is accessible to operations outside its own phase, the presence of any constituent past the base-generated subject position is expected to violate the 'Minimal Link Condition' ((62) in Chapter 4, repeated here as (56)):

(56) Minimal Link Condition (Chomsky, 1995: 311)
(i) K attracts α only if there is no β, β closer to K than α, such that K attracts β
(ii) α is closer to target K than β if α c-commands β

Recall that Chomsky (2000, 20001a) rules out such a violation by resorting to a condition on strong phases, according to which operations that take place at a lower phase are evaluated at the next higher one. This means that the relation established between the subject and T is legitimate with respect to the MLC only in the case that the element intervening has become an (inactive) trace[26] at the completion of CP. This is straightforward in the case of successive cyclic movement, with the *wh*-moved or topicalised constituent in Spec, C. However, it is more problematic in the case of Scandinavian 'Object Shift', for which Chomsky proposes the special procedure DISL(ocation), which may be interpreted as early, phase-independent, spell-out.

Assume now that, for our ungrammatical examples in (53c) and (53d) above (repeated here as (57a) and (57b), the derivation has reached the end of the strong *v*P phase, with merge of T and subsequent phasal spell-out of the *v*P domain, as represented in (57c) and (57d),[27] where *t* conventionally represents the structural position left by a phrase which has undergone movement in 'Narrow Syntax', and crossing marks constituents sent to PF, i.e. spelled out:

(57) a. *[*Dem Studenten ein Millionär einen Wagen geschenkt*]
the student-DAT a millionaire-NOM a car-ACC given
hat hier noch nie
has here yet never
"It has never happened here that a millionaire gave a car to the student"
b. *[*Diese Zigarren immer geraucht*] *hat damals keiner*
these cigars-ACC always smoked has then no-one
"No one always smoked these cigars then"
c. $_{v}$P[*dem Studenten* $_{v}$P[~~*ein Millionär*~~ $_{v'}$[VP[~~*einen Wagen*~~ t_i] ~~*geschenkt*~~$_i$] T
d. $_{v}$P[*diese Zigarren*$_j$ $_{v}$P[*immer* $_{v}$P[~~*keiner*~~ $_{v'}$[VP[t_j t_i] ~~*geraucht*~~$_i$] T

At that point, all the elements in the domain plus the subject and the verbal head[28] have been stripped of their phonological features: *ein Millionär einen Wagen geschenkt* in (57c), and *keiner geraucht* in (57d). On the other hand, as demonstrated by morphological agreement, T must have targeted the features of the subject across the scrambled object. This operation respects the MLC

only if, at the CP level, both *dem Studenten* and *diese Zigarren* are just traces, i.e. have been deprived of their phonological features. According to Chomsky's (2001), there are only two ways to achieve this: (i) pied-piping of the scrambled object to the C-projection in 'Narrow Syntax'; or (ii) spell-out of its phonological features before the end of the CP-cycle. The former case constitutes standard topicalisation (58a,a'); the latter is a regular case of scrambling in the *Mittelfeld* (58b, b'):

(58) a. *Dem Studenten hat ein Millionär hier noch nie*
the student-DAT has a millionaire-NOM here yet never
einen Wagen geschenkt
a car-ACC given
"It has never happened here that a millionaire gave the student a car"

a'. *Diese Zigarren hat immer keiner geraucht*
these cigars-DAT has always no-one-NOM smoked
"No one always smoked these cigars"

b. *dass dem Studenten ein Millionär einen Wagen geschenkt hat*
that the student-DAT a millionaire-NOM a car-ACC given has
"that a millionaire gave the student a car"

b'. *dass diese Zigarren immer keiner geraucht hat*
that these cigars-ACC always no-one-NOM smoked has
"that no one always smoked these cigars"

But the ungrammatical (57a) and (57b) present a topicalised *v*P in which the scrambled object has undergone neither pied-piping to Spec, C (insofar as it is the *v*P as a whole that occupies this position), nor DISL, since, on Chomsky's assumptions, DISL always targets a higher phase.[29] The co-occurrence of a fronted object and a fronted *v*P is not an option in German, due to the ban on more than one constituent in the initial position of a V-2 structure.[30] But scrambling of the object in the *Mittelfeld* along with *v*P preposing is possible in instances of so-called 'remnant topicalisation' (Thiersch, 1985; Den Besten and Webelhuth, 1987) (Chapter 2) (example based on Fanselow, 2004):

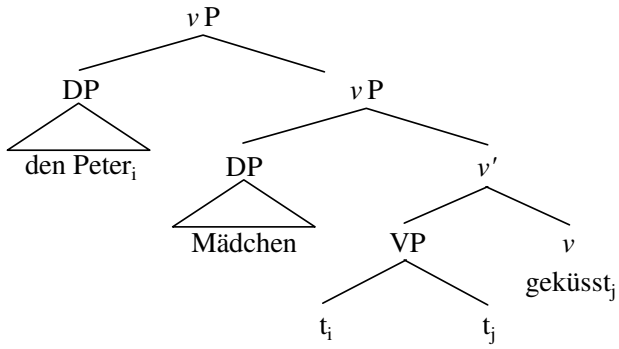
(59) [*Mädchen geküsst*] *haben den Peter noch nie*
girls-NOM kissed have Peter-ACC yet never
"So far girls have never kissed Peter"

That the preposed phrasal projection in (59) is a *v*P is demonstrated by the presence of the subject of the transitive predicate, a bare plural receiving an

existential reading according to the definiteness restriction that holds for this kind of structures. On the other hand, *den Peter* has scrambled from its VP-internal position, as is clear from the fact that it is exempted from movement to Spec, C. Since agreement between the subject in situ and *haben* in T (subsequently moved to C) obtains, the conclusion is that the reordered argument must be inactive for feature valuation. If Chomsky is right, this amounts to saying that its phonological features have undergone DISL to the CP/TP phase, where it appears in the final string:

(60) 1. 'Narrow Syntax'

(i) *v*P-cycle: scrambling of *den Peter* to Spec, *v*.



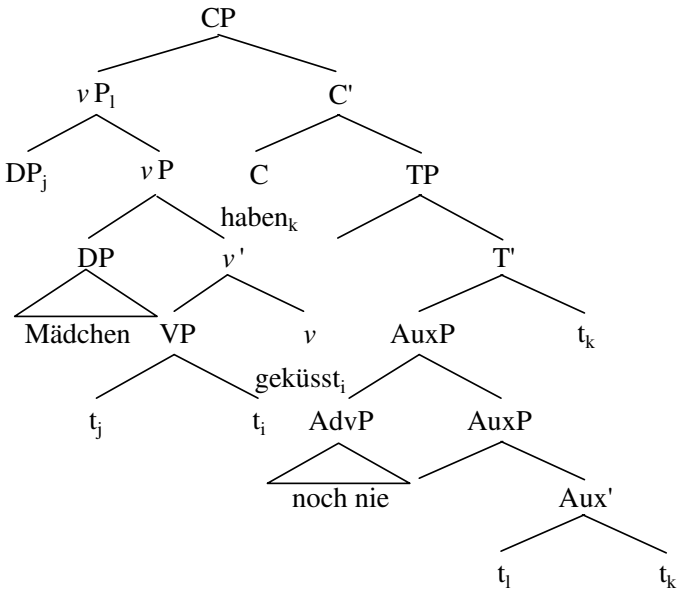
(ii) CP-cycle: merging of T and C (Aux projection and Aux-to-T movement omitted):
[$_C$[*haben* $_{TP}$[*noch nie* $_{TP}$[$_T$[t_{Aux} $_{vP}$[*Mädchen* $_{v'}$[$_{VP}$[t_{obj} t_v] *geküsst*]]]]]]]

2. PF

(i) Spell-out at the level of the *v*P-phase:
$_{vP}$[*den Peter* $_{vP}$[~~*Mädchen*~~ $_{v'}$[$_{VP}$[t_{obj} t_v] ~~*geküsst*~~]]]

(ii) DISL
$_{vP}$[~~*den Peter*~~ $_{vP}$[~~*Mädchen*~~ $_{v'}$[$_{VP}$[t_{obj} t_v] ~~*geküsst*~~]]]

3. 'Narrow Syntax'
   CP-cycle: merging of the spelled-out *v*P in Spec, C.
   $_{CP}$ [$_{vP}$[*Mädchen* $_{v'}$[$_{VP}$[t_{obj} t_v] *geküsst*] $_{C}$[*haben* $_{TP}$[*noch nie* $_{TP}$[$_{T'}$[t_{Aux} $_{vP}$[~~*Mädchen*~~ $_{v'}$[$_{VP}$[t_{obj} t_v] ~~*geküsst*~~]]]]]]].



4. PF
   Spell-out at the level of the CP-phase.
   Mädchen geküsst haben den Peter noch nie

(60) above is just a sketchy summary of the different strictly syntactic and phonological operations that derive (59). The crucial point for the grammaticality of the structure is step (2), i.e. DISL. The following sections present a more detailed analysis of the way it may work. I will contend there that DISL is a two-step process. Apart from accounting for the sudden appearance of *den Peter* in (60-4), it may shed some light on the 'Freezing/Anti-Freezing Paradox' with scrambled coherent infinitives, an issue to which we turn now.

2.1.2 *DISL and the 'Freezing/Anti-Freezing Paradox': the case of coherent infinitives*. The label 'Freezing/Anti-Freezing Paradox' is used here to refer to the puzzling behaviour of German coherent infinitives with respect to islandhood. A brief survey of the main properties of coherent constructions has been

given in Chapter 2, Section 2. The examples that illustrate 'Freezing' and 'Anti-Freezing' appear in Chapter 3 (Section 1.6.3). For the sake of exposition, they will be briefly reviewed here.

Extraction out of a coherent infinitive in its base position is permitted independently of the kind of movement involved. Thus, scrambling of a nominal (61a) or pronominal (61b) argument, topicalisation (61c), and *wh*-movement (61d, 61e) result in grammatical structures, provided that the coherent infinitive appears adjacent to the selecting matrix verb:

(61) a. *dass das Buch*$_i$ *keiner* [t$_i$ *zu lesen*] *versucht hat*
that the book-ACC no-one-NOM to read tried has
"that no one tried to read the book"
b. *dass es*$_i$ *keiner* [t$_i$ *zu lesen*] *versucht hat*
that it-ACC no-one-NOM to read tried has
"that no one tried to read it"
c. *Das Buch*$_i$ *hat keiner* [t$_i$ *zu lesen*] *versucht*
the book-ACC has no-one-NOM to read tried
"No one tried to read the book"
d. *Was*$_i$ *hat keiner* [t$_i$ *zu lesen*] *versucht*
what-ACC has no-one-NOM to read tried
"What did no one try to read?"
e. *das Buch, das*$_i$ *keiner* [t$_i$ *zu lesen*] *versucht hat*
the book-ACC which-ACC no-one-NOM to read tried has
"the book that no one tried to read"

A different picture arises with scrambled coherent infinitives: their nominal arguments may be displaced to Spec, C ((62c), (62d), (62e)), but they cannot scramble (62a). This latter option is, however, still possible with pronominal DPs (62b) (examples (62a) and (62b) from Müller,1998; (63c), (63d) and (63e) from Grewendorf and Sabel, 1994; their judgements):

(62) a. **dass* [t$_i$ *zu lesen*]$_j$ *das Buch*$_i$ *keiner* t$_j$ *versucht hat*
that to read the book-ACC no-one-NOM tried has
"that no one tried to read the book"
b. *dass* [t$_i$ *zu lesen*]$_j$ *es*$_i$ *keiner* t$_j$ *versucht hat*
that to read it-ACC no-one-NOM tried has
"that no one tried to read it"
c. *Den Hund*$_i$ *hat* [t$_i$ *zu füttern*]$_j$ *keiner* t$_j$ *versucht*
the dog-ACC has to feed no-one-NOM tried
"No one tried to feed the dog"

d. *Wen*$_i$ *hat* [t$_i$ *zu füttern*]$_j$ *keiner* t$_j$ *versucht?*
who-ACC has to feed no-one-NOM tried
"Who did no one try to feed?"

e. *der Mann* *den*$_i$ [t$_i$ *zu küssen*]$_j$ *Maria* t$_j$ *versucht hat*
the man-NOM whom-ACC to kiss Maria-NOM tried has
"the man that Maria tried to kiss"

Finally, there are two additional facts that, to my knowledge, are unreported in the literature: (i) pronominal scrambling out of a scrambled coherent infinitive (62b) is ruled out if another constituent intervenes between the pronoun and the verb, unless that constituent is a pronoun itself ((63a) vs (63b)); and (ii) while *wh*-movement and pronominal scrambling are independently permitted ((62b), (62d), (62e)), they cannot co-occur in the same structure (63c). The same is true of topicalisation (63d) (my informants' judgements):

(63) a. **dass* [t$_i$ *zu lesen*]$_j$ *der Peter* *es*$_i$ t$_j$ *versucht hat*
that to read Peter-NOM it-ACC tried has
"that Peter tried to read it"

b. *dass* [t$_i$ *zu lesen*]$_j$ *er* *es*$_i$ t$_j$ *versucht hat*
that to read he-NOM it-ACC tried has
"that he tried to read it"

c. **Wem*$_i$ *hat* [t$_i$ t$_j$ *zu geben*]$_k$ *es*$_j$ *keiner* t$_k$ *versucht?*
who-DAT has to give it-ACC no-one-NOM tried
"To whom did no one try to give it?"

d. **Dem Kind*$_i$ *hat* [t$_i$ t$_j$ *zu geben*]$_k$ *es*$_j$ *keiner* t$_k$
the child-DAT has to give it-ACC no-one-NOM
versucht
tried
"No one tried to give it to the child"

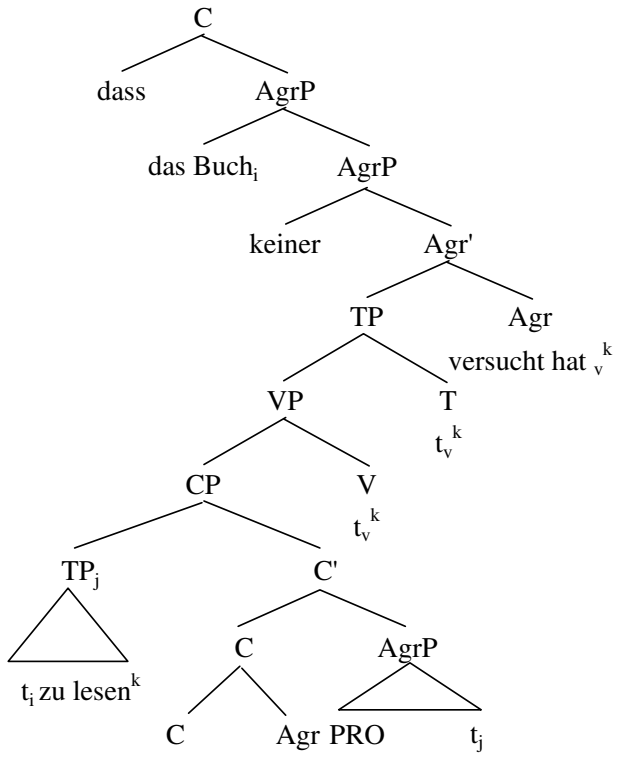
As far as I know, there is no account of 'Freezing/Anti-Freezing' with German coherent infinitives that may satisfactorily cover all the examples above. The following section (2.1.2.1) is devoted to a summary of two of the most prominent accounts, in order to substantiate my criticism. Then I show how an analysis including Chomsky's (2001) special operation DISL as a fundamental component accounts for (61)-(63), leaving no exceptions.

2.1.2.1 *Two previous analyses: Grewendorf and Sabel (1994), Müller (1998).* As stated in the preceding section, the data that illustrate what I have called the 'Freezing/Anti-Freezing Paradox' with German coherent infinitives are only

partially covered in the literature. Thus, it is not surprising that studies tend to capitalise on some examples and disregard others. This is the case with Grewendorf and Sabel's (1994) and Müller's (1998) studies: both disregard the facts in (63), but, while Grewendorf and Sabel focus on the contrast between movement to Spec, C vs scrambling out of a derived position ((62a) vs (62c,d,e)), Müller deals basically with the opposition between (62a) and (62b), attempting to insert it within a more general theory.

Grewendorf and Sabel (1994) first discuss the structures in (61a) and (62a), where scrambling is allowed from an infinitival clause in its base-generated position, but is disallowed if the infinitive is displaced. They attribute this to the interplay of abstract incorporation, a modified theory of barriers, and the 'Empty Category Principle'. With respect to incorporation, Grewendorf and Sabel adopt Baker's (1988) notion of reanalysis as LF-incorporation, through which both embedded and matrix heads would appear as a single verbal complex in 'Logical Form', and be coindexed at 'Surface Structure'. This process of LF-incorporation is subject to the 'Empty Category Principle',[31] and sensitive to barrierhood, also in the sense of Baker (1988). Without going into technical details, Grewendorf and Sabel argue that the infinitive in (61a) is a CP whose verbal head may abstractly incorporate with the matrix verb, since movement of the embedded TP to the C-projection of the infinitival clause triggers the process of coindexing between the embedded and the matrix predicates. On the other hand, if, as they claim, scrambling is adjunction to the matrix predicate, the scrambled element may antecedent-govern its trace due to the non-distinctiveness of the incorporated heads,[32] as shown in (64):[33]

(64) (=61a) *dass das Buch$_i$ keiner* [t$_i$ *zu lesen*] *versucht hat*
that the book-ACC no-one-NOM to read tried has
"that no one tried to read the book"



In turn, the ungrammaticality of (62a) derives from the fact that incorporation cannot take place, since the coherent infinitival clause occupies an adjoined position (Baker, 1988). If incorporation is barred, TP becomes a barrier intervening between the nominal and its trace, thereby preventing antecedent government.

Grewendorf and Sabel also deal with the well-formedness of examples such as (62c,d,e), in which the nominal object may be topicalised or *wh*-moved, despite being adjoined. They claim that their grammaticality is due to the fact they do not involve incorporation, hence there is no movement of the embedded TP to the C-projection. Therefore, the topicalised or *wh*-moved constituent can leave the adjoined infinitive via its specifier position. Notice that this amounts to saying that the infinitives at stake are incoherent.

As it stands, Grewendorf and Sabel's proposal presents two kinds of drawbacks, some related to the theoretical model it adopts (GB), and those related to its empirical coverage itself. Regarding the former, recall that notions such as government, coindexing at SS, etc. are problematic within a minimalist framework of the kind advocated for in Chomsky (1995, 2000, 2001, 2004). Regarding the latter, there is no explanation why (62b), i.e. pronominal scrambling out of an adjoined position, is possible at all. Hypothetically speaking, one could assume that (62b) parallels the well-formed (62c,d,e) in allowing for pronoun movement via Spec, C. But this would necessarily require an account of why this is not an option with scrambling of nominal DPs, that is, an explanation for the ungrammaticality of (62a).[34]

Müller's (1998) approach to the conflicting cases at stake is simpler than Grewendorf and Sabel's (1994), insofar as it makes use of a single overall condition, the 'Principle of Unambiguous Domination'. The principle and the main effects derived from it were already discussed in Chapter 3 (Section 1.6.2), so here we can stick to some basic general issues. In brief, Müller takes the contrast between (61a) and (62a) (i.e. scrambling from a base position vs scrambling from a derived one) to be the reflex of a general constraint on the licensing of traces, his 'Principle of Unambiguous Domination':

(65) Principle of Unambiguous Domination (1998:241)
An α-trace must not be α-dominated

where α-trace is interpreted as a trace with a (not necessarily c-commanding) antecedent in a position of type α, α-dominated means dominated by a category in a position of type α, and type α is, in turn, determined by the different landing sites (Spec, C, XP-Left-Adjoined positions, etc.). As shown in (66) below, both (61a) (=66a) and (62a) (=66b) contain the trace of the scrambled *das Buch*, bound by the DP in its scrambled position. But only in (66b) is this trace ambiguously dominated, according to Müller's principle in (65), since the infinitival projection, also a scrambled element, dominates it:

(66) a. *dass das Buch*$_i$ *keiner* [t_i *zu lesen*] *versucht hat*
that the book-ACC no-one-NOM to read tried has
"that no one tried to read the book"
b. **dass* [t_i *zu lesen*]$_j$ *das Buch*$_i$ *keiner* t_j *versucht hat*
that to read the book-ACC no-one-NOM tried has
"that no one tried to read the book"

According to Müller, that the ill-formedness of (66b) is solely due to 'Unambiguous Domination' is demonstrated by (67), where the infinitive occupies a position of a type different from the one in which the reordered object appears (according to Müller, Spec, C and a position adjoined to IP respectively):

(67) [t_i *zu lesen*] *hat das Buch$_i$ keiner* t_j *versucht*
to read has the book-ACC no-one-NOM tried
"No one tried to read the book"

But 'Unambiguous Domination' should rule out (62b) (repeated as (68) below) on a par with (66b), contrary to fact:

(68) *dass* [t_i *zu lesen*]$_j$ *es$_i$ keiner* t_j *versucht hat*
that to read it-ACC no-one-NOM tried has
"that no one tried to read it"

Müller solves the problem posed by (68) by claiming that, differently from *das Buch* in (62a/66b), *es* has not undergone scrambling, but another sort of displacement targeting a type of position distinct from the IP-adjoined one. This conflicts with two of the examples of (63) above, which seem to suggest that pronoun movement is displacement to two alternative positions, depending on the nature of the subject (69) ((69a)=(63 a), (69b)=(63b)):

(69) a. **dass* [t_i *zu lesen*]$_j$ *der Peter es*$_i$ t_j *versucht hat*
that to read Peter-NOM it-ACC tried has
"that Peter tried to read it"
b. *dass* [t_i *zu lesen*]$_j$ *er es*$_i$ t_j *versucht hat*
that to read he-NOM it-ACC tried has
"that he tried to read it"

Notice that in both instances *es* must have left the *v*P/VP, since it is inherently weak (see Chapter 2, Section 4). Furthermore, the nominal character of the subject does not prevent *es* from preceding it:

(70) *dass es der Peter gelesen hat*
that it-ACC Peter-NOM read has
"that Peter read it"

I conclude that the contrast between (62a) and (62b) is left unsolved in Müller's account.

