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Licensing Movement and Stranding in the West Germanic OV Languages

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Abstract

This paper investigates the distribution of syntactic elements in the *Mittelfeld* and *Nachfeld* from the point of view of the universal base hypothesis. Two approaches will be compared: Kayne's (1994) proposal in terms of licensing leftward movement that may strand syntactic elements in the VP and Haider's (1993, 1995) account in terms of directionality of licensing. Providing evidence for licensing movement out of the VP, we will argue in favor of the licensing movement and stranding approach.

First, we argue that a proper analysis of the syntax of the infinitival marker implies that not only the arguments of the verb but also VP-internal predicates, including verb-particles, small clause predicates and directional PPs move out of the VP into specific licensing positions in the middle field.

Then we show how a particular implementation of the mechanism of feature checking in terms of *copy and delete* (partial deletion) explains how particular elements can be stranded by licensing movement.

Finally, we discuss some of the consequences of this approach for the analysis of verb-preposing (cf. Kayne 1998) in English.

1. Introduction

The structure of the German clause has been traditionally described in terms of the three fields in which the clause is partitioned by the complementizer and the verb in its base position, as illustrated in (1a). Syntactic elements preceding the finite verb in C^0 occupy the *Vorfeld* (pre-field) or are said to have been topicalized. Elements following the complementizer but preceding the verb in its base position occupy the *Mittelfeld* (middle field), while elements following the verb in its base

position occupy the *Nachfeld* (post-field). Within the traditional OV-based approach, it was assumed that elements occurring in the middle field either occupy their base position in the VP or have been scrambled out of the VP to a designated position within IP or left-adjoined to IP, while elements in the *Nachfeld* were assumed to have been extraposed, that is, moved out from their base position preceding the verb to a position that is right-adjoined to either VP or IP.

In this paper, we are concerned with the issue of how the distribution of syntactic elements in the *Mittelfeld* and *Nachfeld* is to be described in a VO-based approach. More specifically, we want to investigate what factors determine which elements appear in the *Mittelfeld* and which elements can or must stay in the *Nachfeld*.

Two proposals have been made to account for the distribution of syntactic elements in the *Mittelfeld* and *Nachfeld* within the general approach that assumes unidirectionality of branching. Kayne (1994) proposed that elements occupying the *Mittelfeld* have undergone licensing movement out of the VP to specific functional positions to the left of the verb, while elements occupying the *Nachfeld* are *stranded* by this type of licensing movement in the VP, as is illustrated in (1b). Haider (1993, 1995) proposed that elements occupying the *Mittelfeld* are *directly licensed* in OV languages, while elements occupying the *Nachfeld* are *indirectly licensed*.

- | | | | | | | |
|-----|----|----------------|---|--------------------|--------------------|----------|
| (1) | a. | Vorfeld | C | Mittelfeld | V | Nachfeld |
| | | Topicalization | | middle field | Extrapolation | |
| | b. | (Kayne 94) | | licensing movement | stranding | |
| | c. | (Haider 95) | | direct licensing | indirect licensing | |

Assuming that arguments of the verb are base-generated solely in Specifier positions, Haider (this volume) argues that the order OV is more basic than the order VO and that all arguments of the verb are licensed within the VP in both OV and VO languages with the differences following from the directionality of licensing.

Providing evidence for licensing movement out of the VP, we will argue in favor of the licensing movement and stranding approach as outlined in (1b). In Section 2, we argue with the help of the infinitival marker in IPP constructions that not only the arguments of the verb but also VP-internal predicates, including verb-particles, small clause predicates and directional PPs, move out of the VP into specific licensing positions in the middle field. We will thus adopt the approach outlined in (1b) and explore in Section 3 the ways and means by which an element ends up in the *Nachfeld*. In Section 4, we will discuss some of the consequences of the licensing movement and stranding approach for English. This approach implies that arguments and verb-particles in English, like in

continental West Germanic, move into the middle field. The English verb or verb phrase moves in front of its arguments, most likely into T, making the assumption necessary that negation and frequency adverbs do not occur between the verb and T but higher up in the clause structure.

2. The syntax of IPP constructions and the structure of the lower middle field in West Germanic

In this section, we investigate the structure of the lower middle field in West Germanic. The arguments for the particular structure that we propose are in part based on an analysis of the syntax of IPP constructions in West Flemish, Afrikaans and German. We will argue that a VO-based approach (Kayne 1994) is superior to the traditional OV-based approach in explaining the syntax of IPP complements. We will show that the distribution of verbal elements in the West Germanic clause cannot be properly accounted for in terms of rightward head movement of the verb and/or extraposition of verb-projections, and present empirical evidence for leftward V-movement in embedded clauses in West Germanic. Furthermore, we will demonstrate that not only DP arguments of the verb, but also verb-particles, VP-internal predicates and CP complements have to move out of the VP to be licensed in specific positions in the lower middle field.