Müller does not study the structures that combine scrambling of an infinitival clause with the fronting of one of its internal arguments, which are at the core of Grewendorf and Sabel's (1994) proposal. In the light of his general theory, they presumably would need to be discarded as instances of movement out of a frozen constituent.[35]

In the following sections I adopt a 'broader' syntactic perspective, according to which operations in 'Narrow Syntax' (and the conditions they must fulfil) are not sufficient for dealing with the complexity of the 'Freezing/Anti-Freezing' effects exhibited by scrambled coherent infinitives. The main claim will be that purely PF-processes, in their interaction with 'Narrow Syntax', are responsible for the properties of these structures. One such process is, of course, Chomsky's (2001) DISL.

2.1.2.2 **'***Copy theory', 'Chain Reduction', and DISL.* As we know, Chomsky (2001) envisages DISL(ocation) as a phonological operation that strips the (dislocated) constituent of its phonological features, transferring them to PF. It differs from regular spell-out procedures in that it is not linked to phase completion, and causes the (dislocated) string to be phonologically realised in a position preceding the hypothetical syntactic one (the *v*P edge). However, one does not expect any difference between DISL and regular, phase-bound, spell-out as far as the mechanism of transfer is concerned: on principled grounds, they must fit the minimalist approach to syntax in Chomsky (1995, 2000, 2001, 2004), where the syntax-phonology mapping is rendered by means of the 'Copy Theory' of movement and 'Chain Reduction' (Chomsky 1993, 2004; Nunes, 1995, 1999, 2001, 2003, 2004). The general mechanism of 'Copy Theory' and 'Chain Reduction' will be the subject of the following section (2.1.2.2.1). The additional properties which DISL may be endowed with will be the focus of 2.1.2.2.2.

2.1.2.2.1 *'Copy Theory' and 'Chain Reduction'*. From a minimalist perspective, a 'perfect language' should meet the 'Inclusiveness Condition' (Chomsky, 1995, 228):

(71) Inclusiveness Condition
No new objects are added in the computation apart from rearrangement of lexical properties.

As it stands, the 'Inclusiveness Condition' entails a ban on the existence of traces, a type of objects that, within the GB framework, are characterized by being the phonetically null product of movement operations. Since they are

subject to different constraints from those applying to regular lexical items, it follows that they constitute in fact a different entity, whose relation to the moved phrase is established by means of coindexing, a procedure that links the trace to the displaced constituent. Note that coindexing must also be barred by the 'Inclusiveness Condition'.

If traces must be excluded on a theoretical basis, the model faces the problem of explaining how phrases that have been moved may be interpreted, as far as some of their features are concerned, in positions different from the one they occupy in the final string. To put it simply, in an English sentence such as (72) *whom* is supposed to satisfy one of the theta-roles of the thematic grid of *see*, and have the accusative Case assigned by *see*, all of which calls for an explanation.

(72) $\text{whom}_{\text{THEME, ACCUSATIVE}}$ did you see yesterday?

Chomsky (1993) gives a possible solution for this, and maintains it in Chomsky (2004) as the simplest assumption: the 'Copy Theory' of movement. The basic insight is that lexical items, which, recall, are the only elements taking part in the narrow syntactic computation as bundles of features, are merged as many times as feature checking requires it.[36] Each such instance of 'Merge' constitutes, with respect to the lexical item (or group of lexical items) that undergoes it, a copy. Thus, in (72) above, since *whom* is merged three times, its derivational history comprises three copies of it, as shown below:[37, 38]

(73) $_{\text{CP}}[\text{whom}_1\ _{\text{C}}[\text{did}\ _{\text{TP}}[\text{you}\ _{\text{T}}[\ _{v\text{P}}[\text{whom}_2\ _{v}[\text{see}\ _{\text{VP}}[\text{whom}_3\ \text{yesterday}]]]]$

The set of copies of a phrase (a combination of lexical items) is its chain: in (73), the chain of *whom* would be the one formed by <*whom*$_1$, *whom*$_2$, *whom*$_3$>, with *whom*$_1$, the highest copy, as its head, and *whom*$_3$, the lowest copy, as its tail.

Chomsky's proposal entails that all copies must be identical, i.e. they must share the same bundle of features, since, in fact, it is the same lexical item being iteratively merged.[39] And if they must be identical, all of them must also be endowed with phonological features, unless they are empty categories. But it is clear that sequences such as the one in (73) are ungrammatical in English, and that the source of their ungrammaticality has to do with the phonetic realisation of the three copies of *whom*. The question now is when (i.e. at what point of the syntactic derivation) phonological features are erased in the copies 2 and 3 of *whom*.

In the model of multiple 'Spell-Out' (SO) that Chomsky (2000, 2001, 2004) proposes, phonological features enter the narrow syntactic component associated to lexical items, since, as said above, they constitute a group among their other bundles of features. Later on, they disappear from 'Narrow Syntax' (NS), and are handed over to the phonological component (PF), either by means of SO, an operation cyclically applying at the end of each phase (*v*P and CP), or by other phonological operations such as DISL. Leaving aside, for the moment, those other phonological operations, cyclic SO is subject to the 'Phrase Impenetrability Condition', which may prevent elements at the edge of the phase from being spelled out if they must undergo further movement in NS. Thus, after the first SO applying to our English sentence in (72) and (73), the string that PF receives is the one constituted by the underlined elements below:

(74) $_{v\text{P}}$[whom $_{v\text{P}}$[you $_{v}$[<u>see</u> $_{\text{VP}}$[<u>see whom</u> <u>yesterday</u>]]

Chomsky (2004) argues that, while the narrow syntactic cycle continues unchanged (except for the absence of the phonological features of the underlined sequence, handed over to PF by the first SO), the PF component may already perform whatever phonological operations affect the spelled-out string, thus reducing some burden for subsequent PF cycles. I will assume that one of those operations is 'Chain Reduction', i.e. determining which copy of a chain must be pronounced, eliminating the other ones for the next higher phrase. I will return to the exact mechanism below; let it suffice now to state simply that the head of a chain (that is, the highest copy)[40] is the one that must be pronounced (that is, the one keeping its phonological features until the end of the PF cycle is reached) (Chomsky, 2001, 2004). According to this, the 'surviving' phonological string in (74) is now (75):

(75) [see] [whom] [yesterday]

the phonological features of the lower copy of *see* having been eliminated.

After SO has applied for a second time, PF will comprise the elements that appear in (76):

(76) $_{\text{CP}}$[whom $_{\text{C}}$[did $_{\text{TP}}$[you $_{\text{T}}$[$_{v\text{P}}$[whom $_{v\text{P}}$[you]]]

plus the elements that have 'survived' at the lower cycle, that is, the combination of (75) and (76):

(77) $_{\text{CP}}$[whom $_{\text{C}}$[did $_{\text{TP}}$[you $_{\text{T}}$[$_{v\text{P}}$[whom $_{v\text{P}}$[you $_{v}$[see $_{\text{VP}}$[whom yesterday]]]]

The operation of 'Chain Reduction' will delete the lower copies, and only the highest ones will be pronounced, yielding an English grammatical sentence.

(78) Whom did you see yesterday?

2.1.2.2.2 *Additional properties of DISL.* As extensively discussed in different parts of this chapter, Chomsky (2001) envisages DISL as a device for justifying the grammaticality of the Icelandic counterpart to (79):

(79) $John_{subj}$ T [the $book_{obj}$ [t_{subj} read t_{obj}]]

This is necessary because of two facts. In the first place, the object in Spec, *v* does not induce a violation of the 'Minimal Link Condition'. Secondly, as observed by Holmberg (1999), shifted objects seem to precede the *v*P-edge in the final phonological string. Chomsky's characterisation of DISL is minimal, limited to accounting for these two properties in a satisfactory way: DISL is an instance of 'Spell-Out', which explains why the MLC is respected in (79); DISL raises the phonological features of the scrambled object at the edge of the lower strong phase to a higher one (CP), which explains why the shifted object appears phonologically realised past the *v*P edge.

This minimal characterisation apparently suffices for dealing with the Icelandic data Chomsky presents, but in itself would not account for scrambled coherent infinitives in German. I will therefore adopt a more explicit version of it, as in (80):

(80) (i) DISL is a two step-process:
(a) elimination of phonological features from 'Narrow Syntax' and their transfer to PF (an operation of the syntax-phonology mapping)
(b) raising of phonological features to a higher position in the PF string (an operation of PF proper)
(ii) To be subject to DISL a constituent must have a full set of phonological features.

(i) derives from general considerations about Chomsky's model, and its interaction with the high surface position of shifted objects in Icelandic. If cyclic 'Spell-Out' is essentially motivated by the need to transfer material from 'Narrow Syntax' to PF as early as possible, thus freeing the strict syntactic computation from unnecessary burden,[41] the obvious conclusion is that DISL will not be deferred until the CP cycle is finished. But notice that , on the other

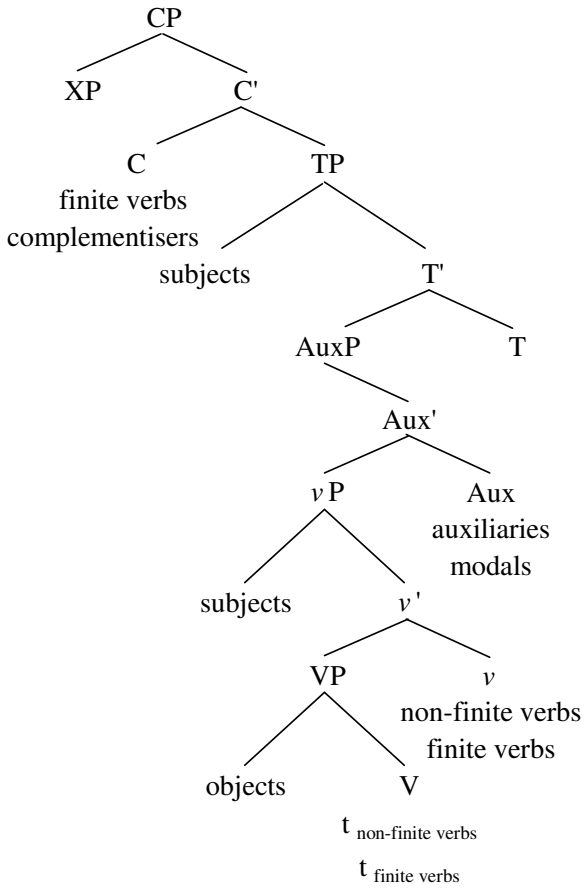
hand, the CP cycle must be completed for DISL to be able to target a position within it at PF. Assuming that DISL applies in two different steps solves the contradiction: (a) satisfies earliness; (b) accounts for the empirical facts.

(ii) is basically a consequence of the analysis we propose for the German data, but I do not think that it is controversial: both (a) and (b) in (i) are phonological operations, and only phonological features are subject to phonological operations. This does not necessarily entail that elements without phonological content cannot prevent some phonological operations from applying; it simply means that phonological operations never apply to them.

2.1.2.3 *The 'Freezing/Anti-Freezing Paradox' revisited.* This section presents a specific analysis of extraction out of scrambled coherent infinitives in the light of the assumptions made so far. Before presenting it in detail, let me recall the exact clausal architecture generally adopted for German.

As stated in Chapter 2, German is basically head-final (VP, *v*P, TP), although it has a head-initial CP, as illustrated by (81) below. Objects are base-generated within VP, where they eliminate their case feature by 'Agree' with *v*. Subjects of predicates with full argument structure are merged in Spec, *v*, and need not move to Spec, T. Non-finite Vs raise to *v*; finite Vs raise to *v* in embedded clauses, and to *v*-T-C in root ones. Modals and auxiliaries are inserted in a left-headed Aux-projection, and move to T and C in root clauses. Root clauses are generally subject to the V-2 constraint, which forces movement of some XP to Spec, C. Finally, and with respect to coherent infinitives, I will follow Wurmbrand (2001a) and take them to be VPs, which entails that (i) their objects eliminate their case feature by means of the relation they establish with the matrix *v*; and (ii) may be pied-piped to the matrix *v*P edge.

(81) $_{CP}$[C $_{TP}$[$_{v}$P[NP $_{v'}$[[$_{VP}$ .... V] *v*]T]]]



Now we turn to the way the contrasts in (61)-(63) above may be accounted for. First we will deal with (61a) vs (62a), that is, the incompatibility between scrambling of the infinitive and scrambling of the object (2.1.2.3.1). Second, we will address the question why topicalisation and *wh*-movement are insensitive to the scrambled or non-scrambled status of the coherent construction (62c,d,e) (2.1.2.3.2). Third, we will focus on the exception constituted by the examples with scrambling of both an infinitive and a pronoun (62b), and we will show how the facts in (63) may lend empirical support to our treatment of (61)-(62) (2.1.2.3.3).

2.1.2.3.1 *Illicit 'double scrambling'*. Scrambling of the nominal object of a coherent infinitive to the matrix clause is constrained by the position occupied by the infinitive itself, as shown by the contrast between (61a) and (61b) (repeated here as (82a) and (82b) respectively):

(82) a. *dass das Buch*$_i$ *keiner* [t$_i$ *zu lesen*] *versucht hat*
that the book-ACC no-one-NOM to read tried has
"that no one tried to read the book"
b. **dass* [t$_i$ *zu lesen*]$_j$ *das Buch*$_i$ *keiner* t$_j$ *versucht hat*
that to read the book-ACC no-one-NOM tried has
"that no one tried to read the book"

My claim is that such a contrast is due to one of the properties of DISL in (80), namely the requirement that elements undergoing any of the operations involved in DISL have phonological features. The constraint is respected in (82a), but violated in (82b), as their respective derivations in (83a) and (83b) show:

(83) a. *dass das Buch*$_i$ *keiner* [t$_i$ *zu lesen*] *versucht hat*
that the book-ACC no-one-NOM to read tried has
"that no one tried to read the book"

- 'Narrow Syntax'
  - *v*P cycle: V raises to *v*; *das Buch* is pied-piped to the *v*P edge for [+EPP] feature elimination (Chomsky, 2001 for 'Object Shift')
    $_{v}$P[*das Buch* $_{v}$P[*keiner* $_{v'}$[VP[[*das Buch zu lesen*] *versucht*] *versucht*]]]
  - CP cycle: merging of T and C (Aux projection and Aux-to-T movement omitted)
    CP[C[*dass* TP[T'[$_{v}$P[*das Buch* $_{v}$P[*keiner* $_{v'}$[VP[[*das Buch zu lesen*] *versucht*] *versucht*]]] *hat*]]]]
- PF
  - 'Spell-Out': phase-bound transfer to PF (*v*P)
    $_{v}$P[*keiner* $_{v'}$[VP[[*das Buch zu lesen*] *versucht*] *versucht*]]
  - 'Dislocation 1' (according to (80ia): elimination of phonological features from NS
    $_{v}$P[*das Buch* $_{v}$P[*keiner* $_{v'}$[VP[[*das Buch zu lesen*] *versucht*]]]
  - 'Chain Reduction' and PF output for PF at CP:
    das Buch keiner ~~*das Buch*~~ *zu lesen* ~~*versucht*~~ *versucht*[42]
  - 'Spell-Out': phase-bound transfer to PF (CP)
    CP[C[*dass* TP[T'[*hat*]]]]

- PF input (Spell-Out of CP plus PF of *v*P)
  dass das Buch keiner ~~das Buch~~ zu lesen ~~versucht~~ versucht hat
- 'Dislocation 2' (raising of phonological features):[43]
  dass das Buch **0** *keiner zu lesen versucht hat*
- 'Chain Reduction' (vacuous):
  dass das Buch keiner zu lesen versucht hat

(83) b. **dass* [t_i *zu lesen*]$_j$ *das Buch*$_i$ *keiner* t_j *versucht hat*
that to read the book-ACC no-one-NOM tried has
"that no one tried to read the book"

■ 'Narrow Syntax'
- *v*P cycle: V raises to *v*; *das Buch* and *das Buch zu lesen* are pied-piped to the *v*P edge.
  $_{v}$P[*das Buch zu lesen* $_{v}$P[*das Buch* $_{v}$P[*keiner* $_{v'}$[VP[[*das Buch zu lesen*] *versucht*] *versucht*]]]]
- CP cycle: merging of T and C (Aux projection and Aux-to-T movement omitted)
  CP[C[*dass* TP[T'[$_{v}$P[*das Buch zu lesen* $_{v}$P[*das Buch* $_{v}$P[*keiner* $_{v'}$[VP[[*das Buch zu lesen*] *versucht*] *versucht*]]]] *hat*]]]]

■ PF
- 'Spell-Out': phase-bound transfer to PF (*v*P)
  $_{v}$P[*keiner* $_{v'}$[VP[[*das Buch zu lesen*] *versucht*] *versucht*]]
- 'Dislocation 1': elimination of phonological features from NS
  $_{v}$P[*das Buch zu lesen* $_{v}$P[*das Buch* $_{v}$P[*keiner* $_{v'}$[VP[[*das Buch zu lesen*] *versucht*] *versucht*]]]]
- 'Chain Reduction' and PF output for PF at CP:
  ~~das Buch~~ zu lesen das Buch keiner ~~das Buch zu lesen~~ ~~versucht~~ versucht
- 'Spell-Out': phase-bound transfer to PF (CP)
  CP[C[*dass* TP[T' [*hat*]]]]
- PF input (Spell-Out of CP plus PF of *v*P)
  dass ~~das Buch~~ zu lesen das Buch keiner ~~das Buch zu lesen~~ ~~versucht~~ versucht hat
- 'Dislocation 2' (raising of phonological features):
  dass ***~~das Buch~~ zu lesen*** *das Buch* **0 0** *keiner versucht hat*
- 'Chain Reduction' (vacuous):
  dass zu lesen das Buch keiner versucht hat

Notice what the crucial differences between (83a) and (83b) are. One relates to 'Chain Reduction' at the *v*P cycle: scrambling of *das Buch* makes it a head

of a chain, which entails that the phonological features of the rest of the copies must be eliminated. This does not have any consequence for the structure in (83a): the phonologically unrealised copy of *das Buch* remains VP-internal, and does no take part in further syntactic or phonological operations. But the situation is different if the entire infinitival clause is pied-piped as well: the phonological features of the copy of *das Buch* contained in it will be eliminated. On the other hand, the constituent is at the *v*P edge, which must be emptied before the end of the CP cycle. This forces the phonological incomplete infinitive to undergo either syntactic displacement to a higher position or DISL. The former results in a well-formed structure, since the presence of phonological features on the infinitival head is enough to license pied-piping (84):

(84) [t_i *Zu lesen*]$_j$ *hat das Buch*$_i$ *keiner* t_j *versucht*
to read has the book-ACC no-one-NOM tried
"No one tried to read the book"

However, DISL requires full phonological integrity, which explains the ungrammaticality of (83a). Thus, we conclude that the ban on 'double scrambling' with nominal scrambling reduces to the impossibility of dislocating constituents that have been previously deprived of some of their phonological features by 'Chain Reduction'.

2.1.2.3.2 *Fronting from base-generation/scrambling positions*. Contrary to scrambling, *wh*-movement and topicalisation may front the object of an infinitival clause irrespective of the kind of position (base-generated/scrambled) it occupies:

(85) a. *Was*$_i$ *hat keiner* [t_i *zu lesen*] *versucht?*
what-ACC has no-one-NOM to read tried
"What did no one try to read?"
b. *Was*$_i$ *hat* [t_i *zu lesen*]$_j$ *keiner* t_j *versucht?*
what-ACC has to read no-one-NOM tried
"What did no one try to read?"

This seems to contradict our findings in the previous section, insofar as a phonologically incomplete infinitival clause may scramble, that is, undergo the two operations that DISL encompasses. I will now show that the partial lack of phonological features in the conflicting (85b) is just apparent, and that, at the points at which DISL applies, the infinitival clause is still phonologically complete.

(86) *Was*$_i$ *hat* [t$_i$ *zu lesen*]$_j$ *keiner* t$_j$ *versucht?*
what-ACC has to read no-one-NOM tried
"What did no one try to read?"

- 'Narrow Syntax'
  - *v*P cycle: V raises to *v*; *was* and *was zu lesen* are pied-piped to the *v*P edge[44]
    $_{v}$P[*was zu lesen* $_{v}$P[*was* $_{v}$P[*keiner* $_{v'}$[$_{VP}$[[*was zu lesen*] *versucht*] v*ersucht*]]]]
  - CP cycle: merging of T and C; T-to-C movement; *wh*-movement (Aux projection and Aux-to-T movement omitted):
    $_{CP}$[*was* $_{C}$[*hat* $_{TP}$[$_{T'}$ [$_{vP}$[*was zu lesen* $_{vP}$[*was* $_{vP}$[*keiner* $_{v'}$[$_{VP}$[[*was zu lesen*] *versucht*] *versucht*]]]] *hat*]]]]
- PF
  - 'Spell-Out': phase-bound transfer to PF (*v*P)
    $_{vP}$[*keiner* $_{v'}$[$_{VP}$[[*was zu lesen*] *versucht*] *versucht*]]
  - 'Dislocation 1': elimination of phonological features from NS
    $_{vP}$[*was zu lesen* $_{vP}$[*keiner* $_{v'}$[$_{VP}$[[*was zu lesen*] *versucht*] *versucht*]]]
  - 'Chain Reduction' and PF output for PF at CP:
    was zu lesen keiner ~~*was zu lesen*~~ ~~*versucht*~~ *versucht*
  - 'Spell-Out': phase-bound transfer to PF (CP)
    $_{CP}$[*was* $_{C}$[*hat* $_{TP}$[$_{T'}$[$_{vP}$[*was*]]]]]
  - PF input (Spell-Out of CP plus PF of *v*P)
    was hat was was zu lesen keiner ~~*was zu lesen*~~ ~~*versucht*~~ *versucht*
  - 'Dislocation 2' (raising of phonological features):
    was hat ***was zu lesen*** *was* **0** *keiner* ~~*was zu lesen*~~ ~~*versucht*~~ *versucht*
  - 'Chain Reduction'
    was hat ~~*was*~~ *zu lesen* ~~*was*~~ *keiner* ~~*was zu lesen*~~ ~~*versucht*~~ *versucht*

The difference between the ungrammatical 'double scrambling' case in (83b) and (86) lies in the elimination of the phonological features of the object in the reordered infinitival clause. In (83b), the previously dislocated *das Buch* is present at PF when *das Buch zu lesen* is sent there. Since it constitutes the highest copy of the chain (the head), it forces the elimination of the phonological features of *das Buch* in the dislocated clause, crucially prior to the application of the second step of DISL (raising of phonological features to a position within the CP-phase). However, in (86) *was* is sent to PF at the completion of the CP phase, like any non-dislocated element at the *v*P edge. This allows *was zu lesen* to keep its phonological integrity, thus rendering the second operation of DISL legitimate. Finally, *was* in Spec, C makes 'Chain Reduction' erase the

phonological features of the copy in *was zu lesen*. Notice that this account necessarily requires DISL to precede the last application of 'Chain Reduction'. I would claim that this must be so on independent grounds: if 'Chain Reduction' at the CP-phase preceded DISL, this would probably force an additional, second 'Chain Reduction', given that the dislocated constituent might have become the highest copy. To put it simply, it is preferable to have 'Chain Reduction' implemented once the position of all the constituents in the string is completely fixed.