Since Haider's proposal (1995, this volume) assumes, like the traditional SOV approach, that these elements are licensed in the VP, these facts provide evidence for Kayne's antisymmetry hypothesis and against Haider's alternative asymmetric approach. In the following discussion of the data, the traditional SOV approach is compared to the antisymmetric SVO approach.

2.1 The verb-final Pattern: OV and VO accounts

Besides Haider's proposal, two approaches have been proposed to account for the verb-final embedded pattern in the West Germanic SOV languages, the traditional SOV approach and the antisymmetric SVO approach. The traditional approach allows for parametric variation in the head-complement order. For the West Germanic SOV languages it is assumed that the functional and lexical projections in the IP domain are head-final. In this approach, the embedded verb-final position in (2a) is compatible either with the lack of V-movement (2b) or with rightward V-movement to a functional head within IP (2c).

- (2) a. *weil Hans gestern das Buch las*
 since Hans yesterday the book read.PAST

- b. [_{CP} *weil* [_{IP} *Hans gestern* [_{VP} *das Buch las*]]]
 c. [_{CP} *weil* [_{IP} *Hans gestern* [_{VP} *das Buch t_i*] *las*]]]

A slight complication for the traditional approach is posed by the position that the infinitival marker occupies in infinitival clauses, as is illustrated in (3a). The sequence *zu lesen* (to read) looks very much like a head-initial right-branching structure, in which the infinitival marker heading a functional position takes the infinitival VP as its complement to the right. To accommodate this order with the particular assumptions about the word order in the IP domain within the standard approach, it is either assumed that the infinitival marker in the West Germanic SOV languages is not an independent head but rather a verbal affix (Haider 1993), as illustrated in (3b), or that the infinitival verb undergoes rightward head-movement to (right-)adjoin to the head-final infinitival marker in the IP domain, as illustrated in (3c).

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

In the antisymmetry approach (Kayne 1994; Zwart 1993), it is assumed that all structure is head-initial. In this approach, the embedded verb-final order is derived by some sort of feature driven leftward movement of VP-internal material. This is illustrated for arguments of the verb in (4a) and for VP-internal predicates in (4b). While the movement of DPs into AgrPs is in accordance with recent minimalist assumptions about Case-licensing of arguments, the movement of APs, PPs and other VP-internal constituents required within the antisymmetry approach appears stipulative in the absence of any empirical evidence.

- (4) a. [*weil* *Hans gestern das Buch_i* [_{VP} *las* *t_i*]]
 since Hans yesterday the book read.PAST
 b. [*weil* *Hans gestern krank_i* [_{VP} *war t_i*]]
 since Hans yesterday sick was

The crucial empirical evidence that supports the assumptions necessary within the antisymmetry approach and at the same time disqualifies assumptions necessary within the traditional approach comes from the position of the infinitival marker in non-finite IPP constructions in West Flemish (5a), taken from Haegeman (1995), and Afrikaans (5b), taken from Donaldson (1993).

- (5) a. *mee Valère te* [*willen* [*dienen boek kuopen*]] *een*
 with Valere to want that book buy have
 'with Valere having wanted to buy that book'
 b. *Die banke moes oop geweest het, om dit gister te* [*kan*
 the bank should open been have it yesterday to can
betaal] *het*.
 buy have
 'The bank should have been open to have been able to buy it
 yesterday.'

Since material, given in square brackets in (5), can intervene between the infinitival marker and the corresponding infinitival verb, it follows that the infinitival marker in the West Germanic SOV languages cannot be analyzed as a verbal affix, but, like in English, has to be analyzed as occupying a functional position within the IP domain. That this functional position is not head-final and that the sequence *te+V* cannot be accounted for by assuming rightward head-movement of the verb within the traditional approach, also follows directly from (5a). In (5a), the constituent that has been moved to the right of the infinitival marker cannot possibly be a head since it contains the DP *that book*.

We thus assume that the infinitival marker occupies a functional head to the left of VP, which Haegeman (1995) coined F1. In Section 2.3, we will argue that it can be shown with the help of the infinitival marker that VP-internal constituents, including APs, verb-particles and PPs move out of the VP. But first we want to explain what IPP constructions are.