I would like to conclude this section by examining the possibility of reducing the contrast between (83b) and (86) to the coherent/non-coherent distinction, an assumption that underlies Haider's (1987, 1990, 1991) pioneering work as well as Grewendorf and Sabel's (1994) analysis, at least in a certain sense. Recall that the claim is, basically, that *wh*-movement and topicalisation are allowed because they proceed via Spec, C, which entails that the infinitival clause is a CP, that is, an incoherent, non-restructuring infinitive (or, in Grewendorf and Sabel's terms, that the embedded CP projection is not used for abstract incorporation between the matrix and embedded predicates). My reasons for rejecting this solution are the following. First, according to standard minimalist assumptions, fronting of a constituent to Spec, C requires an escape hatch (the *v*P edge, an intermediate Spec, C) only in the case the constituent that must undergo it is in the domain of a lower strong phase. If, as I argue, *was zu lesen* in (86) above is just a VP (that is, not a strong phase), *was* may move to Spec, C unproblematically, provided that it passes through the matrix *v*P edge, as in our derivation. Second, it is uncontroversial that incoherent, non-restructuring infinitives never allow their internal arguments to appear in the matrix clause, irrespective of their nominal or pronominal nature (Wurmbrand, 2001a, among others). This means that, in those structures in which scrambling of a pronominal object may co-occur with scrambling of the infinitive itself, restructuring must be invoked. The obvious conclusion is that adjacency between matrix and embedded predicates is not a consistent proof to distinguish coherent infinitives from non-coherent ones (see also Chapter 2).

2.1.2.3.3 *Licit 'double scrambling'*. Recall that Müller (1998) observes that 'double scrambling', i.e. scrambling of the infinitival clause along with scrambling of one of its internal arguments, is possible if, and only if, it affects pronominal objects. Thus, a derivation that should parallel that of the ungrammatical (83b) results in a well-formed sentence:

(87) *dass* [t_i *zu lesen*]$_j$ *es*$_i$ *keiner* t_i *versucht hat*
that to read it-ACC no-one-NOM tried has
"that no one tried to read it"

- 'Narrow Syntax'
  - *v*P cycle: V raises to *v*; *es* and *es zu lesen* move to the *v*P edge
    $_{v}$P[*es zu lesen* $_{v}$P[*es* $_{v}$P[*keiner* $_{v'}$[$_{VP}$[[*es zu lesen*] *versucht*] *versucht*]]]]
  - CP cycle: merging of T and C (Aux projection and Aux-to-T omitted)
    $_{C'}$[*dass* $_{TP}$[$_{T'}$[$_{v}$P[*es zu lesen* $_{v}$P[*es* $_{v}$P[*keiner* $_{v'}$[$_{VP}$[[*es zu lesen*] *versucht*] *versucht*]]]] *hat*]]]
- PF
  - 'Spell-Out': phase-bound transfer to PF (*v*P)
    $_{v}$P[*keiner* $_{v'}$[$_{VP}$[[*es zu lesen*] *versucht*] *versucht*]]
  - 'Dislocation 1': elimination of phonological features from NS
    $_{v}$P[*es zu lesen* $_{v}$P[*es* $_{v}$P[*keiner* $_{v'}$[$_{VP}$[[*es zu lesen*] *versucht*] *versucht*]]]]
  - 'Chain Reduction' and PF output for PF at CP:
    ~~*es*~~ *zu lesen es keiner* ~~*es zu lesen*~~ ~~*versucht*~~ *versucht*
  - 'Spell-Out': phase-bound transfer to PF (CP)
    $_{CP}$[$_{C'}$[*dass* $_{TP}$[$_{T'}$[*hat*]]]
  - PF input (Spell-Out of CP plus PF of *v*P)
    dass ~~*es*~~ *zu lesen es keiner* ~~*es zu lesen*~~ ~~*versucht*~~ *versucht hat*
  - 'Dislocation 2' (raising of phonological features):
    dass ~~***es***~~ ***zu lesen*** *es* **0** **0** *keiner* ~~*es zu lesen*~~ ~~*versucht*~~ *versucht hat*
  - 'Chain Reduction' (vacuous):
    dass zu lesen es keiner versucht hat

Notice that the application of the second step of DISL ('Dislocation 2' in the derivation above) makes (87) as bad as (83b), contrary to fact. My claim is that, in fact, 'Dislocation 2' is an illegal operation at the moment it takes place in (83b), but not in (87). In other words, the crucial distinction between the ungrammaticality of (83b) and the grammaticality of (87) is that, in the latter and not in the former, an extra phonological process 'repairs' the damage caused by the application of 'Chain Reduction' to the infinitival clause, turning it into a phonologically complete constituent again. This repairing procedure must be intrinsically phonological, since both 'Chain Reduction' and DISL take place at PF, and counter-cyclicity is forbidden on theoretical grounds: once a constituent has been handed over to the interface level, it cannot go back to 'Narrow Syntax'. I contend that the repairing procedure at stake is two-fold, since it comprises both phonological restructuring and licensing.[45]

Phonological restructuring. The background of the discussion here is the theory of prosodic phonology as developed in Selkirk (1980a,b). In this theory, phonological strings encompass a hierarchical, layered structure in which smaller units are grouped into larger ones: segments into syllables, syllables into feet, and feet into prosodic words; the layers above the prosodic word are the phonological phrase, the intonational phrase, and the utterance. Although stress is often used as the basis for postulating prosodic structure within the prosodic word, prosodic constituents above the word are typically inferred through the blocking or triggering of postlexical phonological processes.

Research on different languages has evidenced that some of these prosodic constituents are sensitive to the syntax-phonology mapping, insofar as they show systematic relations to syntactic constituent structure. This is the case of the phonological phrase, whose boundaries seem to be crosslinguistically determined by those of the syntactic constituent, irrespective of category. Selkirk (1986) captures this in her universal theory of phrasing, according to which the right/left edge of a phonological phrase φ is always aligned with the right/left edge of a syntactic XP, depending on the head parameter ((88), from Selkirk, 1995):

(88) a. ALIGN-XP, R: ALIGN (XP, R; φ, R)
"For each XP there is a φ such that the right edge of XP coincides with the right edge of φ"
b. ALIGN-XP, L: ALIGN (XP, L; φ, L)
"For each XP there is a φ such that the left edge of XP coincides with the left edge of φ"

(89) illustrates the mapping principle in (88) for English, a head-initial language:

(89) that John read the book
a. Syntactic structure
$_{CP}$[that $_{C'}$[$_{TP}$[$_{NP}$ [John]$_i$ $_{T'}$[$_{vP}$[t$_i$ $_{v'}$[read$_j$ $_{VP}$ [t$_j$ $_{NP}$[the book]]]]]
b. Prosodic structure: phonological phrasing
{that John} {read the book}

where the right edge of the first prosodic phrase is aligned with the first available right phrasal bracket (that of the NP *John*),[46] and the right edge of the second one with that of *the book*.

Not all syntactic constituents are visible to (88), however. Thus, Nespor and Vogel (1986), Chen (1987), and Truckenbrodt (1999), among others, contend

that (88) ignores phonetically null elements. To put it differently, empty categories (traces, PRO, etc.) never provoke φ-closure.

A theory of prosodic phrasing along the lines sketched above would assign essentially the same phonological representations to both the licit and illicit 'double scrambling' cases. On the assumption that German, although head-final within VP, is head-initial in most projections (DP, NP, PP, and CP), the scrambled object and the remnant infinitive in (83b) and (87) would invariably show up in different phonological phrases, since the right VP bracket of the infinitival clause intervenes between them. This is illustrated in (90a) for (83b), and (90b) for (87):

(90) a. **dass* [t_i *zu lesen*]$_j$ *das Buch*$_i$ *keiner* t_j *versucht hat*
that to read the book-ACC no one-NOM tried has
"that no one tried to read the book"
{*dass* t_i *zu lesen*}{*das Buch*}{*keiner*}{ t_j *versucht*}{*hat*}[47]

b. *dass* [t_i *zu lesen*]$_j$ *es*$_i$ *keiner* t_j *versucht hat*
that to read it-ACC no one-NOM tried has
"that no one tried to read it"
{*dass* t_i *zu lesen*}{*es*}{*keiner*}{ t_j *versucht*}{*hat*}

However, the nominal object *das Buch* and the pronominal *es* differ with respect to their intrinsic phonological properties. As shown in Chapter 2 (Section 4), *es* is a phonologically deficient, unstressed pronoun. Recall that, as opposed to nouns and non-deficient pronouns, deficient pronouns are characterised by a property that allows them to be included in a preceding or following phonological phrase (Nespor and Vogel's (1986) restructuring of phonological phrases). Once within the same prosodic domain, deficient forms may undergo further restructuring with strictly adjacent elements, which results in the formation of complex prosodic words. Recall also that this claim is supported by examples like (46b) in Chapter 2, from Cardinaletti and Starke, (1999), where the absence of the glottal stop between the subject pronoun and the verb indicates phonological restructuring:

(46) a. ʔ*Es* ʔ*ist schön*
it is nice
"It is nice"

b. ʔ*Es ist schön*
it is nice
"It is nice"

In this light, I propose that the opposition between 'double scrambling' with nominal and pronominal objects simply reduces to the (un)ability to undergo phonological restructuring.

That phonological restructuring of the pronoun with the infinitive is the factor responsible for the well-formedness of (90b) (=87) is supported by the following pieces of evidence:

(i) The weak pronoun may be replaced by a clitic with no change in grammaticality, as noticed by Müller (1998) ((91a), his example, and also his judgement). It may be also replaced by weak demonstrative *das*. Gärtner and Steinbach (2003) claim, by the way, that this goes against Müller's (1998) idea that personal pronouns undergo a special kind of movement different from scrambling ((91b) from Gärtner and Steinbach, their judgement):

(91) a. *dass zu lesen's keiner versucht hat*
that to read-it-ACC-CL no-one-NOM tried has
"that no one tried to read it"
b. *dass zu lesen das keiner versucht hat*
that to read that-ACC no-one-NOM tried has
"that no one tried to read that"

(ii) There must be strict adjacency between the infinitive and the pronoun, except in the case that the intervening element is a pronoun too (as far as I know, a fact unreported in the literature) (our examples in (63); my informants' judgement):

(92) a. **dass zu lesen der Peter es versucht hat*
that to read Peter-NOM it-ACC tried has
"that Peter tried to read it"
b. *dass zu lesen er es versucht hat*
that to read he-NOM it-ACC tried has
"that he tried to read it"

The assumption is that, in (92a), the phonological phrase *der Peter* prevents restructuring of *es* with the infinitival *zu lesen*: if *es* restructures at all, it must restructure with *der Peter*. But this is not so in (92b): *es* may restructure with *er* (also a pronoun) and *er*, in turn, may restructure with *zu lesen*. The result is, again, that the object and the infinitive form a single prosodic word, within a single phonological phrase (93a), exactly as in the string in which no subject intervenes (93b):

(93) a. {*dass zu lesen er es*}{*versucht*}{*hat*}
b. {*dass zu lesen es*} {*keiner*}{*versucht*}{*hat*}

There is one question we must address now. It is related to the reasons why a purely phonological process such as restructuring may interact with scrambling, if scrambling is the result of a strictly syntactic operation. The reasons are not obvious, if scrambling is conceived of as base-generation, or as the product of just 'Move'. However, in the analysis we are proposing, in which 'Move' is followed by Chomsky's (2001) DISL, the connection is straightforward: DISL applies only to phonologically complete constituents, and restructuring adds phonological features to previously less complex phonological words and phrases. In a sense, restructuring makes phonologically empty elements 'invisible' for DISL. We turn to this 'invisibility' and the exact way in which it is implemented in the following paragraphs.

Phonological licensing of non-phonologically realised features. Ackema and Neeleman (2003) contend that a certain class of morphological alternations that seem to involve syntactic adjacency do not derive from syntactic rules themselves, but rather from spell-out principles holding for heads and phrases contained within the same phonological phrase. They illustrate their claim with six case studies, concerning agreement weakening in Dutch and Arabic, cliticisation in Middle Dutch and Celtic, and pro-drop in Old French and Arabic.

Ackema and Neeleman assume, as it stands, that the syntactic and phonological components are autonomous, but related to each other by the PF interface. According to them, the PF interface is responsible for the following operations, in the given order:

(94) PF operations (Ackema and Neeleman, 2003: 683)
a. Linearisation of syntactic terminals
b. Initial prosodic phrasing, on the basis of syntactic information
c. Application of context-sensitive allomorphy rules
d. Spell-out of terminals

With respect to (94a) and (94b), they adopt the general view that both processes are sensitive to syntactic constituency, in the form of Selkirk's (1986) 'Alignment Theory' for the case of (94b). However, (94c) constitutes a partial innovation. It shares with 'Distributed Morphology'[48] (Halle and Marantz, 1993 and subsequent work) the notion of spell-out as vocabulary insertion, and the idea that there are post-syntactic allomorphy rules that adjust the feature content of terminals in particular environments. But it departs from it in the

claim that such allomorphy rules are sensitive to prosodic phrasing, since the former always precedes the latter in Halle and Marantz's framework.

Ackema and Neeleman distinguish two general types of prosodically-conditioned allomorphy rules. The first one states that the morpho-syntactic features of a terminal contained in the same phonological phrase as a certain other terminal are deleted. Such deletion necessarily requires agreement between the features of the terminals to which the rule applies on the basis of recoverability. Suppression of features obviously changes the phonological realisation of the terminal whose feature content has changed, since the phonological material that the operation in (94d) above assigns to terminals is determined by the bundles of features in them. The whole process is represented in (95):

(95) { $[_A F_1 F_2]$ .... $[_B F_1 F_3]$ ....}
Feature deletion:
{ $[_A F_2]$ .... $[_B F_1 F_3]$ ....}
Spell-out
$[_A F_1 F_2] \rightarrow$ /a/
$[_A F_2] \rightarrow$ /a'/

The second type of allomorphy rule states that if a particular terminal appears in the same prosodic domain as some other terminal, its phonological realisation is altered. According to Ackema and Neeleman, this type of rule is responsible for cliticisation: the presence of a syntactic head endowed with the required features forces a pronoun to be realised as a simple clitic, that is, something smaller than a phonological word (such as σ, a syllable). This is schematised in (96):

(96) { ... A ... $[_B F_1 F_3]$ ...} → ... <A ... $[_B F_1 F_3]$> ...}
Spell-out
$[_B F_1 F_3] \rightarrow$ /b_σ/

Ackema and Neeleman contend that (96) differs from (95) in that it does not delete morpho-syntactic features in its target. This is required by their analysis of cliticisation in Middle Dutch and Celtic, where the process is conditioned exclusively by the availability of a proper verbal head within the same prosodic phrase. However, my claim is that, given the proper conditions, (95) and (96) may, in fact, co-occur. Those proper conditions obtain in some cases of the licit 'double scrambling' in German.

Recall that we concluded in the previous section that the (un)grammaticality of pronominal/nominal scrambling from an already scrambled infinitival clause

can be attributed to the phonological properties of the object: weak pronouns may restructure with the preceding phonological phrase, while nominal DPs may not. This resulted in the phonological representations of (97), where *es* but not *das Buch* shares a phonological phrase with both its copy, devoid of phonological features because of 'Chain Reduction', and the infinitive:

(97) a. {*dass* t_i *zu lesen* es_i}{*keiner*}{ t_j *versucht*}{*hat*}
b. *{*dass* t_i *zu lesen*}{*das Buch*$_i$}{*keiner*}{ t_j *versucht*}{*hat*}

The question now is how phonological restructuring can affect grammatical well-formedness. I suggest that the answer is related to the interaction of 'Chain Reduction' and its effects on DISL with PF procedures of the kind proposed by Ackema and Neeleman. But a preliminary observation is in order. Recall that, on standard minimalist assumptions, lexical items are characterised in terms of bundles of semantic, formal, and phonological features. Any spell-out procedure (phase-bound 'Spell-Out', or special operations such as DISL) must send to PF not only phonological features, but also valued formal ones, since they may have a phonetic reflex. In other words, after the first step of DISL ('Dislocation 1') has applied, *es/das Buch* and *es/das Buch zu lesen* leave the *v*P-edge (which they have targeted in 'Narrow Syntax'), and are handed over to PF as bundles of phonological and (already valued) morphosyntactic features, as in (98):

(98) a. $_{v}$P[[*es*$_{[3\ \text{neuter sing acc}]}$ *zu lesen*] $_{v}$P[*es*$_{[3\ \text{neuter sing acc}]}$]]
b. $_{v}$P[[*das Buch*$_{[\ \text{neuter sing acc}]}$ *zu lesen*] $_{v}$P[*das Buch*$_{[\text{neuter sing acc}]}$]]

After 'Chain Reduction', the phonological features of the copy of the object in the scrambled infinitival clause are deleted. To put it differently, *es* and *das Buch* are reduced to valued formal features:

(99) a. $_{v}$P[[~~*es*~~$_{[3\ \text{neuter sing acc}]}$ *zu lesen*] $_{v}$P[*es*$_{[3\ \text{neuter sing acc}]}$]]
b. $_{v}$P[[~~*das Buch*~~$_{[\ \text{neuter sing acc}]}$ *zu lesen*] $_{v}$P[*das Buch*$_{[\text{neuter sing acc}]}$]]

In the minimalist spirit that operations take place as early as possible, assume that the PF interface maps syntactic structure onto prosodic structure as soon as the strong phase is complete. In other words, at the point at which the CP cycle is transferred to PF, the *v*P cycle (plus the constituents that have undergone 'Dislocation 1') is already structured in different prosodic layers, which include, of course, phonological phrases:

(100) a. {~~*es*~~[3 neuter sing acc] *zu lesen es*[3 neuter sing acc]}
b. {~~*das Buch*~~[neuter sing acc] *zu lesen*}{*das Buch*[neuter sing acc]}

As shown in (100), prosodic phrasing behaves uniformly in the two examples at stake with respect to the phonologically unrealised copy and the infinitive: both are included in a single phonological phrase, due to the invisibility of empty elements for φ-closure (Nespor and Vogel, 1986; Chen, 1987; Truckenbrodt, 1999; see above). But it has different effects with respect to the second, phonologically realised, copy of the object: it forms its own phrase in (100b), but not in (100a). Thus, *das Buch* is prevented from entering with its copy and/or the infinitive into the kind of operations Ackema and Neeleman argue for, since these operations are confined to the phrasal limits. However, this is possible for *es*, which I take to participate in both deletion of morphosyntactic features (an operation of the first type in Ackema and Neeleman's proposal), and cliticisation (their second type). Regarding the former, suppose that, as Ackema and Neeleman state, the features of the phonologically unrealised terminal are deleted by the presence of the identical features of the realised one. This would entail the complete invisibility of the first occurrence of *es*, on the basis that it only contains phonological and morphosyntactic information. Simply put, *es*, lacking any sort of features, virtually disappears:

(101) {~~*es*~~[3 sing acc] *zu lesen es*[3 sing acc]}

On the other hand, *zu lesen* is an appropriate host for *es*, contained within the same phonological phrase, which explains the grammaticality of the 'double scrambling' cases when the pronoun is a clitic:

(102) {~~*es*~~[3 sing acc] *zu lesen's*[3 sing acc]}

If such an analysis is tenable, notice the consequences it has for the application of the second step of DISL, which, as the first one, necessarily requires the phonological integrity of the constituent undergoing the process. When the narrow syntactic CP cycle is complete and the resulting string is handed over to PF, DISL ('Dislocation 2') must raise the phonological phrases corresponding to the scrambled object and the scrambled infinitive: in the case of nominal scrambling, the phonetically empty copy of the object is still visible, since suppression of its morphosyntactic features has failed, due to the absence of a terminal with identical feature characterisation in the relevant prosodic domain (103b). Nevertheless, in the case of pronominal scrambling, the unrealised

copy has virtually disappeared, which makes the remnant infinitive phonologically complete again, as DISL demands (103a):

(103) a. {~~*es*~~$_{[3\ neuter\ sing\ acc]}$ *zu lesen es*$_{[3\ neuter\ sing\ acc]}$}
b. {~~*das Buch*~~$_{[neuter\ sing\ acc]}$ *zu lesen*}{*das Buch*$_{[neuter\ sing\ acc]}$}

There are still a few remaining issues, to which we turn now. The first is related to the question of how lexical items such as the pronoun *es*, or its clitic counterpart *'s*, enter the derivation. If, as the strong lexicalist hypothesis contends, they do it as fully inflected forms (see footnote 48), the two operations DISL encompasses would target phonologically complete constituents, and deletion and cliticisation processes of the kind defended by Ackema and Neeleman would have to be re-stated in different terms. Take, for instance, their first type of rule in (95), repeated here for convenience as (104):

(104) { $[_A\ F_1\ F_2]$ .... $[_B\ F_1\ F_3]$ ....}
Feature deletion:
{ $[_A\ F_2]$ .... $[_B\ F_1\ F_3]$ ....}
Spell-out
$[_A\ F_1\ F_2] \rightarrow$ /a/
$[_A\ F_2] \rightarrow$ /a'/

The first part of the rule, the one related to feature deletion, would be unaffected by the adoption of the strong lexicalist hypothesis; however, the insertion of the phonological form associated to the reduced feature bundle would be impossible, since phonological features are determined prior to PF. To check whether the strong lexicalist hypothesis is incompatible with the data analysed by Ackema and Neeleman is beyond the scope of the present work; however, as my own account of the German facts shows, I think that that is not necessarily the case, once processes such as phonological restructuring of phrases and prosodic words are made to precede feature deletion and cliticisation. In fact, this is the only way to explain the contrast between the nominal and pronominal scrambling cases, since, as stated elsewhere, the right bracket of the infinitival VP would intervene as a phonological boundary in both structures.

Nevertheless, the choice of the strong lexicalist hypothesis over weaker versions such as 'Distributed Morphology' (see footnote 48) is important as far as the first step of DISL ('Dislocation 1') is concerned. Recall that we envisaged this operation as one imposing phonological integrity in the constituent transferred to PF, due to its character of special spell-out procedure. Such an

assumption is very difficult to test empirically, insofar as 'Dislocation 1' is always followed by 'Dislocation 2', which, along the lines of our discussion above, clearly requires phonologically complete phrases. On the other hand, neither can be dispensed with: 'Dislocation 1' crucially affects 'Chain Reduction', which explains the asymmetry between fronting (*wh*-movement, topicalisation) and scrambling out of displaced infinitival clauses (Sections 2.1.2.3.1 and 2.1.2.3.2); 'Dislocation 2' accounts for the phonological presence of the object in a position higher than the *v*P edge (Chomsky, 2001 for Scandinavian 'Object Shift'), as well as for the contrast between nominal and pronominal scrambling discussed in the present section.

A second problem relates to the grammatical sequences in which a subject pronoun intervenes between the scrambled object and infinitive, our example (93a), repeated here as (105):

(105) {*dass zu lesen er es*} {*versucht*}{*hat*}
that to read he-NOM it-ACC tried has
"that he tried to read it"

Recall that I have argued that prosodic phrasing of the *v*P material takes place before the strictly syntactic CP cycle reaches PF. Since in (105) the subject, in Spec, T, in inserted in the middle of an already formed phonological phrase, and must obligatorily precede the object,[49] two obvious consequences arise: (i) re-phrasing must be permitted (which would also explain the presence of the complementizer in the first φ); (ii) linearisation constraints concerning (at least) pronoun length, quantity and quality of the onset, nucleus, and coda of the syllables that are involved force the fixed order subject > object (Wegener, 1985; Hoberg, 1997; Zifonun, 2001; Müller, 2002).[50]

The last issue I would like to address is the reason why scrambling of the infinitive prevents pronominal scrambling and fronting from co-occurring, while it allows for each of the processes in isolation. Illicit co-occurrence is illustrated by (106):

(106) a. *Wem_i *hat* [t_i t_j *zu geben*]$_k$ es_j *keiner* t_k *versucht?*
who-DAT has to give it-ACC no-one-NOM tried
"To whom did no one try to give it"
b. *$Dem\ Kind_i$ *hat* [t_i t_j *zu geben*]$_k$ es_j *keiner* t_k
the child-DAT has to give it-ACC no-one-NOM
versucht
tried
"No one tried to give it to the child"

The analysis we proposed in 2.1.2.3.2 for the grammaticality of *wh*-movement and topicalisation out of scrambled infinitives was based on the claim that fronted elements are subject to 'Chain Reduction' after 'Dislocation 2' has applied to them, which makes them phonologically complete constituents at the relevant point. Thus, our hypothesis is that the ill-formedness of the examples in (106) does not lie in the movement the dative undergoes from the displaced infinitive to Spec, C, but rather in the suppression of features in the phonologically unrealised copy of *es*. According to our assumptions so far, (106a) and (106b) must be the product of the following operations: narrow syntactic movement of the accusative and dative objects to the *v*P edge; narrow syntactic movement of the infinitival clause to Spec, *v* (in accordance to Chomsky's (2001) PIC in (19)); phase-bound spell-out for the *v*P domain (plus the subject and the verb, which do not undergo further movement); 'Dislocation 1' for the accusative object and the infinitival clause; 'Chain Reduction' and prosodic phrasing at PF. The final result before the CP cycle accesses the interface is given in (107):[51]

(107) {*wem*}{~~*es*~~ *zu geben es*}{*keiner*}{*versucht*}

In the light of (107), deletion of the morphosyntactic features of the phonologically unrealised copy should be possible, since they share a prosodic domain with the restructured *es*. Therefore, (106) should be well-formed, contrary to fact.

The problem may be solved by resorting to the base generation approach we adopted for explaining what we labelled 'base-generated scrambling' cases in our discussion of VP-topicalisation. Recall that we concluded there that objects of ditransitive predicates may be merged in alternative orders, DAT >ACC, or ACC> DAT, and that ACC > DAT seems to be constrained by the (in)definiteness of the accusative: only definite accusatives may precede (in)definite datives (see (52) above). The claim could be strengthened for cases such as the one in (107), where the accusative is pronominal, i.e. inherently definite, and the dative a *wh*-element, hence inherently indefinite, which would make ACC > DAT obligatory. In fact, as noticed above, and also in Chapter 2, pronominal accusatives always appear before nominal and even pronominal datives in German. If the fixed order ACC > DAT in the 'Wackernagel domain' is a matter of order preservation, it will argue for a derivation in which *es* occupies the outer spec, with *wem* tucked in between *es* and the subject, much in the spirit of Richards (1997, 1999).[52] Thus, (106) would be rather like (108):

(108) {~~*es*~~ *wem*}{*zu geben es*}{*keiner*}{*versucht*}

As in (107), the configuration in (108) allows *es* to restructure with the preceding phrase, apparently making the suppression of the morphosyntactic features of the phonetically empty copy possible. But notice that this operation is barred by the copy of *wem*: since it is not subject to 'Chain Reduction' until the end of the CP-cycle, where both the intermediate *wem* in Spec, *v* and the one in Spec, C are handed over to PF, it still preserves its phonological features. In consequence, its syntactic right bracket triggers φ-closure, which, in turn, keeps the two occurrences of *es* in separate prosodic domains. The result is that deletion of the offending morphosyntactic features cannot take place.

The second obstacle is the timing for evaluation of operations such as DISL. Recall that one of the tenets of the 'Minimalist Program' in its latest versions is that the output of a strong phase is evaluated for convergence at the completion of the next higher one (see (19) above). If the claim is tenable not only for 'Narrow Syntax', but also for processes at the interfaces, (108) would not be excluded by failure in the deletion of morphosyntactic features: the intervening *wem* has lost its phonological features at the completion of the CP cycle, allowing for restructuring between *es* and the phrase containing its copy. Rather, its ill-formedness must be attributed to 'Chain Reduction' affecting the copy of *wem* itself. But such an account would entail delaying prosodic phrasing until the CP cycle has reached PF, which albeit preferable, insofar as less restructuring operations are required, would come at some cost: the grammaticality of object fronting with remnant scrambled infinitives would turn out to be a mystery, since 'Chain Reduction' with the *wh*-moved or topicalised element in Spec, C implies that DISL has invariably applied to an ultimately incomplete constituent. In any case, the issue is a matter for further research, with implications for the general design of natural languages.

2.2 *Is German scrambling sensitive to phonological borders?*

In Chomsky's (2001) analysis of Scandinavian 'Object Shift', the role played by phonological features in 'Narrow Syntax' is not restricted to the implementation of processes such as DISL, which, according to our conclusions in the preceding sections, also seems to be attested in German scrambling. Chomsky, as we know, also resorts to them when accounting for 'Holmberg's Generalisation', which roughly states that objects in situ may receive the semantic interpretation normally associated to shifted ones, if they are linearly preceded by the verb, another object, a preposition, or a particle (Section 1.1.3). Chomsky reformulates 'Holmberg's Generalisation' in terms of the

interaction between a kind of 'Object Shift Parameter'(109a) and optional assignment of an [EPP] feature on *v* (109b):

(109) a. 'Object Shift Parameter' (Chomsky, 2001: 34)
At the phonological border of *v*P, XP is assigned Int', where
(i) 'at the phonological border' means not asymetrically c-commanded (from the left)[53] by a phonologically visible category (except adjuncts), and
(ii) Int' is the semantic interpretation related to new information, focus, indefiniteness, etc.

b. Optional [EPP] feature assignment (Chomsky, 2001: 35)
(i) *v* is assigned an [EPP] feature only if it has an effect on the outcome
(ii) The EPP position of *v* is assigned Int, where Int is the semantic interpretation associated to old information, topic, definiteness, etc.

It is commonly claimed in the literature that 'Holmberg's Generalisation' strongly indicates that Scandinavian 'Object Shift' and West Germanic scrambling are two unrelated phenomena. As stated in Chapter 1, the basic piece of evidence is based on the connection between verb movement and reordering: shifted objects only occur in structures where the verb has left its base position, whereas scrambling is possible in all kinds of sentences, irrespective of the location of the verb. But this argument is untenable if 'Holmberg's Generalisation' is considered in full, since elements other than the verb also prevent Scandinavian objects from shifting (Holmberg, 1986; 1999), and the only property shared by those elements and the verb is that they are endowed with phonological features (Holmberg, 1999; Chomsky, 2001). Notice the consequences of this for the connection between verb position and reordering in the case of West Germanic scrambling: if, *pace* Kayne's (1994) 'Linear Correspondence Axiom', German (and Dutch) are head-final in the VP and *v*P, the phonological features of the verb will never bar scrambling of an internal argument.

The aim of this section is to present some evidence for the existence of a constraint on German scrambling that resembles the requirement that shifted objects move from the 'phonological border'. In Section 2.1.1, I will try to show that phonological borders are responsible for the pragmatically well-formedness of given, unscrambled accusatives of ditransitive predicates, a problem for the otherwise valuable proposal in Neeleman and Reinhart (1998) (Section 2.3.2, Chapter 3). I will also contend that resorting to phonological

borders provides an alternative account for the data about scrambling in non-verbal projections in Haider and Rosengren's (1998; 2003) analysis (Section 2.1.2). Finally, a third controversial piece of evidence will be presented in 2.1.3, where the case of scrambling with ditransitives predicates in which accusatives usually precede datives or genitives (Section 1.1, Chapter 3) will be revisited.

2.2.1 *The 'unmarkedness' of the 'unmarked' word order.* As extensively discussed in Chapter 3 (Section 2), the 'unmarked word order' is taken to correspond to sequences exhibiting wide focus, insofar as they could serve as answers to a '*what-happened*-question':

(110) *Was ist passiert?*
"What happened?"
a. *dass Peter gestern das **BUCH** gelesen hat*
that Peter-NOM yesterday the book-ACC read has
"that Peter read the book yesterday"
a'. *#dass Peter das Buch gestern ge**LE**sen hat*
that Peter-NOM the book-ACC yesterday read has
"that Peter read the book yesterday"
b. *dass Peter gestern dem Kind das **BUCH** gegeben hat*
that Peter-NOM yesterday the child-DAT the book-ACC given has
"that Peter gave the book to the child yesterday"
b'. *#dass Peter das Buch gestern dem **KIND** gegeben hat*
that Peter-NOM the book-ACC yesterday the child-DAT given has
"that Peter gave the book to the child yesterday"

(110a)-(110b) illustrate the 'unmarked word order' for a monotransitive and a ditransitive predicate respectively, with the accusative object *das Buch* in its VP-internal position, following the *v*P/VP-adjoined adverbial (110a), or both the adverbial and the dative (110b), and being assigned nuclear stress. On the other hand, (110a') and (110b') are marked: the accusative is interpreted as non-focused, and nuclear stress falls on another constituent.

It has been frequently claimed in the literature that the 'marked/ 'unmarked' distinction is not as clear-cut as presented in (110) as far as the interpretation of the (un)scrambled object is concerned. Thus, while reordered constituents are obligatorily presuppositional, D-linked, those that stay VP-internal are not necessarily new information. In other words, scrambling entails defocusing, but

defocusing does not always entail scrambling. In Chapter 3 (Section 2.3.2), we adopted Neeleman and Reinhart's (1998) proposal for Dutch and extended it to German, showing that the claim about the double reading of unscrambled elements is not tenable for monotransitive predicates, and that structures such as (111) below are ruled out:

(111) *Was ist mit dem Buch geschehen?*
"What happened with the book?"
*#dass Peter gestern das Buch ge**LE**sen hat*
that Peter-NOM yesterday the book-ACC read has
"that Peter read the book yesterday"

In other words, we concluded that destressed, discourse-given constituents of monotransitive predicates cannot appear within the VP. However, as noticed there, the double reading is not discarded in the case of ditransitive predicates, since examples such as (112) below are both grammatically and pragmatically well-formed in German:

(112) *Was ist mit dem Buch geschehen?*
"What happened with the book?"
*dass Peter gestern dem **KIND** das Buch gegeben hat*
that Peter-NOM yesterday the child-DAT the book-ACC given has
"that Peter gave the book to the child yesterday"

(112) clearly constitutes a serious obstacle for any theory that establishes a correlation between scrambling and semantic/pragmatic meaning, either in the form of a triggering feature (Meinunger, 1995), or by means of economy considerations (Neeleman and Reinhart, 1998). Nevertheless, (112) is unproblematic for an account where the presence of phonological features in 'Narrow Syntax' has a bearing on interpretation, and interpretation is derived, in turn, from strictly syntactic operations: *das Buch* is crucially c-commanded by a phonologically visible category *(dem Kind)*, thus not at Chomsky's (2001) 'phonological border'. If German obeys a rule analogous to Scandinavian 'Object Shift' (see (109) above), *das Buch* may be interpreted as discourse-given in its VP-internal position, which prevents its displacement to the *v*P edge. But this is an option barred in (111), where the only c-commanding phonologically visible element is the adjunct *gestern*. In consequence, the object must be interpreted as new information, focus.

Our account of (112) raises the question why sentences such as (113) below are possible at all in German:

(113) *Was ist mit dem Buch geschehen?*
"What happened with the book?"
dass Peter das Buch gestern dem ***KIND*** *gegeben hat*
that Peter-NOM the book-ACC yesterday the child-DAT given has
"that Peter gave the book to the child"

My tentative suggestion here is that they are the product of the 'base-generated scrambling' the defenders of the base generation approach argue for (Section 2.1.1.3). In other words, they are the result of merging the accusative after the dative, which leaves the former at the phonological border, exactly as in (111).[54]

2.2.2 *Scrambling in non-verbal projections*. As shown in Chapter 3 (Section 1.3), German scrambling is attested with lexical projections other than *v*P/VPs. The defenders of the base generation approach (Fanselow, 2001, 2003), and those arguing for an analysis in terms of untriggered movement (Haider and Rosengren, 1998, 2003) have capitalised on the existence of such structures as a proof for two basic tenets: (i) the nature of reordering processes in German is different from that of Scandinavian 'Object Shift', insofar as the former apply to all kind of arguments, and the latter is restricted to verbal arguments; and (ii) the scrambled constituent occupies a position within the lexical projection of the head selecting for it, and not the specifier of a functional phrase.

But recall that a closer inspection of all instances of scrambling within non-verbal projections revealed that the full set of data is not entirely consistent with (i) and (ii). With respect to (i), it has been frequently observed (Müller, 1995; Haider and Rosengren, 1998, 2003) that it is not true that all kinds of arguments may scramble in German: scrambling is barred for complements of prepositions (114), and also for those of nouns (115), while complements of postpositions (116) and adjectives (117) may undergo it freely:[55]

(114) a. *In diesem Abschnitt über Metaphern*
in this chapter about metaphors
"in this chapter about metaphors"
b. **Diesem Abschnitt über Metaphern in*
this chapter about metaphors in
c. **In diesem über Metaphern Abschnitt*
in this about metaphors chapter

(115) a. *die Versendung von Briefen an Verwandte*
the forwarding of letters to relatives
"the forwarding of letters to relatives"
b. **die Versendung anVerwandte von Briefen*
the forwarding to relatives of letters
c. **die an Verwandte Versendung von Briefen*
the to relatives forwarding of letters

(116) a. *Peter ist gestern den Fluss entlang gefahren*
Peter-NOM has yesterday the river-ACC along driven
"Peter drove along the river yesterday"
b. *Peter ist den Fluss gestern entlang gefahren*
Peter-NOM has the river-ACC yesterday along driven
"Peter drove along the river yesterday"

(117) a. *ein jedem an Kraft überlegener Sportler*
a everyone-DAT in power superior athlete
"an athlete superior to everyone in power"
b. *ein an Kraft jedem überlegener Sportler*
a in power everyone-DAT superior athlete
"an athlete superior to everyone in power"

The data in (114)-(117) constitute a serious drawback for the analyses adopting the base-generation approach, which do not address the question why theoretically unconstrained merging of arguments is, in fact, constrained by the category of the selecting head. Nevertheless, the contrast is explicitly dealt with in theories such as Haider and Rosengren's (1998, 2003), which share with the base generation view the idea that scrambled positions are positions within a lexical projection. Recall that, as extensively discussed in Chapter 4, Haider and Rosengren link scrambling to head-finalness, which nicely explains why reordering is attested within APs and postpositional phrases (YP-X in German), and not within DPs or PPs (X-YP).

But, as noticed elsewhere (Section 1.3, Chapter 3, and especially in 2.1.1.2 of the present chapter), Haider and Rosengren's proposal does not fare well with examples like (40) above, repeated here as (118):

(118) a. *ein* [*jedem an Kraft überlegener*] *Sportler*
a everyone-DAT in power superior athlete
"an athlete superior to everyone in power"

b. *ein* [*an Kraft jedem überlegener*] *Sportler*
a in power everyone-DAT superior athlete
"an athlete superior to everyone in power"
c. *dass er allen gestern überlegener war*
that he all-DAT yesterday superior was
"that he was superior to everyone yesterday"
d. *dass er allen gestern überlegener zu sein versucht hat*
that he all-DAT yesterday superior to be tried has
"that he tried to be superior to everyone yesterday"
e. **dass er einer allen gestern überlegener Sportler war*
that he a all-DAT yesterday superior athlete was
"that yesterday he was an athlete superior to all"
f. **dass er einer allen gestern überlegener Sportler zu sein versucht hat*
that he a all-DAT yesterday superior athlete to be tried has
"that he tried to be an athlete superior to everyone yesterday"

Although they are not very explicit about it, recall that Haider and Rosengren (2003) argue for free attachment of adverbs in the German *Mittelfeld*. Suppose that the grammaticality of (118c,d) is derived in this way: the adverb in inserted within the AP, before re-merging of the second internal argument of the adjectival phrase within the extended 'Minimal Argument Projection Complex' (MAC). Nevertheless, this position does not seem to be available in the ill-formed (11e,f). In the light of facts like this, and the evidence drawn from *v*P/VP topicalisation, in 2.1.1.3 we concluded that the contrasts in (118) indicate that there is a single position for adverbs such as *gestern* in German (a position higher than AP in (118c,d) and DP in (118e,f)), as well as two different types of scrambling: the first type, pictured in (118b), simply reduces to alternative base-generated orderings, and is strictly confined to the limits of the projection headed by the selecting head in its base position; the second type, that in (118c,d), resembles Scandinavian 'Object Shift' in that it involves movement to a position beyond the phrasal boundaries of the lexical projection where arguments are first merged, a position invariably higher than that of *gestern*. Notice that this allows us to dispense with the unconstrained model of adverb placement Haider and Rosengren defend.

My claim here is that this second type of reordering is sensitive to Chomsky's notion of phonological border in the same way as Scandinavian 'Object Shift' is. In other words, since there is no phonologically visible category c-commanding from the left either in German postpositional or adjectival

phrases, arguments of those heads may move across the boundaries of the projection where they are base generated. This is exemplified for APs by (118e,f) above, and for postpositional phrases by (116a,b), repeated here as (119a,b) and (119c,d):

(119) a. *Er war wahrscheinlich diesen Männern gestern an Sport*
he was probably these men-DAT yesterday in sport
überlegener
superior
"He was probably superior to these men in sport yesterday"
b. *Er war wahrscheinlich an diesem Sport gestern allen*
he was probably in this sport yesterday all-DAT
überlegener
superior
"He was probably superior to all in this sport yesterday"
c. *Peter ist gestern den Fluss entlang gefahren*
Peter-NOM has yesterday the river-ACC along driven
"Peter drove along the river yesterday"
d. *Peter ist den Fluss gestern entlang gefahren*
Peter-NOM has the river-ACC yesterday along driven
"Peter drove along the river yesterday"

That the structures in (119) are the product of the inability of the scrambled object to receive the semantic interpretation Chomsky calls Int (that is, specific, presuppositional, etc) at the phonological border is demonstrated by their deviance with unspecific, existential displaced objects (my informants' judgement):

(120) a. **Er war wahrscheinlich jemandem/wem gestern an Sport*
he was probably someone-DAT yesterday in sport
überlegener
superior
"He was probably superior to someone in sport yesterday"
b. **Peter ist einen Fluss gestern entlang gefahren*
Peter-NOM has a river-ACC yesterday along driven
"Peter drove along an (unspecific) river yesterday"

It is true that the facts in (120) could be also explained by resorting to free attachment of the adverbs, and to the scope relations between them and the scrambled constituent, in the spirit of Haider and Rosengren (1998, 2003) or

Fanselow (2001, 2003). The problems such an account must face in the case of APs have been extensively discussed in 2.1.1.2. The main obstacle it finds in the case of scrambling of arguments of postpositions is the grammaticality of (119d), where the event-related adverbial *gestern* would appear embedded within the postpositional phrase, which would theoretically prevent it from having *gefahren* in its domain. One could think of solutions such as overt incorporation of the postposition into V, which, nevertheless, seem to be excluded by structures such as (121):

(121) *Wahrscheinlich fuhr Peter den Fluss gestern entlang*
probably drove Peter-NOM the river-ACC yesterday along
"Probably Peter drove along the river yesterday"

If the analysis above is tenable, the reason why reordering out of head-initial projections is not possible in German is straightforward: complements of nouns or prepositions are never at the phonological border. However, at least for the case of DPs, this still does not rule out 'base-generated scrambling', that is, it does not explain why they cannot appear in alternative positions within the projection of their selecting head, as shown in (115a,b) above, repeated here as (122):

(122) a. *die Versendung von Briefen an Verwandte*
the forwarding of letters to relatives
"the forwarding of letters to relatives"
b. **die Versendung an Verwandte von Briefen*
the forwarding to relatives of letters

In the absence of an independent motivation for it, the ungrammaticality of (122b) still supports a correlation between head-finalness and reordering of the kind defended by Haider and Rosengren, which is independent of the interplay between notions such as phonological border and semantic interpretation.

2.2.3 *Scrambling of special,* verbnahe *arguments*. In Chapter 3 (Section 1.1) we made reference to an apparently syntactic restriction on reordering in German, namely the impossibility for a certain class of arguments to undergo scrambling. The class is composed by what are traditionally called *verbnahe* elements: objects inflected for genitive case, or datives subcategorised for by verbs like *aussetzen* ("expose"), *unterziehen* ("submit"), *zuführen* ("to bring to"), etc. Their presence in the *Mittelfeld* seems to determine a high degree of

ill-formedness, as demonstrated by the examples in Chapter 3, repeated here for convenience as (123):

(123) a. *weil Hans bedauerlicherweise einen Unschuldigen*
because Hans-NOM unfortunately an innocent-ACC
dieses Anschlagen bezichtigte
this conspiracy-GEN accused
"because, unfortunately, Hans accused an innocent of this conspiracy"

a'. **weil Hans bedauerlicherweise dieses Anschlagen*
because Hans-NOM unfortunately an innocent-ACC
einen Unschuldigen bezichtigte
an innocent-ACC accused
"because, unfortunately, Hans accused an innocent of this conspiracy"

b. *weil Otto leider die Kandidaten*
because Otto-NOM unfortunately the candidates-ACC
dieser Prüfung ausgesetzt hat
this test-DAT subjected has
"because, unfortunately, Otto subjected the candidates to this test"

b'. **weil Otto leider dieser Prüfung*
because Otto-NOM unfortunately this test-DAT
die Kandidaten ausgesetzt hat
the candidates-ACC subjected has
"because, unfortunately, Otto subjected the candidates to this test"

However, as also noted in Chapter 3, Fanselow (2003) observes that the structures at stake become fully grammatical when both arguments (the *verbnahe* genitive or dative, and the accusative that precedes it) undergo scrambling and keep the relative ordering between them. This is illustrated in (124) for *verbnahe* datives:

(124) a. *dass er glücklicherweise die Kandidaten der schwersten*
that he fortunately the candidates-ACC the most-difficult
Prüfung immer nur am Vormittag unterzog
test-DAT always only before noon subjected
"that, fortunately, he always subjected the candidates to the most difficult test only before noon"

b. *dass glücklicherweise die Kandidaten einer schweren*
that fortunately the candidates-ACC a difficult
Prüfung am Vormittag nur der Fritz unterziehen wollte
test-DAT before noon only Fritz-NOM to-subject wanted
"that, fortunately, only Fritz wanted to subject the candidates to a difficult test before noon"

In (124a) the accusative *die Kandidaten* precedes the dative *der schwersten Prüfung*, and both appear past the adverbial *immer.* In (124b), they have scrambled across the intervening focused subject. These two examples contrast with the one in (123b), where reordering of the dative past the accusative is forbidden. Fanselow attributes the difference between (124a,b) and (123b) to a serialisation constraint forcing inanimate objects to follow animate ones. The conclusion is that *verbnahe* elements behave differently from other, non special, arguments with regard to that animacy requirement, but not with regard to the alternative base generation positions they may occupy.

I would like to suggest that the data in (123) and (124) are amenable to an analysis in terms of Chomsky's (2001) 'phonological border'. The assumption is that, as opposed to the accusatives found with regular ditransitive verbs, *verbnahe* genitives and datives have a single base generation position in German, namely as sisters of the lexical V. This is straightforward in the case of *verbnahe* genitives, since they constitute instances of lexical case, and lexical case is traditionally taken to be realised in the lowest available position (Chomsky, 2000; Fanselow, 2000, among others). It needs some refinement for *verbnahe* datives, an issue to which we turn now.

Meinunger (1995) claims that *verbnahe* datives are, in fact, the remnant of a PP whose head has been incorporated into the lexical verb. His hypothesis is supported by semantic and morphological considerations: semantically, the dative of ACC-DAT verbs does not imply the relation of possession found in the dative of regular DAT-ACC structures, but rather location; morphologically, all the verbs exhibiting this complementation pattern can be decomposed into a verbal stem and a local preposition: *aussetzen* ("expose sb to sth"), *ausliefern* ("extradite"), *unterziehen* ("submit"), *unterwerfen* ("subject to"), *zuführen* ("bring to"), etc. The process of incorporation is made possible by the strict adjacency between the two elements involved, i.e. the PP and the verb. From this perspective, 'local' datives behave as lexical genitives do: they are merged in a fixed position, sister to the lexical verb .

What is crucial for our account of the ungrammaticality of (123 a',b') above in terms of 'phonological borders' is that the fixed merge position is the lowest one, since this entails that *verbnahe* elements will be c-commanded by the

phonologically visible accusative, in other words, that they will not be at the phonological border, as (125) illustrates:

(125) $_{VP}$[*die Kandidaten* $_{v'}$[*dieser Prüfung ausgesetzt*]]

If German, as we contend, is subject to —the equivalent of— Chomsky's 'Object Shift Parameter', the dative in (125) may be interpreted either as discourse-linked or as new information, since both meanings are available for an element c-commanded by a phonologically visible VP-internal constituent. Notice, however, that the position occupied by the dative may become a phonological border if the accusative is forced to move beyond the limits of the VP. Such scenario is the one reflected in (124 a,b) above, where the D-linked accusative, which is not c-commanded by any phonologically visible category, is displaced past the adverbial in order to be interpreted as D-linked:

(126) $_{vP}$[*die Kandidaten*$_i$ $_{vP}$[*immer/am Vormittag* $_{vP}$[t_{subj} $_{v'}$[t_i $_{VP}$[*der schwersten Prüfung/einer schweren Prüfung* t_{vb}] *unterzog*]]]

The displacement of the accusative leaves the *verbnahe* elements at the phonological border, where only a non discourse-linked interpretation is available. As a consequence, the definite *der schwersten Prüfung* and the indefinite *einer schweren Prüfung* may remain there only in the case that they constitute new information-focus. Otherwise, they must leave the domain of existential closure. This is exactly the situation in Fanselow's examples: the definite is interpreted as discourse given, while the indefinite is clearly specific. Note that both examples obey the ordering restrictions exhibited by Scandinavian 'Object Shift' and Dutch scrambling, insofar as the argument merged in the higher position (accusative) precedes that in the lower one (the dative, or genitive), in accordance to Richards' (1997, 1999) 'crossing paths' for multiple attraction by a single attractor (see footnote 54) (Icelandic examples in (127) from Collins and Thráinsson, 1993; Dutch examples in (128) from Thráinssson, 2001):

(127) a. *Ég lána ekki Maríu bækurnar*
I lend not Mary-DAT the books-ACC
"I do not lend the books to Mary"
b. *Ég lána Maríu bækurnar ekki*
I lend Mary-DAT the books-ACC not
"I do not lend the books to Mary"

c. **Ég lána bækurnar Maríu ekki*
I lend the books-ACC Mary-DAT not
"I do not lend the books to Mary"

(128) a. *dat de vrouw waarschijnlijk de mannen de film*
that the woman-NOM probably the men-DAT the film-ACC
toont
shows
"that the woman probably shows the picture to the men"
b. *dat de vrouw de mannen de film waarschijnlijk*
that the woman-NOM the men-DAT the film-ACC probably
toont
shows
"that the woman probably shows the picture to the men"
c. **dat de vrouw de film de mannen waarschijnlijk*
that the woman-NOM the film-ACC the men-DAT probably
toont
shows
"that the woman probably shows the picture to the men"

The relevance of the data in (123) and (124) for the claim that German scrambling in sensitive to phonological borders may be weakened by structures like (129) below, where the low genitive (129a) and dative (129b) seem to have moved across the accusative to a position preceding a sentence adverb (examples from Frey, 2000):

(129) a. *weil Hans dieses Anschlages bedauerlicherweise*
because Hans-NOM this crime-GEN unfortunately
einen Unschuldigen bezichtigte
an innocent-ACC accused
"because, unfortunately, Hans accused an innocent of this crime"
b. *weil Otto dieser Prüfung leider die Kandidaten*
because Otto-NOM this test-DAT unfortunately the candidates-ACC
ausgesetzt hat
subjected has
"because, unfortunately, Otto subjected the candidates to this test"

Frey (2000) and Pili (2003) contend that the operation responsible for the sentences in (129) is different from regular scrambling, in that the former targets an operator position within TP, and the latter takes place in lower projec-

tions. Frey supports this claim by comparing the strictly syntactic properties of the two processes, and concludes that, although both share iterability, transparency for extraction,[56] a non-barrier status, and clause-boundedness, they differ in three basic aspects: trigger, topicalisation, and the (im)possibility of affecting the *verbnahe* elements dealt with above.

On the basis of examples such as (130), Frey argues that scrambling is an untriggered process, insofar as the discourse-linked argument may remain VP-internal:

(130) *Hans hat eine Menge Photos von Italien. Heute abend will er*
"Hans has a bunch of photos of Italy .Today afternoon he wants"
nun wieder netten Damen seine Fotos zeigen
now again nice ladies-DAT his photos-ACC to-show
"to show his pictures to nice ladies again and again"

But notice that given *seine Fotos* is not at the phonological border, since it is c-commanded by the phonologically visible *netten Damen*, which receives an existential reading. If German obeys something similar to the 'Object Shift Parameter', the presuppositional reading of the low argument in (130) follows straightforwardly.

The second piece of evidence Frey adduces in order to distinguish movement to a topic phrase from scrambling is based on the contrast in (131):

(131) a. *[*Den Otto jedenfalls treffen*] *werde ich an Ostern*
Otto-ACC in any case meet will I in the East
"In any case will I meet Otto in the East"
b. [*Den Sternenhimmel Kindern erläutert*] *hat er schon oft*
the starry-sky-ACC children-DAT explained has he already often
"He has already explained the starry sky to children"

According to Frey, (131a) is ruled out because the fronted VP contains the topic projection to which *den Otto* has moved, as signalled by the presence of the sentence adverb *jedenfalls*. However, the projection targeted by scrambled constituents is not barred in Spec, C: *den Sternenhimmel* has undergone reordering past the dative *Kindern* and still appears in the topicalised phrase. The conclusion is that the processes at stake are linked to different loci.

But, following Frey's argumentation, examples such as the ones in (132), based on Haider and Rosengren (1998), clearly indicate that a third position is needed:

(132) a. *Er hat wahrscheinlich sein Argument immer allen erklärt*
he has probably his argument-ACC always all-DAT explained
"Probably he has always explained his argument to everyone"
b. *[*Sein Argument immer allen erklärt*] *hat er wahrscheinlich*
his argument-ACC always all-DAT explained has he probably
"Probably he has always explained his argument to everyone"

What (132) shows is that the accusative *sein Argument* is not in Frey's topic phrase, since it does not precede the sentence adverb *wahrscheinlich*. But it is not in its base generation position either, since it appears before the frequency adverb *immer* and the dative *allen*. On Frey's assumption that (132a) is just an instance of ordinary scrambling, there is no reason for the ungrammaticality of (132b), except if one hypothesises that, along with regular scrambling and topicalisation, there exists a third type of reordering process in German. Such a process, taking place in a projection below Frey's topic phrase (132a) but above the site of regular scrambling (132b), should be empirically justified on the basis of evidence different from that VP fronting itself.

Frey's third proof for his TP-internal topic projection is based on the reordering options with *verbnahe* elements on which this section has focused. Such a proof lends support to Frey's claim that topicalisation in TP must be distinguished from cases of regular scrambling. But I do not think that it undermines our hypothesis that German scrambling is sensitive to phonological borders, given that a language may signal discourse givenness in different ways. Recall, in this respect, that topics in German can also occur in Spec, CP. The same is true of other languages: for instance, Pili (2003) proposes for Italian the existence of three different projections hosting topics.

We have argued that the data in (130)-(132) supports the idea that both TP-internal topicalisation and regular scrambling are semantically/pragmatically triggered, and that both are incompatible with VP-fronting. It must be observed, however, that this does not entail that they cannot be different processes: (i) they share a common semantic/pragmatic trigger because both correlate with discourse-givenness; (ii) they are incompatible with VP-fronting either because they target a projection higher than *v*P (TP-internal topicalisation, on Frey's assumptions), or because they are followed by DISL (regular scrambling, in our analysis). I leave it open whether the differences between them simply reduce to the structures with *verbnahe* elements or can be extended to differences in the characterisation of the kind of topic they involve.

CHAPTER 6
CONCLUSIONS, PROBLEMS, AND PENDING ISSUES

Most studies devoted to Scandinavian 'Object Shift' share with those that focus on West Germanic scrambling the view that they constitute different phenomena, and thus must be treated independently. Exceptions to this are the proposals in Déprez (1989, 1994) and Diesing (1997), which, on the basis of some similarities between them, group the two constructions under the label of 'Object Movement'. Such similarities are strictly syntactic and/or semantic: both 'Object Shift' and scrambling displace an element across a clause-medial adverb or negation, which correlates with a change of that element's interpretation. The proposal presented in this work shares the view in such analyses, and maintains that there exists a connection between the two processes. However, the emphasis is not on the structural position of the shifted/scrambled constituents or the meaning they receive, but rather on other syntactic properties that seem to derive from the interaction between 'Narrow Syntax' and the PF interface. Since those syntactic properties are already put forward by Chomsky (2001) in his account of Scandinavian 'Object Shift', my contribution reduces to showing that they may be extended to German scrambling. The basic claim is, therefore, that both types of reordering are the result of strictly syntactic 'Move' conditioned by (i) the 'Object Shift/ Scrambling Parameter', and (ii) the early, non phase-bound procedure DISL.

The empirical evidence provided here came from VP-topicalisation, the 'Freezing/Anti-Freezing Paradox' with remnant coherent infinitives, and certain apparent constraints on scrambling in ditransitive VPs and other non-verbal projections. My aim has been to offer a unified treatment for all of them. This may give rise to some difficulties, as shown by the discussion of the conflicting sets of data in Frey (2000) for the case of *verbnahe* genitives and datives. This section deals with the possible loose ends in the analysis of the rest of the structures discussed in the preceding paragraphs, as well as with some other, more general questions.

Regarding VP-topicalisation, recall that the basic contrast was the one exhibited by examples such as (1) below, where indefinite subjects of transitive predicates (1a), and co-arguments scrambled across other co-arguments (1b) may be fronted along with the lexical verb, while arguments scrambled past time, and frequency adverbials are completely excluded (1c):

(1) a. [*Mädchen geküsst*] *haben ihn noch nie*
girls-NOM kissed have him-ACC yet never
"So far girls haven't kissed him"
b. [*Den Sternenhimmel Kindern erläutert*] *hat er schon oft*
the starry-sky-ACC children-DAT explained has he already often
"He has already explained the starry sky to children"
c. *[*Diese Zigarren immer geraucht*] *hat damals keiner*
these cigars-ACC always smoked has then no-one-NOM
"No one always smoked these cigars then"

We attributed this contrast to two main factors: (i) the existence of alternative base generated orders, along with scrambling of the 'Object Shift' type in German; and (ii) the requirement that scrambled constituents undergo DISL to a higher phase. In this light, (i) is responsible for (1b), and (ii) rules out (1c). On the other hand, (1c) was used as a proof against the hypothesis in Haider and Rosengren (1998, 2003) and Fanselow (2001, 2003) that all scrambling strings may be reduced to base-generation: apparently, there is no reason why a *v*P/VP (i.e. an extended MAC, in Haider and Rosengren's terms) containing a freely attached adverbial cannot appear in Spec, C. However, the facts in (1) are amenable to a different type of analysis. Suppose that, on the traditional assumption that no projection higher than *v*P may be fronted, we contend that the ill-formedness of (1c) is due to movement to a functional phrase located between TP and *v*P, preserving direct insertion for (1b). This would be descriptively adequate, since it conforms to the three examples at stake. But it would have important consequences for our overall approach: on the one hand, dispensing with DISL for the VP-topicalisation cases would force us to eliminate it also in our account of the 'Freezing/Anti-Freezing Paradox' with remnant coherent infinitives, whose behaviour seems to be fully consistent with an explanation in terms of a PF procedure; on the other, such a functional projection would necessarily correlate with the presence of a matching [+topic] feature on the displaced constituent, given the semantic/ pragmatic effects of the operation. The general result is very similar to the proposal in Meinunger (1995), which, as shown in Chapter 4, did not fare well with those instances in which topical accusatives following non-topical datives are exempted from moving to that purported functional phrase.

The empirical coverage of the 'Freezing/Anti-Freezing Paradox' also deserves some comments. The reader has probably noticed that our conclusions in the preceding chapter are exclusively drawn from the controversial islandhood of coherent infinitives, and that we have not dealt with the issue of ex-

traction out of other types of scrambled structures. As shown in Chapter 3, those types are mainly four, as summarised under (2):

(2) (i) NP-PP splits

a. [*Über wen*]$_i$ *hat der Fritz letzes Jahr* [*ein Buch* t$_i$]
about whom has Fritz-NOM last year a book-ACC
geschrieben?
written
"About whom did Fritz write a book last year?"

b. *[*Über wen*]$_i$ *hat der Fritz* [*ein Buch* t$_i$]$_j$ *letzes Jahr* t$_j$
about whom has Fritz-NOM a book-ACC last year
geschrieben?
written
"About whom did Fritz write a book last year?"

(ii) Split topicalisations

a. [*Volvos*]$_i$ *habe ich ja* [*viele* t$_i$] *gesehen*
Volvos have I PART many seen
"As for Volvos, I saw many"

b. *[*Volvos*]$_i$ *habe ich* [*viele* t$_i$]$_j$ ja t$_j$ *gesehen*
Volvos have I many PART seen
"As for Volvos, I saw many"

(iii) *Was-für* construction

a. [*Was*]$_i$ *hat Heinrich dem Mann* [t$_i$ *für ein Buch*]
what has Heinrich-NOM the man-DAT for a book
empfohlen?
recommended
"What kind of book did Heinrich recommend the man?"

b. *[*Was*]$_i$ *hat Heinrich* [t$_i$ *für ein Buch*]$_j$ *dem Mann* t$_j$
what has Heinrich-NOM for a book the man-DAT
empfohlen?
recommended
"What kind of book did Heinrich recommend the man?"

(iv) Coherent infinitives

a. *dass das Buch*$_i$ *keiner* [t$_i$ *zu lesen*] *versucht hat*
that the book-ACC no-one-NOM to read tried has
"that no one tried to read the book"

b. **dass* [t$_i$ *zu lesen*]$_j$ *das Buch*$_i$ *keiner* t$_j$ *versucht hat*
that to read the book-ACC no-one-NOM tried has
"that no one tried to read the book"

A hypothetical extension of our findings about the behaviour of coherent infinitives to the rest of the structures above appears to run against the ungrammaticality of the examples in (b), insofar as movement of the fronted constituent entails the deletion of the phonological features of the lower copy of the scrambled constituent at the end of the CP cycle. In other words, in all the cases DISL applies to a phonologically complete constituent. But our analysis is, in fact, compatible with (2), as suggested by the existence of 'Anti-Freezing' for (i) and (ii), and the reasons Meurers and De Kuthy (2001) and De Kuthy (2002), and Fanselow and Ćavar (2002) give for it. I refer the reader to Chapter 3 for the detail of these proposals. Let us simply recall at this stage their basic conclusion. 'Freezing' is not due to syntactic constraints, but rather to purely pragmatic ones: splitting is permitted only if the scrambled and fronted constituents are characterised differently with respect to the topic/comment distinction. The crucial point here is that, according to our proposal, fronting out of a scrambled constituent must be licit, as it is, pragmatic factors aside. In this respect, an obvious question arises: if splitting is disfavoured in those instances in which the displaced elements perform the same pragmatic function, why is it that 'double scrambling' with pronouns is possible at all? In my opinion, the answer is related to the defective nature of coherent infinitives, and the requirement that discourse-linked constituents leave the domain of existential closure. If, as Wurmbrand (2001a) argues, coherent infinitives are VPs, their pronominal, inherently D-linked arguments must obligatorily move to the matrix *v*P edge. Notice that subsequent movement of an also D-linked infinitival clause to that position cannot fulfil that requirement: the pronoun would be still within the embedded VP. This could naturally be extended to the illicit 'double scrambling' cases, if they did not violate the constraint on phonological integrity imposed by DISL.

There is only one case remaining, namely the *was-für* split construction. This case exhibits a good deal of complexity, since judgements of apparently similar examples differ greatly. Recall that Diesing (1992) used contrasts such as that in (2 iii) as a proof for the island status of scrambled constituents. But Fanselow (2001) refutes Diesing's claim on the basis of structures such as (3) (example from Haider, 1993):

(3) *Was*$_i$ *hätte denn* [t$_i$ *für Aufsätze*] *selbst Hubert nicht*
what would-have PART for articles even Hubert-NOM not
rezensieren wollen?
review wanted-to
"What kind of articles wouldn't Hubert himself have wanted to review?"

Observe that, paralleling what happened with NP-PP splits and split topicalisation, it is the ungrammaticality of (iii,b) in (2) and not the grammaticality of (3) that may constitute an obstacle to our account of the 'Freezing/Anti-Freezing Paradox' with scrambled infinitivals: *wh*-movement should always be possible. Therefore, we will follow Wiltschko (1997) in assuming that the source of the ill-formedness of (iii,b) has nothing to do with extraction of *was*, and is rather a consequence of the non D-linked interpretation *was für (ein) N* preferably receives. If, as she argues, *wh*-words can be subsumed under the class of weak quantifiers, they must be subject to Diesing's (1992) 'Mapping Hypothesis', which requires them to remain *v*P/VP-internal. This is illustrated by the multiple questions in (4) (from Wiltschko, 1997, her judgements):

(4) a. *Wer hat welches Buch denn schon oft empfohlen?*
who-NOM has which book-ACC PART already often recommended
"Who has already recommended which book?"
b. *?*Wer hat was für Opern immer geschätzt?*
who-NOM has what-ACC for operas always appreciated
"Who has always appreciated what kind of operas?"

Wiltschko contends that the only difference between (4a) and (4b) lies in the (non) D-linked nature of the *wh*-constituent, which forces it to scramble in (4a), and to stay in its base generation position in (4b). Although she does not explicitly address the grammatical extraction in (3), she notes that the *was-für* construction seems to involve dialectal (and possibly idiolectal) variation, a fact that allows some speakers to interpret it as D-linked. Those speakers tolerate the presence of an overt partitive phrase following *was-für*, an option which is barred in the other dialectal/idiolectal variety:

(5) *%*?Was für einen dieser Filme hast du schon gesehen?*
what-ACC for a these movies-GEN have you already seen
"Which one of these movies have you already seen?"

Finally, notice that to check whether Wiltschko's suggestion is tenable for all the possible instances of 'Freezing/Anti-Freezing' with *was-für* splits is relevant for the trigger for scrambling itself, and not for the compatibility between scrambling (however it is driven) and movement to Spec, C. Since the conclusions we drew from the analysis of coherent infinitivals are restricted to the latter point, the consequence is that the behaviour of the *was-für* construction does not detract from its validity.

As stated elsewhere, Chomsky (2001) envisages DISL mainly as a procedure that allows Scandinavian 'Object Shift' structures to fulfil basic minimalist principles such as the 'Minimal Link Condition'. However, he suggests that it may also be empirically supported by two observations in Holmberg (1999). The first, already mentioned in the preceding chapter, is that shifted constituents precede auxiliaries, which entails that they must leave the *v*P edge. The second, originally due to Holmberg and Platzack (1995), is that the pre-auxiliary position cannot be an A-position, as demonstrated by the absence of binding between the shifted object and the c-commanded anaphor in the Icelandic examples in (6) and the Swedish examples in (7) (from Holmberg and Platzack, 1995):

(6) a. *Ég taldi, þeim*$_i$ */*sér*$_i$ *til undrunar, Ólaf og Martein*$_i$
I believed them-DAT/self-DAT to surprise Olaf and Martin-ACC
vera jafngóða
be equally-good
"I believed, to their surprise, Olaf and Martin to be equally good"

b. *Ég taldi Ólaf og Martein*$_i$, *þeim*$_i$ */*sér*$_i$ *til undrunar,*
I believed Olaf and Martin-ACC them-DAT/self-DAT to surprise
t_i *vera jafngóða*
be equally-good
"I believed Olaf and Martin, to their surprise, to be equally good"

(7) a. *Jag ansåg till deras*$_i$*/*sin*$_i$ *besvikelse Per och Martin*$_i$
I believed to their/self's disappointment Per and Martin-ACC
vara lika bra
be equally good
"I believed, to their disappointment, Per and Martin to be equally good"

b. *Jag ansåg dem*$_i$ *till deras*$_i$ */*sin*$_i$ *besvikelse* t_i *lika bra*
I believed them to their/self's disappointment equally good
"I believed them, to their disappointment, to be equally good"

If, as standardly assumed (Chomsky and Lasnik, 1993), binding relations are relevant only at LF, it is expected that PF operations such as DISL have no bearing on them. In other words, the position occupied by the shifted objects in (6) and (7) is merely a PF position, invisible to LF, which computes 'Principle A' according to the input provided by 'Narrow Syntax'. Since, in that input, the potential binder is structurally lower than the reflexive in the adverbial phrase, the resulting structures are ill-formed.

Similar arguments seem to be valid for German. On the basis of (8) and (9) below, Grewendorf and Sabel (1999) contend that scrambled categories cannot bind anaphors in that language either (examples from Grewendorf and Sabel, 1999):

(8) a. **weil die Lehrer von sich$_i$ zweifellos den Studenten$_i$*
because the teachers-NOM of himself undoubtedly the student-ACC
in guter Erinnerung behalten haben
in good memory kept have
*"The teachers of himself have undoubtedly kept the student in good memory"

b. **weil den Studenten$_i$ die Lehrer von sich$_i$ zweifellos*
because the student-ACC the teachers-NOM of himself undoubtedly
t$_i$ *in guter Erinnerung behalten haben*
in good memory kept have
*"The teachers of himself have undoubtedly kept the student in good memory"

c. *weil der Student$_i$ die Lehrer von sich$_i$ zweifellos*
because the student-NOM the teachers-NOM of himself undoubtedly
in guter Erinnerung behalten hat
in good memory kept has
"The student has undoubtedly kept the teachers of himself in good memory"

(9) a. **weil der Vater von sich$_i$ dem Jungen$_i$ ein Geschenk*
because the father-NOM of himself the boy-DAT a present-ACC
zu machen versucht hat
to make tried has
*"because the father of himself tried to give a present to the boy"

b. **weil dem Jungen*$_i$ *der Vater von sich*$_i$ *ein Geschenk*
because the boy-DAT the father-NOM of himself a present-ACC
zu machen versucht hat
to make tried has
*"because the father of himself tried to give a present to the boy"

c. *weil der Junge*$_i$ *dem Vater von sich*$_i$ *ein Geschenk*
because the boy-NOM the father-DAT of himself a present-ACC
zu machen versucht hat
to make tried has
"because the boy tried to give a present to the father of himself"

Recall that, unlike shifted objects in Scandinavian, German scrambled constituents may precede the subject, either in their own clause (8b), or in a matrix higher one (9b) in the case of coherent constructions. However, this does not repair the ungrammaticality observed in both (8a) and (8b), where the reflexive contained in the nominative DP appears unbound, in clear violation of 'Principle A'. In other words, (8b) and (9b) are as ill-formed as (9a) and (9b), which seems to suggest that scrambling does not feed binding. Grewendorf and Sabel (1999) take the facts above to be evidence for the A-bar nature of scrambling, given the contrast with (8c) and (9c), where binding is possible from an A-position. But an account of (8)-(9) as the product of Chomsky's DISL is, in principle, superior, insofar as it dispenses with the problems that the A-bar approach faces. Recall that, as shown in Chapters 3 and 4, such problems basically derive from the asymmetry between scrambling (and 'Object Shift') and well-known instances of A-bar movement (fronting to Spec, C) with respect to properties like clause-boundedness, or phenomena like parasitic gaps.[1]

Resorting to DISL appears at first sight more problematic when dealing with contrasts like those in (10), traditionally adduced as evidence for the claim that scrambling is A-movement:

(10) a. **Gestern habe ich einander*$_i$ *die Gäste*$_i$ *vorgestellt*
yesterday have I each other-DAT the guests-ACC introduced
"Yesterday I introduced the guests to each other"

b. *Gestern habe ich die Gäste*$_i$ *einander*$_i$ *vorgestellt*
yesterday have I the guests-ACC each other-DAT introduced
"Yesterday I introduced the guests to each other"

If, in parallel to the scrambled constituent in Grewendorf and Sabel's examples, *die Gäste* precedes the reciprocal only phonologically in (10b), why is binding possible at all? This is only a problem, however, if we do not adopt a deriva-

tional approach to 'Binding Theory' along the lines Kitahara (1999, 2000, 2002), according to which coreference is not determined on a unique LF representation after all transformations have applied, but rather immediately after the valuation of the uninterpretable features of potentially coreferent elements. In the case at hand, this means that the binders *den Studenten* (8b),and *dem Jungen* (9b) must have their Case feature valued in a position from which they cannot c-command their respective bindees (that is, *der Lehrer von sich* in (8b), and *der Vater von sich* in (9b)), while *die Gäste* gets rid of its uninterpretable Case feature in a position c-commanding *einander*. Recall that, according to standard minimalist assumptions (Chomsky, 2000; 2001), structural accusative (and dative) is the manifestation of a relation of 'Agree' between the nominal bearing it, the goal, and a probe *v*. Recall also that 'Agree' is possible only if the probe has the goal in its domain, or the goal is re-merged with the probe. In other words, Case feature valuation may proceed in the two ACC positions in (11):

(11) $_{v}$P[**ACC** $_{v}$P[Subject $_{v'}$[$_{VP}$[**ACC** V] *v*]]]

If interpretation followed Case valuation of the accusative in Spec, *v*, that position would be relevant for 'Principle A' at LF, which would fit the grammaticality of (10b) and leave (8b) and (9b) unexplained. We get the reverse effects if interpretation follows Case valuation of the nominal in the domain of *v*, with (8b) and (9b) as clear instances of a 'Principle A' violation, and no reason, from these quarters, for the well-formedness of (10b). This option is, however, preferable according to the main tenets in the present work: (i) German scrambling is sensitive to phonological borders; (ii) base-generation within the German *v*P is, to a certain extent, flexible, as demonstrated by the VP-topicalisation facts and merge of indefinite co-arguments discussed in Chapter 5; (iii) neither West Germanic scrambling nor Scandinavian 'Object Shift' are crucially linked to structural Case licensing, given that the former displaces non-nominal arguments (Chapter 3), and the latter displaces DPs bearing inherent (i.e. non structural) Case (see below). Within this framework, therefore, the grammaticality of (10b) follows from a base generated ACC > DAT order.

So far my review of the remaining problems for considering DISL as a part of German scrambling. Next I would like to address those related to the potential sensitivity of the phenomenon to Chomsky's (2001) phonological border. We have suggested that the asymmetry found between ditransitive and monotransitive 'unmarked' sequences is the result of the existence of a rule of the kind of Chomsky's (2001) 'Object Shift Parameter' in German reordered structures: only the discourse-linked objects of monotransitive predicates will

be forced to leave the VP. However, this may be not necessarily so, if, as Chomsky tentatively assumes, subjects in Spec, *v* also belong to the sets of elements which cause c-commanded, scrambable material not to be at the phonological border. Thus, our proposal would fail to account for examples such as (12) (from Fanselow, 2003), where *das* has moved across *wer* in its base generated position:

(12) *ob* *das* *wer* *gewusst hat*
whether that-ACC anyone-NOM known has
"whether anyone knew that"

Cases parallel to (12) are attested in Icelandic too, as Chomsky himself notices (2001: 36). He attributes their grammaticality to a condition holding for transitive constructions, according to which something must escape the *v*P. But postulating such a condition for German may be questionable, as shown below:

(13) a. ?[*Ein Millionär* *dem Studenten* *einen Wagen geschenkt*]
a millionaire-NOM the student-DAT a car-ACC given
hat hier noch nie
has here yet never
"It has never happened here that a millionaire gave the student a car"
b. *dass* [*Studenten* *dem Kind* *das Buch* *zeigen*]
that students-NOM the child-DAT the book-ACC show
"that (some) students show the child the book"

If Wurmbrand (2001b) is right, the bracketed constituent in (13a) must be a complete *v*P, given the ban on TP fronting. On the other hand, according to Diesing's (1992) 'Mapping Hypothesis', German existential subjects remain in Spec, *v*, which entails that (13b) constitutes a case in which all the arguments of the three-place predicate are VP-internal. If the analysis of these facts in German is correct, it throws doubt on Chomsky's account of the Icelandic counterpart to (12), and thus on his claim that phonologically realised subjects in Spec, *v* are relevant for the 'Object Shift Parameter'. In the absence of straightforward evidence, I leave the issue open.

The last question I would like to address does not relate to the phonological side of reordering processes, but rather to the syntactic device that is responsible for them, namely the EPP feature. Recall that it has its origins in the 'Extended Projection Principle' (Chomsky, 1982) of the GB framework, which basically states that a clause must have a subject, even if its predicate lacks an

external theta-role. In the earliest versions of the 'Minimalist Program', the EPP is reinterpreted as the presence of a strong nominal feature on T, which entails that it must be checked in 'Narrow Syntax' either by merging an expletive in Spec, T or by pied-piping the VP-internal subject to that position. However, the rejection of covert operations in Chomsky (2000, 2001) and their replacement by long-distance agreement ('Agree') excludes the EPP from the core of feature checking again, making it appear as in its first formulation, that is, as the requirement that certain functional heads must have a specifier. Besides, it undergoes several modifications: (i) the principle is rendered in the form of an uninterpretable feature, whose elimination has effects for interpretation; and (ii) it is not exclusively linked to T, but rather to 'core functional categories' in general, i.e. T, C, and *v* (the light verb selecting for a V with full argument structure). Its presence in T correlates with a phonologically realised subject in Spec, T; if it appears in C, a *wh*-moved or topicalised constituent must fill Spec, C; finally, as we have shown in this chapter, an EPP feature on *v* is responsible for 'Object Shift'.

The existence of an EPP feature of the kind in Chomsky (2000, 2001) has been criticised on several grounds. For example, Epstein and Seely (2002) consider its configurational nature a threat to the entire minimalist theory of movement, based on feature interpretability at the interfaces. In other words, since the EPP feature does not seem to derive from the intrinsic properties of lexical items, it amounts to readmitting the phrase structure rules and principles of GB. In the same vein, Grohmann, Drury and Castillo (2000) reject its stipulative character: the EPP feature exclusively responds to the need to allow for successive cyclic A-bar movement, and therefore is not empirically justified. Pesetsky and Torrego's (2001) account of T-to-C movement offers a possible way to make the EPP feature less configurational. They propose to render it not as a feature of a core functional head, as in Chomsky (2000, 2001), but rather as a property of a feature of that head. Notice what this would entail for Chomsky's (2001) account of Scandinavian 'Object Shift': the displacement of the object must be triggered by the only features of *v* that are illegitimate at LF, i.e. uninterpretable φ-features, which are, in turn, marked as [+EPP]. On the other hand, recall that 'Agree' only takes place between active probes and goals. In this light, 'Object Shift' reduces to structural Case licensing.

Such an approach would obviously be at odds with our claim that German scrambling is syntactic movement to the *v*P edge, constrained by conditions equivalent to the 'Object Shift Parameter', insofar as arguments different from DPs may move there. But it does not fit the Icelandic data either: according to Collins and Thráinsson (1996), all objects undergo 'Object Shift' in Icelandic, including those with dative, genitive, and nominative morphological case:

(14) a. *Ég henti bókinni ekki*
I threw the book-DAT not
"I didn't throw the book"
b. *Ég sakna Haraldar ekki*
I miss Harald-GEN not
"I don't miss Harald"
c. *Mér líka bækurnar ekki*
me like the books-NOM not
"I don't like the books"

If neither T nor *v* assigns inherent case (Chomsky, 2000), the facts in (14) support Chomsky's view that structural (accusative or dative) Case assignment is a phenomenon independent from the EPP. In other words, the EPP cannot be linked to the uninterpretable features of the probe *v*. Therefore, the question why the categorial constraints found in Scandinavian 'Object Shift' are not found in German scrambling may be of the same order as the question why Icelandic 'Object Shift' is not restricted in the way reordering in Mainland Scandinavian is.[2]

Despite all the problems and pending issues reviewed in this final chapter, the overall conclusion in the present work is that there are reasons to think that the two reordering processes characterising Germanic languages may basically constitute a single syntactic phenomenon. Supporters of this view have so far relied on the semantic similarities between shifted and scrambled constituents, as in Diesing (1997). The aim of this book has been to go beyond such semantic similarities, contending that the prominent role Chomsky (2001) assigns to phonological features and PF procedures in Scandinavian 'Object Shift' can also be detected in West Germanic scrambling. In spite of the complexity of the data, and the large number of relevant issues that are still unsettled in the latest versions of the 'Minimalist Program', I believe that the general perspective offered by this alternative provides a more adequate account of scrambling than was found in previous generative models, and is therefore well worth pursuing.

NOTES

Chapter 1

[1] German and Russian are differentiated in turn by the (im)possibility of adjunction to CP, which, according to Müller and Sternefeld, explains their differences with regard to long-distance scrambling (see next section).

[2] I refer the reader to Chapter 4 for an exact characterisation of L(ogical) F(orm). It is sufficient to say here that it is the linguistic level interfacing with the extra-linguistic cognitive-intentional system, and thus responsible for semantic interpretation.

[3] I disregard here a second position for locatives that Miyagawa and Tsujioka propose, since it is irrelevant to the example in (9).

[4] For a full characterisation of 'A-bar movement', I refer the reader to Chapter 4.

[5] For a full characterisation of 'A-movement', the reader is referred again to Chapter 4.

[6] As pointed out by an anonymous reviewer, scrambling of a constituent to a position preceding the subject is not completely barred in Dutch, as shown in the example below (from Haider and Rosengren, 2003):

(i) a. *dat (er) niemand wat voor je vader meegebracht heeft*
that EXPL no-one something for your father brought-with has
"that no one brought your father anything"
b. *dat (er) voor je vader niemand wat meegebracht heeft*
that EXPL for your father no-one something brought-with has
"that no one brought for your father anything"

Haider and Rosengren attribute the grammaticality of (ib) to the fact that PPs, contrary to DPs, do not necessitate a positional system of identification in Dutch. Such an account is highly reminiscent of those hypotheses that assume that, as far as DPs are concerned, Dutch scrambling is more constrained than German scrambling due to the presence of morphological case in German and its absence in Dutch. Even if this traditional insight is correct (it is not in the case of Scandinavian 'Object Shift', since the type of 'Object Shift' found in Faroese, a language with morphological case, is more restricted than that found in Icelandic), it is clearly incompatible with some basic tenets of the 'Minimalist Program', as we will see in Chapter 4.

[7] That is, if Vikner (2001) and Haider and Rosengren (1998, 2003) are right and Yiddish is head-final.

[8] As in the case of pre-subject scrambling, PP arguments are an exception in Dutch, insofar as they may scramble across other arguments, as shown in (i) (from Haider and Rosengren, 2003):

(i) a. *Toen hebben de autoriteiten het kind aan de moeder teruggegeven*
then have the authorities the child to the mother back-given
"Then the authorities gave the child back to its mother"
b. *Toen hebben de autoriteiten aan de moeder het kind teruggegeven*
then have the authorities to its mother the child back-given.

The reader is referred to the brief discussion in footnote 6.

Chapter 2

[1] The question of the trigger for movement operations, and the requirements they are subject to will be discussed in Chapters 4 and 5, where the different generative accounts of German scrambling will be dealt with.

[2] That is, North Germanic (Danish, Swedish, Norwegian, Icelandic, and Faroese), and West Germanic (German, Yiddish, Luxemburguish, Dutch, Afrikaans, and Frisian), as well as in non-standardised dialects of the areas in which North and West Germanic are spoken.

[3] The exception is constituted by those cases of 'Pronoun Zap', a colloquial German construction in which clause-initial nominative and accusative pronouns may be omitted, leaving the finite verb in first position (examples from Haider, 1986b):

(i) *(Ich) habe es schon gelesen*
I have it-ACC already read
"I have already seen it"

(ii) *(Es) habe ich schon gelesen*
it-ACC have I already read
'I have already seen it'

[4] Except in Icelandic and Yiddish, which allow for verb second in embedded clauses quite unrestrictedly (examples from Koeneman, 2000):

(i) Ic *að í heberginu hefur kyrin staðið*
that in the room has the cow stood
"that the cow stood in the room"

(ii) Yi *az morgn vet dos yingl zen a kats*
that tomorrow will the boy see a cat
"that the boy will see a cat tomorrow"

[5] Generally speaking, complementiser agreement is the label for a morphosyntactic structure in which the complementiser that introduces a finite embedded clause exhibits morphological inflectional endings for person and/or number, corresponding to those of the verb in clause-

final position. Complementiser agreement is illustrated by the Luxemburguish example below, taken from Zwart (1997):

(i) *ob-s du wëll-s*
whether-2SG you want-2SG
"whether you want"

On the other hand, (ii) and (iii) below are Dutch examples of clitisation onto an overt complementiser and a finite verb respectively ((ii) from Cardinaletti and Starke, 1996; (iii) from Zwart, 1997):

(ii) *dat-ie niet kan komen*
that-he not can come
"that he cannot come"

(iii)*Daar gaat-ie*
there goes-he
"There he goes"

[6] The possibility of embedded 'verb second' in German is restricted to the class of so-called bridge verbs, and necessarily requires the absence of the overt complementiser.

[7] Furthermore, extraction is impossible independently of the type of subject we have, as (i), with an expletive in Spec, T (or Spec, C) shows:

(i) **Wo glaubte sie es wurde getantz?*
where believed she EXPL was danced
"Where did she believe that people danced?"

[8] That is, irrespective of the issue whether scrambling is base generation in relatively high positions, or is movement to a derived one (see Chapter 4): if it is base generation, it is base generation in the *Mittelfeld*; if it is the product of movement, it is movement from a position within the *Mittelfeld* to another position also within the *Mittelfeld.*

[9] Notice that the ill-formedness of (27) cannot be due to an ordering constraint of the type PRON > SUBJECT, as (i) demonstrates:

(i) *dass der Peter es gelesen hat*
that Peter-NOM it-ACC read has
"that Peter read it"

[10] In fact, this is still the standard view in the latest versions of the 'Minimalist Program' (Chomsky 2000, 2001, 2004). For an overview, I refer the reader to the discussion of the base-generation approach to scrambling in Chapter 4. It is sufficient to say here that such an approach defies the idea that verbs theta-mark their complements within VP, and instead contends that arguments may be thematically licensed in any phrasal projection containing their selecting head (Fanselow, 2001, 2003). An alternative position, also rejecting the standard

view, is the one adopted by Bošković and Takahashi (1998), according to which theta-roles may be assigned at LF.

[11] See Chapter 3, Section 2.

[12] In general terms, 'liaison' is a phonological process making the final segment of the coda of σ_1 become a member of the onset of σ_2, if σ_1 precedes σ_2, and are contained within the same phonological phrase. In the example above, the segment at stake is the final *s* in *elles*. For the notion of phonological phrase, see Chapter 3.

[13] Roughly speaking, a prosodic word is the combination of a lexical head and phonologically lighter material accompanying it: *mange* and the deficient element in (42b).

[14] Cardinaletti and Starke treat the vague 'less referential' in terms of range restrictions: deficient pronouns are incapable of bearing their own range restriction, and are therefore either rangeless, or associated with the range-restriction of an element prominent in discourse. The first possibility explains why they may appear in expletive and quasi-expletive constructions, as illustrated for German *es* in (i) and (ii) below:

(i) *Es wurde getantzt*
EXPL was danced
"Someone danced"

(ii) *Es regnet*
EXPL rains
"It rains"

[15] A similarly controversial matter is that of the potential differences between deficient and non-deficient elements in the *Vorfeld*, one of the arguments adduced by the proponents of the 'asymmetric approach' to the 'verb-second contraint' (see Section 1 above), where judgements seem to differ greatly. Against the generalisation that weak object pronouns cannot show up in a pre-verb-second position in German see Gärtner and Steinbach (2000).

[16] R-pronouns owe their name to the fact that an epenthetic *r* in inserted if the onset of the preposition starts with a vowel: *da-r-an* vs *damit.*

[17] Except in those cases in which it may co-occur with an expletive (Rosengren, 2002).

Chapter 3

[1] Recall that Yiddish could constitute a counterexample if, as Diesing (1997) argues, it is a scrambling head-initial language. However, although that scrambling exists in Yiddish is fairly uncontroversial, the status of this language as head-initial is not, as Haider and Rosengren (1998, 2003) demonstrate. A similar case they point out is that of Finnish, for which it is also claimed that, despite appearances, its base-generated word order is OV (Holmberg, 1998; Haider and Rosengren, 1998). Nevertheless, Müller (1995) concludes that the correlation between scrambling and OV must be incorrect, given that in Russian, a VO language (Pesetsky, 1982), scrambling is also manifested.

[2] See Chapter 1, Section 2.2.

[3] Fanselow (2003) demonstrates that, in structures such as (i) and (ii) below, an analysis in terms of scrambling either of the object or the adverbial is just impossible. In this connection, he suggests that base-generation is the right account for at least two types of adverbials, namely locative and manner.

(i) *man konnte BLITZE am Himmel sehen*
one-NOM could lightnings-ACC in-the sky see
"One could see lightnings in the sky"

(ii) *man konnte am Himmel BLITZE sehen*
one-NOM could in-the sky lightnings-ACC see
"One could see lightnings in the sky"

The peculiar property of the construction is that, in its both variants, it serves as an answer to a question focusing on the whole event (to which we will turn below, in Section 2, this chapter), of the kind *Was ist passiert?* ("What happened?"), with the pitch accent (signalled by capitals) on the object. Notice that, if one assumes that (i) is the normal (i.e. non-scrambled) order, *am Himmel* must be reordered in (ii); on the other hand, if (ii) is taken as base-generated, (i) would show a scrambled linearisation. Since neither of them is pragmatically or prosodically marked, the conclusion is that *am Himmel* may be inserted in two different non-derived positions. According to Fanselow (following Maienborn, 1996), the alternative sequences seem to derive from a constraint that forces adverbials to be c-commanded by the argument they modify.

[4] # marks semantic / pragmatic ill-formedness.

[5] Some German verb particles may be topicalised in Spec C (i), which entails that they may behave as XPs. Therefore, their resistance to scrambling cannot be expressed in terms of heads vs phrases (example from Hinterhölzl, 1999):

(i) *Weg ist er noch nie gelaufen*
Away has he yet never run
"So far he has never run away"

[6] That is, animate arguments precede inanimate ones.

[7] 'Pre-subject position' and 'post-subject position' are merely descriptive terms that refer to the two different surface strings that German scrambling produces. For the problems posed by the availability of these two positions from a comparative perspective, see Section 1.5.2 of the present chapter. The exact structural identification of pre- and post-subject scrambling position depends on the particular analysis of scrambling that one adopts, as shown in Chapter 4.

[8] Hinterhölzl (1999) says that most German speakers prefers (39a) to (38a) because the two adverbials are kept apart by intervening material, an effect that is obtained in (38a) only by means of an intonational break.

[9] According to Wurmbrand (2001a), but it doesn't matter if one considers that we are dealing with a larger projection (see Chapter 2, Section 2).

[10] Notice that, differently from the requirements imposed on its adverbials by *versprach* (past-oriented or, at least, underspecified for present/past), the infinitive may be construed with any kind of time reference, due to the fact that it does not inflect, which implies that it does not impose any restriction on the adverbial agreeing with it (Iatridou, Anagnostopoulou and Izvorski, 2001).

[11] Notice that this general description excludes the reordering of complements of adjectives within APs. As will be shown in Chapter 5, I take this kind of process to be necessary for scrambling, but essentially different from it.

[12] I introduce traces to mark the alternative position of the scrambled object for the sake of exposition, remaining neutral at the moment with respect to the issue of the syntactic operation responsible for scrambling (see below, Chapter 4).

[13] It must be taken into account that German is an OV-language, which means that *zu lesen es* cannot form a single constituent in the example at stake.

[14] Nonetheless, the choice of a particular proposal will be relevant for my own analysis of German scrambling, as we will see in Chapter 5.

[15] Except in the case of PP-scrambling (see footnote 6, Chapter 1).

[16] Again, with the exception of PP-scrambling (see footnote 8, Chapter 1).

[17] Scandinavian 'Object Shift' will be dealt with in detail in Chapter 5. Let it suffice to recall here the general characterisation appearing in Chapter 1: it is a process displacing VP internal DP arguments to higher positions. As in Dutch scrambling, shifted DP arguments must appear following the subject and keeping a constant order between them.

[18] They will be reviewed in Chapter 4, when dealing with previous generative approaches to German scrambling.

[19] The 'Left Branch Condition' prevents extraction of α in the configuration $[_{DP}\alpha\ X]$, where X is any non-null material. The 'Coordinate Structure Constraint' states that, in a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct. Finally, extraction from a PP is impossible in German.

[20] The label refers to a structure in which the topicalised constituent (*gelesen, das Buch gelesen* in (64d, d')) appears dislocated to the left of the Spec, C position, occupied by a (resumptive) *d*-pronoun. This kind of structure will be disregarded in the present work due to its poorly understood nature, which sometimes resembles ordinary topicalisation, sometimes scrambling (this case). For an overview of its main properties the reader is referred to Grohmann (2000a, 2000b), Frey (2004), Boeckx & Grohmann (2005) and references therein.

[21] These theoretical problems derive from the framework Müller adopts, that of the 'Minimalist Program' (Chomsky, 1995). As will be shown in Chapter 4, such a framework requires move-

ment operations to be strictly triggered. But pronoun movement lacks a trigger in Müller's account. Notice that that trigger should derive from properties pronouns have but nominal DPs lack; otherwise, nothing would prevent nouns from undergoing pronoun movement, or pronouns from undergoing scrambling. Unfortunately, pronouns do not appear distinctively characterised in Müller's proposal.

[22] It will be observed that *es* in (69) cannot be in its base generated position: first, because *es* is an argument of the infinitival predicate, so it must be base-generated within it; second, because, according to Cardinaletti and Starke (1996, and subsequent work), *es* is the only pronoun in German which is always weak (i.e. unstressed), thus being barred from appearing in VP internal positions, that is, potential focus positions. Notice also that, as already shown in Chapter 2 (Section 4), (b) is not ruled out because the nominal subject precedes *es*; in fact, (nominal or pronominal) subjects are the only constituents that may appear preceding the 'Wackernagel position', as shown in the grammaticality of (i) below:

(i) *dass der Peter es gestern gelesen hat*
that Peter-NOM it-ACC yesterday read has
"that Peter read it yesterday"

[23] In fact, Frey gives it as an instance of transparency of topicalised constituents. As will be shown in Chapter 5, Frey proposes a system that establishes a distinction between reordering in positions lower than sentence adverbs, and reordering in positions higher than sentence adverbs. The latter is, according to him, movement to a functional projection hosting topics (TopP).

[24] Diesing's (1992) proposal is dealt with in the following chapter. Let it suffice to say here that, according to her, the different semantic meanings a bare plural may present in German correspond to the structural positions it may occupy. In this light, the generic interpretation *Skorpione* receives in (72) above requires it to occupy a position external to the VP, namely Spec, IP/TP. According to the VP-internal subject hypothesis (Koopman and Sportiche, 1991), subjects are uniformly base-generated within the VP, which entails that, if they appear external to it, they must have been moved there (see also Chapter 4, Section 1.1). Consequently, (72) pictures a case in which topicalisation out of an already displaced constituent yields a grammatical structure.

[25] De Kuthy (2000) observes that her analysis cannot be extended to other kinds of split structures, such as the *was-für* construction, mainly for two reasons: first, whereas in NP-PP splits both the PP and the NP may appear preceding the other (see (i) below), *was* must obligatorily precede the PP headed by *für* (ii); second, as shown in the main text, NP-PP splits are subject to lexical restrictions, which is not the case with *was-für* structures, which may appear with any kind of verbal predicate (iii) (examples from De Kuthy, 2000):

(i) a. *Hans hat über Syntax während seines Studiums [nur drei Bücher]*
Hans has about syntax during his studies only three books
ausgeliehen
borrowed
"Hans borrowed only three books about Syntax during his studies"

b. *Hans hat* [*nur drei Bücher*] *während seines Studiums über Syntax*
Hans has only three books during his studies about syntax
ausgeliehen
borrowed
"Hans borrowed only three books about Syntax during his studies"

(ii) **Für Bücher hast du was gekauft?*
for books have you what bought
"What kind of books did you buy?"

(iii) a. *Was haben die Nazis für Bücher gelesen?*
what have the Nazis for books read
"What kind of books did the Nazis read?"
b. *Was haben die Nazis für Bücher zerstört?*
what have the Nazis for books destroyed
"What kind of books did the Nazis destroy?"

Adopting De Kuthy's perspective, it is not very problematic to account for the first property, given that *wh*- elements, differently from non-*wh*-PPs, must move to interrogative Cs. It is more difficult to justify why the phrase headed by *für* may appear either in its base position or scrambled. We defer the issue to Chapter 6, although we warn the reader that no clear conclusions will be reached, due to the extreme complexity of the data and the great divergence in judgements.

[26] For a detailed account of the 'Copy Theory of Movement' the reader is referred to Chapter 5, Section 2.1.2.2.1.

[27] Although not explicitly stated, this is derived in Grewendorf and Sabel's (1994) analysis for German coherent constructions, since they argue that the factor distinguishing structures such as (i) from (ii) is abstract incorporation of the embedded verb, which, while being necessary for licensing the object in the matrix clause, cannot take place if the embedded infinitive occupies an adjunct position. On the other hand, verb incorporation is not required in the case of a *wh*-moved object, since displacement may proceed via the embedded Spec C.

(i) **dass* [*zu füttern*] *den Hund keiner versuchte*
that to feed the dog-ACC no-one-NOM tried
"that no one tried to feed the dog"

(ii) *Wen hat* [*zu füttern*] *keiner versucht?*
who-ACC has to feed no-one-NOM tried
"Who did no one try to feed?"

Notice, however, that Grewendorf and Sabel's account presents a serious empirical flaw, namely the existence of the 'Third Construction', in which *wh*- elements in Spec, C, objects scrambled in the matrix clause, and remnant infinitives in a supposedly adjoined position are perfectly acceptable in sentences like (iii) below:

(iii) *Wem hat Hans das Buch versucht zu geben?*
who-DAT has Hans-NOM the book-ACC tried to give
"Who did Hans try to give the book?"

[28] In fact, Büring uses 'accent domains', an equivalent term, insofar as it denotes the same prosodic category: an intermediate layer grouping prosodic words. The existence of phonological phrases (Büring's (2001a), (2001b) 'accent domains', or Gussenhoven's (1984) 'focus domains', or Pierrehumbert and Hirschberg's (1990) 'intermediate phrases') has been postulated on the basis of certain postlexical phonological processes that these intermediate categories either block or trigger (Selkirk, 1986; Nespor and Vogel, 1986). For details, the reader is referred to Chapter 5 (Section 2.1.2.3.3), where phonological phrases will be of central importance in resolving the 'Freezing/Anti-freezing Paradox' with coherent infinitives.

[29] For a detailed account of how phonological phrases are formed in the examples at stake, I refer the reader again to Chapter 5, Section 2.1.2.3.3.

[30] At least in Germanic. Ishihara (2000) reports that in Japanese, also traditionally considered a scrambling language, the displacement of the object makes stress fall on the element on the left of the nuclear stress position instead of on the verb. Ishihara attributes the difference to obligatory V to T in Japanese, absent in Germanic.

[31] For the sake of exposition, I assume the 'asymmetric hypothesis' (see Chapter 2, Section 1), according to which both the subject *Hans* and the finite verb *hat* are located within TP.

[32] For a better understanding of the exact way in which the NTPS applies, I also include the corresponding P-markers.

[33] The status of (102d) and (103d) is controversial. Höhle (1982) considers them pragmatically well-formed, but Meinunger (1995) argues that his judgement seems to be based on a misunderstanding of the relation between questions and multiple foci in possible answers.

[34] From Jackendoff (1972) onwards, it has been frequently assumed that focus also correlates with a feature in rough syntax, [+focus] (Ladd, 1980; Selkirk, 1984; Rochemont, 1986; Winkler, 1997, etc.)

[35] As Schwarzschild (1999) convincingly argues, the notion of 'new' in Halliday's theory involve several unrelated definitions, such as 'textually and situationally non-derivable information', 'contrary to some predicted or stated alternative', or 'replacing the *wh-* element in a presupposed question'. In order to avoid the difficulties involved of such a multiple characterisation, Schwarzschild proposes to replace Halliday's model (in which this complex notion of 'new' is complementary to 'given') by another in which 'given' is the only reference. Therefore, in the following, I will assume with Schwarzschild that 'new' simply means 'not given'.

[36] The reader is referred to Chapter 4 for a brief review of the main tenets of these two models.

[37] Except in the cases in which it is contrastive or emphatic.

[38] Despite the fact that there are important theoretical differences between them. For example, Schwarzschild's rejection of mechanisms like the 'Nuclear Stress Rule'; his final proposal about the interaction of Selkirk's (1986) 'Basic F-Rule', 'Givenness' and the constraint 'AvoidF', intended to totally dispense with focus projection rules, which, nevertheless, are clearly present in Neeleman and Reinhart to determining the focus set; his semantic formalisation of the notion of 'given'; and his adoption of a more or less explicit 'Optimality Theoretic' framework.

[39] In the sense of Pesetsky (1987): roughly, already present in the universe of discourse.

[40] Unless, as Neeleman and Reinhart suggest (fn.17), destressing applies before nuclear stress assignment: the presence of the D-linked object would cause stress fall on the second most embedded constituent, namely the verb.

[41] Although Cinque (1993) also distinguishes between destressing and strengthening, he does not specify their differentiating properties as Neeleman and Reinhart do.

[42] The exact development of their proposal will be given in Section 2.1 of the following chapter, since it is irrelevant for the issue at stake here.

[43] It may be observed that Cinque's 'marginalisation' could account for (126a) unproblematically: *den Weg* is attached to a higher node, making *dem Polizisten* the most deeply embedded element. Leaving aside other empirical and theoretical conflicts which a process such as 'marginalisation' entails, it could not rule out non-scrambling strings for monotransitive predicates, insofar as objects inserted between VP-adjoined material and the lexical verb could be, in principle, 'marginalised' too.

[44] See Section 2.1, Chapter 4, for more details. It is sufficient to say here that this restriction derives from the mechanism they propose for theta-role assignment, according to which "no thematic information can be inherited from a verbal category if it is merged with a category X, and X projects", with the possible exception of external theta-roles.

Chapter 4

[1] And also Chomsky and Lasnik (1977), and the observation in Chomsky (1995).

[2] With exception of the movement approach in Haider and Rosengren (1998, 2003), who defend that scrambling is possible in all head-final projections (see Section 1.1.2.2).

[3] Haider and Rosengren (1998) reject the existence of 'Freezing', although their proposal argues for a movement approach. We will see the reasons for this when examining their analysis in more detail (Section 1.1.2.2).

[4] In fact, Pollock places the subject in Spec, TP. Belletti (1988) concludes that the AgrP must precede the TP, which entails that subjects must occupy the specifier of AgrP.

[5] α c-commands β if the constituent γ immediately dominating α dominates β and neither α dominates β nor β dominates α.

[6] As suggested by focus interpretation (McGinnis, 1999: fn 8).

[7] At least, systematically, although Mahajan (1990) suggests that there can be a correlation between specificity (a semantic property) and structural Case (a morphosyntactic property).

[8] Parasitic gaps (Engdahl, 1983; Taraldsen, 1981; Chomsky, 1982; among others) are null elements whose presence must be licensed by another gap in the sentence. In the example of the main text, the trace left by the scrambled *die Gäste* licenses the parasitic gap *e* in the infinitival clause.

[9] According to the definition of empty categories: a variable is a locally A-bar bound trace.

[10] In fact, there are two proposals in the A-movement approach that try to answer this question, but both of them are just a mere re-statement of the facts. Webelhuth (1989) introduces a 'Focusing Constraint' that bans focused heads of sentence-internal operator chains (recall that for Webelhuth the position targeted by a scrambled constituent is both A and A-bar). Laezlinger (1998) states that [+Focus] forces movement to a Focus projection, which exempts the argumental DP from being further displaced to Spec, AgrOP, that is, from being Case-assigned.

[11] According to Müller (1995), 'I-topicalisation' structures (Jacobs, 1982) confirm the correctness of this analysis: apparently scrambled predicates are perfectly grammatical if pronounced with a starting rising tone (/), followed by a final falling one (\), the two tones associated with 'I-topicalisation' (ia). Notice that focus accent in (ib) (a single falling tone, \) gives the deviant results already shown in (27b,b') in the main text (examples from Müller, 1995):

(i) a. *dass die Suppe/ essen hier keiner\ so richtig wollte*
that the soup eat here no-one really wanted-to
"that no one really wanted to eat the soup here"
b. ??*dass die Suppe essen\ hier keiner so richtig wollte*
that the soup eat here no-one really wanted-to
"that no one really wanted to eat the soup here"

[12] As demonstrated by their presence in constructions in which Case is absorbed, such as middles (i), or passives (ii) (examples from Müller, 1995):

(i) *Das Buch verkauft (sich) schlecht*
the book-NOM sells REFL badly
"The book sells badly"

(ii) *dass sich jetzt gewaschen wird*
that REFL now washed is
"that it is washed now"

[13] In fact, Müller (1995) states that "the differences between scrambled and 'base' orders in the middle field in most cases appear to be pragmatic in nature, and generally do not affect semantic, i.e., truth conditions" (p.100). Notice that this entails the dismissal of the contrast between existential and specific indefinites in the generalisation (i) in 2.2, and the assumption that pragmatic interpretation falls completely outside the realm of syntax.

[14] In fact, it may account for them only on Haider and Rosengren's assumption that adverbials are base-generated AP- or PP-internal, which, however, will be demonstrated to be untenable in Chapter 5, Section 2.1.1.2.

[15] Notice that this entails that, in ditransitive constructions, dative is a lexical, and not a structural, Case in German, a controversial assumption for any theory of Case licensing in which the distinction between structural and lexical Case is linked to the distinction between lexical and functional heads: lexical heads (Vs) are responsible for lexical Case, and functional heads are responsible for structural Case. For the view that dative is structural in German, see Meinunger (1995) and Fanselow (2000), among others.

[16] Notice that it occupies exactly the same position as in (52a).

[17] Especially Chomsky's (1995, 2000) 'Minimalist Program', which will be dealt with in the following section. It is sufficient to say here that such theories contend that syntactic operations must be strictly triggered. For the case at hand, this would mean that scrambling applies only in those configurations in which a movement operation is needed to render a certain semantic/pragmatic output. If base-generation can result in that same output, scrambling is excluded, on an economy basis: for the same output, less complex derivations are preferable to more complex ones.

[18] For details, see next section.

[19] Wurmbrand (2001b) and references therein. Of course, the constraint refers to categories larger than VP which are contained within the targeted CP.

[20] The only exception is that of formal interpretable features (Chomsky, 1995), that is, features that do have a semantic import: categorial features, and phi-features on nominals.

[21] See Section 1.1.1.

[22] (70) contrasts with (i) below, which is fully grammatical (from Zwart, 1997):

(i) *Jan heeft Marie gekust gisteren*
Jan-NOM has Marie-ACC kissed yesterday
"Jan kissed Marie yesterday"

Nevertheless, as Zwart points out, the difference cannot be attributed to verb movement, but rather to the availability of adverb extraposition: *gisteren* may be extraposed, but *langzaam* may not.

[23] In more recent versions of the program (Chomsky 2000, 2001, 2004), feature movement is completely abandoned for reasons of simplicity.

[24] See Chapter 2, Section 5.

[25] Recall also that the only limitations seem to be of semantic nature, and that we did not draw any clear conclusion about the argument/adjunct distinction, mainly due to the difficulty of distinguishing adjunct scrambling from base generation.

[26] Although one must admit that this solution merely begs the question: N-features in AgrO are uniformly strong, but N-features in AgrS may be strong (if the subject precedes the scrambled object) or weak (if the subject follows it).

[27] In fact, as Meinunger (1995) notices, even the structures in (78) seem to be problematic for the strict local movement the 'Minimalist Program' defends, at least if Larson's (1988) VP-shells are adopted for German and Dutch ditransitive predicates.

[28] This is the kind of evidence that Haeberli (1993) tries to account for by resorting to characterising German as a language with unspecified Case projections. This would mean that any DP can check Case in any specifier position above VP, which would explain all the scrambled orders in that language. Obviously, the solution is *ad hoc*, and excludes all the instances in which categories different from DPs are reordered. In other words, it faces problems similar to those of Zwart's original analysis.

[29] Notice that this statement is also true even for Neeleman and Reinhart's (1998) explanation for the interaction between scrambling and destressing summarised in the preceding chapter (Section 2.3): D-linking does not trigger scrambling, and does not prevent nuclear stress assignment to the displaced constituent either; rather, untriggered scrambling allows the object to occupy a position high enough to avoid nuclear stress, thus being interpreted as D-linked.

[30] Diesing is not very explicit about it, although in later work (Diesing, 1996, 1997) she proposes the 'Scoping Condition'.

[31] As the reader will see in Chapter 5, where the latest versions of the Minimalist Program are introduced, the alleged incompatibility reduces to a non fundamental aspect of the framework.

[32] This system is reminiscent of De Hoop's (1992) proposal for Dutch. On the basis of languages in which strong and weak readings of nominal arguments correlate with morphological differences in Case marking (Finnish, Turkish, Russian, etc.), De Hoop hypothesises that there exist two types of structural Case, namely strong Case, assigned at S-structure, and weak Case, licensed at D-structure. In this view, scrambling is just an instantiation of the former, whereas unscrambled constituents are assigned the latter. I omit dealing with De Hoop's proposal in more detail because, as she correctly argues (De Hoop, 2003), it merely constitutes an empirically adequate generalisation: only noun phrases that receive a strong reading may scramble. Therefore, no explanatory account of the process is given or even suggested: for De Hoop, scrambling is rather a matter of word order variation which is not either 'Case-driven' or 'interpretation-driven'; in fact, as she puts it, "scrambling is not 'driven' at all" (De Hoop, 2003: 202).

[33] Except in the case of being complements of verbs of creation (*write, build, draw*), where scrambling is excluded due to the impossibility of presupposing the existence of the object, a fact already observed by Diesing (1992).

[34] It is difficult to understand how Haider and Rosengren's (1998, 2003) and Meinunger's judgements can differ so completely. Since a comparison of the structures in (87) and (93) does not reveal any strictly syntactic difference between them, the only option seems to endorse Neeleman and Reinhart's (1998) insight about the optionality of scrambled generics in Dutch

(Section 3.3 in the preceding chapter), and conclude that the discourse context may have a bearing.

[35] 'M-command': α m-commands β iff α does not dominate β and some projection of α dominates β. In other words, and for the case at hand, the verb and its argument must be dominated by the same maximal projection.

[36] See Section 1.2, this chapter.

[37] For further details, see Chapter 5, Section 2.1.2.3.3.

[38] This simply derives from the requirement that no thematic information can be inherited from a verbal category if it is merged with a category X, and X projects. Notice that such an assumption may conflict with German pre-subject scrambling, if other projections intervene between VP and subjects in Spec, AgrS (or Spec, T): AgrO, or the light verb *v*, responsible for the licensing of certain subjects and accusative Case checking in the latest versions of the 'Minimalist Program'.

[39] The [D] feature is equivalent to the [N] feature in the summary of the earliest versions of the 'Minimalist Program' in Section 1.2, that is, a feature requiring checking against a DP (NP).

[40] Recall that the last requirement is straightforwardly derived in the proposals that link scrambling to checking of a [+Topic] feature: topic constituents are always old information, thus unfocused. It is also unproblematic for Neeleman and Reinhart (1998): scrambling and non-scrambling structures are the result of competing derivations, and one is chosen over the other on an economy basis.

[41] According to Haider and Rosengren (2003), a case in point would be that of German coherent infinitives, which are not semantically/pragmatically different from non-coherent constructions. I do not find the argument conclusive: Wurmbrand (2001a) demonstrates that certain types of coherent structures are characterised by the absence of the semantic (and also syntactic) properties that characterise propositions.

[42] Notice that Fanselow's proposal, according to which scrambled elements are thematically licensed only in positions headed by their selecting heads after incorporation, would require covert incorporation of adjectives and postpositions into verbal heads, a possibility rather difficult to test empirically.

[43] Recall that the only proposals refuting this was Müller and Sternefeld (1994) and Müller (1995). I do not think that A-bar approaches are tenable: the only pieces of evidence arguing for them (parasitic gaps, reconstruction with pre-subject scrambling) may be satisfactorily explained in other terms.

Chapter 5

[1] Recall that the only movement proposal that fares well with that unrestricted version is Haider and Rosengren (1998, 2003), which resembles base-generation approaches with respect to the lack of a trigger.

[2] Nevertheless, (8a) is grammatical in some varieties of Swedish and Norwegian (Holmberg, 1999).

[3] The relevant semantic interpretation seems to be possible or not according to so-called 'Holmberg's Generalisation', which will be dealt with in the following section.

[4] Capital letters mark stressed constituent.

[5] The impossibility of shifting conjoined and modified pronouns is also derived if it is assumed with Cardinaletti and Starke (1999) that the ability to coordinate, to take modifiers, and to carry focus are three different manifestations of a single property (Chapter 2).

[6] The situation in Faroese is more complex: according to Jonas (1995), there seem to exist two dialects of this language, Faroese I and Faroese II, both characterized as verb-second, but only the former, and not the latter, showing V to T.

[7] Nevertheless, as Holmberg (1999) notices, although verb particles seem to block 'Object Shift' in Swedish, they do not block it in the rest of Scandinavian languages, as the Icelandic example below illustrates (Thráinsson, 2001):

(i) *Jón* *hefur tekið* *bókina* *upp*
John-NOM has picked book-the-ACC up
"John has picked up the book"

[8] The 'Extension Condition on Movement', as formulated in Chomsky (1993), states that substitution (i.e. movement) operations always extend their target, which in turn ensures strict cyclicity.

[9] Chomsky (1995) attempts to overcome this second objection by resorting to a differentiation between feature deletion and feature erasure, which, nevertheless, as argued in Chomsky (2001), still makes the system paradoxical.

[10] Unlike what covert movement implied, that is, LF displacement of the goal to the 'Checking Domain' of the probe, usually the specifier position in the probe's maximal projection (Section 1.2, Chapter 4).

[11] Chomsky suggests that the notion of c-command in (20) may be restricted to c-command from the left (2001: fn 51). Our account of German scrambling necessarily requires such restriction.

[12] Intervention effects are a consequence of the more general 'Minimal Link Condition' (Chomsky, 1995), which determines that when two elements compete as goals with respect to the same probe (i.e. when two elements —the goals— may value an uninterpretable (unvalued) feature of a third one —the probe), the probe may have access only to the closer one.

[13] It may be useful to recall here that, in Chomsky's account, the interpretation shifted objects receive (INT) is simply a consequence of their displacement to Spec, *v*P in 'Narrow Syntax'.

[14] Svenonius adopts Platzack's (1998) 'Discourse Form', an (LF) level at which discourse information is evaluated. According to Platzack, the syntactic string checked at 'Discourse Form' is not TP, but CP, which means that 'Object Shift' would be possible only if V moves to a position further than T. This explains why Romance languages lack OS, and forces an analysis of verb movement in Icelandic embedded clauses in terms of V-raising to any of the heads appearing within Rizzi's (1997) enriched CP layer (see Chapter 2, Section 5).

[15] Notice that, according to Svenonius, the only new meaning that is available is that of the shifted nominal, but this is a consequence of the movement of the nominal itself to the TP/CP projection in order to value the feature inserted after checking discourse structure vs syntactic structure at LF (or 'Discourse Form').

[16] That is, to move past the *v*P-edge, if adverbs, negation, etc. are placed above Spec, *v*, as demonstrated by the fact that they precede auxiliaries in Mainland Scandinavian embedded clauses.

[17] Disregarding V-1 (see Chapter 2).

[18] (29) is a simplified version aimed to cover all possible types of predicates. Whether, as Chomsky (1995, 2000, 2001) suggests, unaccusative verbs lack a *v*P projection completely, or else it is just defective in some sense is not relevant here: the crucial point is that the only head with which they may establish the proper 'Agree' relation is T.

[19] In fact, they contend that it is VP-internal, a statement that they do not support except with the example in (37b) itself. Diesing (1992), for example, assigns it a higher, VP-adjoined position.

[20] This ill-formedness is apparent in the contrast between (i) and (ii) below, and also in the impossibility of (iii) and (iv) in English (my informants' judgement):

(i) *dass der Peter gestern das Buch gelesen hat*
that Peter-NOM yesterday the book-ACC read has
"that Peter read the book yesterday"

(ii) **Gestern das Buch gelesen hat der Peter*
yesterday the book-ACC read has Peter-NOM
"Peter read the book yesterday"

(iii) Kick the ball (carefully) he certainly did

(iv) *Kick the ball yesterday he certainly did

A comparison of (i)-(iv) with (37) in the main text may suggest that time frames are base-generated higher than frequency adverbs, at least in German. There is no doubt that they are base-generated higher than manner adverbials, both in English ((iii) vs (iv)) and in German (see Grohmann's (2000b) examples in (25b'), this chapter).

[21] Chomsky's suggestion tries to solve the problem posed by the fact that head incorporation, as a strictly syntactic process, constitutes a violation of the 'Extension Condition' (Chomsky,

1995), according to which movement operations in 'Narrow Syntax' must always extend their target.

[22] Of course, the phonological nature of head movement and 'base-generation scrambling' beyond the phrase projected by the licensing head in situ could be compatible within an analysis along the lines of Neeleman and Reinhart's (1998), where Case-checking takes place at PF. But Fanselow (2001, 2003) does not make such an assumption.

[23] In fact, Rosengren assigns the expletive the position in the specifier of Rizzi's (1997) Finiteness, a functional projection in the COMP-domain, but this is irrelevant here.

[24] Persian lacks a definite determiner equivalent to *the* in English. Bare objects become definite only when they are followed by the particle *-râ*, or its colloquial variants *-o* or *-ro* (all of them in boldface in the examples).

[25] In this respect, it is tempting to resort to facts such as the ones in (i)-(iv) to endorse Karimi's hypothesis for German too. But (v)-(vi) (from Haider and Rosengren, 2003) tell us that things may be more complicated:

(i) *dass Peter das Buch nicht gelesen hat*
that Peter-NOM the book-ACC not read has
"that Peter didn't read the book"

(ii) **dass Peter nicht das Buch gelesen hat* (*****, unless constituent negation)
that Peter-NOM not the book-ACC read has
"that Peter didn't read the book"

(iii) *dass Peter kein Buch gelesen hat*
that Peter-NOM no book-ACC read has
"that Peter didn't read any book"

(iv) **dass Peter ein Buch nicht gelesen hat* (*, unless *ein Buch* is specific)
that Peter-NOM a book-ACC not read has
"that Peter didn't read any book"

(v) *dass hier wer was nicht begreiff*
that here somebody-NOM something-ACC not grasp
"that somebody doesn't grasp anything here"

(vi) **dass hier wer nicht was begreiff*
that here somebody-NOM not something-ACC grasp
"that somebody doesn't grasp anything here"

If one assumes that the negative particle occupies a fixed position in German, (i)-(iv) could be taken to indicate that specific objects are generated above it, and non-specific ones below it. But non-specific *was* obligatorily appears preceding negation ((v) vs (vi)).

[26] Recall that the requirement that it becomes an (inactive) trace derives from the general properties traces exhibit: they cannot be pied-piped, which prevents them from being attracted by an [+EPP] feature; and they are completely inert for the purpose of valuing other features.

[27] For expository purposes, I will stick here to the notion of phase in Chomsky (2001). As convincingly demonstrated by Svenonius (2003), such a notion is problematic, insofar as it does not account for the edge effects detected for both A- and A-bar movement in verb phrases headed by transitive, passive, and raising verbs (Fox, 2000; Legate, 2003). Those edge effects are, however, rightly predicted on the assumption that the phases that spell-out are, instead, VP and TP (Nissenbaum, 2001; Chomsky, 2004), or that there exist additional functional heads between *v*P and CP (Svenonius, 2003). Note that none of these versions is incompatible with our analysis of German scrambling in terms of Chomsky's (2001) DISL.

[28] On the basis that they do not undergo further movement (Chomsky, 2000, 2001).

[29] Note, incidentally, that hypothetical DISL to a higher phase in the case of embedded V-2 (Chapter 2, Section 1) is barred by the requirement that feature valuation between the subject and T must take place at the next higher strong phase, namely embedded CP.

[30] However, there are some exceptions to that ban, according to Müller (2004) (and references therein). In any case, they constitute an exceptional pattern, not yet successfully accounted for.

[31] 'Empty Category Principle' (Chomsky, 1981): an empty category must be (i) lexically/head governed: governed by a lexical X; or (ii) antecedent governed: bound by (co-indexed with and c-commanded by) a category that governs it.

[32] According to Baker's (1988) theory of barriers: let D be the smallest maximal projection containing A. Then C is a barrier between A and B if and only if C is a maximal projection that contains B and excludes A, and either (i) C is not selected, or (ii) the head of C is distinct from the head of D and selects some WP equal or containing B.

[33] The index *k* is the surface reflex of LF-incorporation between *versucht* and *zu lesen.*

[34] It could be argued that pronoun movement is not an instance of scrambling (Müller, 1998; see Chapter 3, Section 1.6.2, and also this section), which would straightforwardly account for the contrast between (62a) and (62b). Nevertheless, in the absence of a full characterisation of the process, resorting to pronoun movement just begs the question.

[35] Another possibility would be to assume that movement of the *wh*-word in (71) precedes movement of the infinitive through an intermediate, VP-adjoined position. Since it constitutes an instance of 'chain interleaving', Müller excludes it on the basis that 'chain interleaving' is prohibited on economy grounds (Collins, 1994). Note, however, that the general framework adopted in this thesis does not allow us to dispense with 'chain interleaving', mainly for two reasons: (i) according to the phase model approach to syntactic derivation (Chomsky, 2000, 2001, 2004) constituents in the domain of a lower strong phase may be accessed by operations at a higher phase only if they are at the edge (roughly equivalent to Müller's VP-adjoined position); (ii) as argued by De Kuthy (2002), and Fanselow and Ćavar (2002), elements within the same maximal projection may perform semantic/pragmatic functions that correlate with different syntactic positions (see Chapter 3, Section 1.6.3).

[36] Although Chomsky (2001) replaces the notion of multiple merge with the composite operation agree/pied-piping/mark, I will present the German facts assuming the former for ease of exposition. I do not think that an account in terms of occurrences and agree/pied-piping/mark would change the analysis I propose.

[37] I adopt here a phase-based approach to displacement, according to which movement of *whom* to its final landing site is preceded by movement to the edge of *v*P.

[38] I omit other displacement processes affecting the subject and the verb.

[39] This is more complex than it seems if one adopts the cyclic 'Spell-Out' in Chomsky (2001, 2004), as Epstein and Seely (2002) convincingly argue. Nevertheless, I will disregard those technical problems and assume that the 'Copy Theory' as feature identity is tenable.

[40] Obviously, this is not a stipulation, but a consequence of the derivational (bottom-up) model adopted for ''Narrow Syntax''.

[41] For this point, I refer the reader to the discussion in Section 1.3, this chapter.

[42] For the sake of simplicity, I refrain from representing syntactic structure at PF, since it is not relevant at this point. Nevertheless, I am conscious that it plays an important role, as I will show in my treatment of the grammaticality of pronominal scrambling.

[43] I will distinguish dislocated phonological features from those eliminated by 'Chain Reduction' by using 0 instead of crossing. The distinction may be relevant: phonological features eliminated by 'Chain Reduction' are considered to affect phonological processes such as phonological phrasing (Nespor and Vogel, 1986; Chen, 1987; Truckenbrodt, 1999), or contraction (Chomsky, 1981), but, in principle, that needs not be the case with dislocated ones.

[44] Recall that intermediate *wh*-movement to Spec, *v* is imposed by the 'Phase Impenetrability Condition' (Chomsky, 2001), according to which only elements at the phase-edge are accessible to higher phases.

[45] 'Licensing' is used here in a general, non-technical, meaning, roughly equivalent to 'rendering (phonologically) appropriate', as will be clear in the following paragraphs of the main text.

[46] I have omitted DPs for the sake of simplicity. Notice that their inclusion does not affect phonological phrasing: the right bracket of the NP is still the one provoking the closure of the phonological phrase (i.e. φ-closure), since it appears embedded within DP.

[47] (90) pictures the initial prosodic phrases of the examples at stake. The final unstressed verbs require a further adjustment rule that joins them to the prosodic phrase on their left, such as the rule PRED in Büring (2001a, 2001b): a predicate shares its 'Accent Domain' with at least one of its arguments, where 'Accent Domain' stands for phonological phrase. Such an adjustment is irrelevant for the contrast in grammaticality we are discussing, insofar as it takes place in the two sentences. That is the reason why I will disregard it in the following.

[48] Recall that in Chomsky (1992, 1995) all inflected words are formed in the lexicon, a tenet which constitutes the 'strong lexicalist view'. In Halle and Marantz 's (1993) 'Distributed Morphology' the claim is weaker: functional heads like Tense serve as locus of lexical ('Vocabulary') insertion, and all word formation occurs in the syntax, as a result of the syntactic combination of heads. In addition, the operations taking place in a derivation between 'Spell-Out' and PF are of the same sort and obey the same principles as the operations in the rest of the syntax.

[49] That is, (i) is ill-formed in German:

(i) **dass zu lesen es er versucht hat*
that to read it-ACC he-NOM tried has
"that he tried to read it"

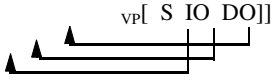
[50] The fixed order that *er* and *es* exhibit in (105) is independent of the 'double scrambling' structure. All German weak pronouns appear in fixed positions (nominative > accusative > dative) in the so-called 'Wackernagel domain', irrespective of other factors (see (67) in Chapter 3), as shown in (i) below:

(i) a. **dass ihr es er gestern gegeben hat*
that her-DAT it-ACC he-NOM yesterday given has
"that he gave it to her yesterday"
b. **dass es ihr er gestern gegeben hat*
that it-ACC her-DAT he-NOM yesterday given has
"that he gave it to her yesterday"
c. *dass er es ihr gegeben hat*
that he-NOM it-ACC her-DAT given has
"that he gave it to her yesterday"

[51] I disregard the complete infinitival clause and the matrix verb within VP: by 'Chain Reduction', they have lost all their phonological features, thus being unable to provoke φ-closure.

[52] In a nutshell, Richards states that multiple movement to a single projection always exhibit a crossing path configuration, with the closest goal targeting the highest probe, and the lower goal targeting the lower probe, as schematically represented in (i):

(i) [$_{VP}$[S IO DO]]



[53] See footnote 11 in this chapter.

[54] In this connection, notice that the status of (i) below is controversial: for some researchers (Höhle, 1982; Haider, 1992), it allows maximal focus, with the accusative interpreted as non-given. For others (Meinunger, 1995), the accusative is obligatorily D-linked.

(i) *dass Peter das Buch dem Kind gegeben hat*
that Peter-NOM the book-ACC the child-DAT given has
"that Peter gave the book to the child"

[55] As Corver and van Riemsdijk (1996) show, scrambling within non-verbal projections in Dutch is subject exactly to the same requirements, as demonstrated by the grammaticality of (ib) and (iib), where the scrambled element is the argument of a final head (a postposition in (i) and an adjective in (ii)), as well as by the ungrammaticality of (iiib), (iiic) and (ivb), (ivc), where scrambling applies to the argument of an initial head (a preposition in (iii) and a noun in (iv)).

(i) a. *Nog een stukje verde de kamer in met die spullen!*
even a bit further the room into with those things
"A bit further into the room with those things!"
b. [*De kamer*]$_i$ *nog een stukje verder* t$_i$ *in met die spullen!*
the room even a bit further into with those things
"A bit further into the room with those things!"

(ii) a. ?*Geheel het Frans machtig was ik pas op mijn 15e*
completely the French in-command-of was I only in my 15th year
"I was completely in command of French only in my 15th year"
b. [*Het Frans*]$_i$ *geheel* t$_i$ *machtig was ik pas op mijn 15e*
the French completely in-command-of was I only in my 15th year
"I was completely in command of French only in my 15th year"

(iii) a. *5 uur na de eerste ontploffing volgde de tweede*
5 hours after the first explosion followed the second
"Five hours after the first explosion followed the second"
b. **5 uur* [*de eerste ontploffing*]$_i$ *na* t$_i$ *volgde de tweede*
5 hours the first explosion after followed the second
"Five hours after the first explosion followed the second"
c.*[*De eerste ontploffing*]$_i$ *5 uur na* t$_i$ *volgde de tweede*
the first explosion 5 hours after followed the second
"Five hours after the first explosion followed the second"

(iv) a. *Die twee oude argumenten tegen haar theorie heft zij onlangs ontkracht*
the two old arguments against her theory has she recently refuted
"She has recently refuted the two old arguments against her theory"
b. **Die* [*tegen haar theorie*]$_i$ *twee oude argumenten* t$_i$ …
the against her theory two old arguments
"The two old arguments against her theory…"
c.*[*Tegen haar theorie*]$_i$ *die twee oude argumenten* t$_i$ …
against her theory the two old arguments
"The two old arguments against her theory…"

[56] Frey confines transparency for extraction to fronting cases, thus avoiding the complex facts discussed in 2.1.2.3.1.

Chapter 6

[1] That is, 'Object Shift' and scrambling are strictly clause-bound, while fronting to Spec, C is not. With regard to parasitic gaps, I refer the reader to the discussion of A-bar approaches in Chapter 4 (Section 1.1.1.2), where, on the basis of the evidence put forward by Fanselow (1993, 2001), it was concluded that they are absent from German scrambling structures. But it is commonly accepted that they are also impossible in Scandinavian 'Object Shift' (Holmberg, 1986; Vikner, 1994; Holmberg and Platzack, 1995, etc), as illustrated by the Icelandic example in (i) (from Thráinsson, 2001):

(i) *Pétur bauð Maríu$_i$ aldrei* t$_i$ *án þess að sækja hana$_i$* / *e$_i$
Peter-NOM invited Mary-ACC never without it to fetch her
"Peter never invited Mary without picking her up"

[2] Recall that 'Object Shift' in Mainland Scandinavian only affects pronominal DPs, and that the reasons for it do not seem to be related to morphological case, as the Faroese facts show (Chapter 5, Section 1.1.3).

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