2.2 The syntax of IPP constructions

The infinitival clauses in (5) involve IPP complements. The Infinitivus Pro Participio (IPP) Effect occurs when a restructuring verb, e.g. a modal verb, selecting an infinitival complement (the dependent infinitive) is used in a perfect tense. In this case, the selecting verb does not show up in its participial form but is realized as a bare infinitive (the IPP infinitive). This is illustrated for Dutch in (6) and German in (7), where the infinitival forms *willen/wollen* replace the participial forms *gewild/gewollt* of the modal verb *want*.

- (6) a. **dat Elsje hem een Brief heeft gewild* *schrijven*
 that Elsje him a letter has wanted(PP) write
 b. *dat Elsje hem een Brief heeft willen* *schrijven*
 that Elsje him a letter has want(INF) write
 'that Elsje has wanted to write him a letter'

- (7) a. **dass Else ihm einen Brief schreiben gewollt hat*
 that Else him a letter write wanted(PP) has
 'that Else has wanted to write him a letter'
 b. **dass Else ihm einen Brief schreiben wollen hat*
 that Else him a letter write want(INF) has
 c. *dass Else ihm einen Brief hat schreiben wollen*
 that Else him a letter has write want(INF)

As the contrast between (6b) and (7b) shows, in German, it is not sufficient to simply replace the participle with a bare infinitive, as in Dutch. In order to yield a grammatical sentence in German, the auxiliary has to invert with the cluster comprised of the dependent infinitive and the IPP infinitive (7c). We will give an account of inversion in German in this context when we talk about the internal syntax of IPP complements.

The interesting issue that the IPP effect raises is the question of whether IPP infinitives are real infinitives or hidden participles of some sort. Most notoriously, Jakob Grimm (1969/1898: 195) put forth the hypothesis that the IPP infinitive is a prefixless participle. We will adopt the hidden participle account for the following reasons. Based on the distribution of participles, infinitivals and IPP complements in West Flemish and Afrikaans, we will argue in 2.2.1 that IPP complements behave like participles and unlike infinitives. Secondly, the hidden participle account allows us to assume that for the purpose of checking the subcategorization of the auxiliary (which selects for a participial phrase) and for the purpose of temporal interpretation, the IPP infinitive counts as a participle.

2.2.1 The external syntax of IPP complements

Let us look at the distribution of infinitives, IPP complements and participles in West Flemish first. The following data are taken from Haegeman (1995). In West Flemish, infinitives always follow their selecting verb, while participles always precede the selecting auxiliary. This is illustrated in (8) and (9), respectively.

- (8) a. *da Valère dienen boek wilt kuopen*
 that Valère that book wants buy
 b. **da Valère dienen boek kuopen wilt*
 that Valère that book buy wants
 'that Valère wants to buy that book'
- (9) a. *da Valère dienen boek gekocht eet*
 that Valère that book bought has
 'that Valère has bought that book'

- b. **da Valère dienen boek eet gekocht*
 that Valère that book has bought

In contrast, IPP complements can both precede and follow the selecting finite verb. In the standard analysis, we may assume that IPP complements can optionally be extraposed (cf. (10a–b)). However, the IPP complement must follow the selecting verb if the negative particle *en* is to be spelled out on the finite verb. This is illustrated by the contrast in (10c–d).

- (10) a. *da Jan ee [wollen [Marie nen boek geven]]*
 that Jan has want(IPP) Marie a book give
 b. *da Jan [wollen [Marie nen boek geven]] eet*
 that Jan want(IPP) Marie a book give has
 'that Jan has wanted to give Marie a book'
 c. *da Jan nooit en-eet willen an Valère nen boek geven*
 that Jan never en has want(IPP) to Valère a book give
 'that Jan has never wanted to give a book to Valère'
 d. *da Jan nooit willen an Valère nen boek geven (*en)-eet*
 that Jan never want(IPP) to Valère a book give en has

On the other hand, the IPP complement must precede the selecting verb if the auxiliary is non-finite. In this case the IPP complement must occur between the infinitival marker and the infinitive as we have seen in (5a). Before we provide an analysis of the distribution of IPP complements within the antisymmetry approach, let us see how we would account for these data in the traditional SOV approach.

Bringing the facts illustrated in (8)–(10) into a single picture, it is hard to see what rule might govern extraposition in West Flemish. Remember that the regularities are the following. An IPP complement may or may not be extraposed if the selecting verb is finite. However, it must be extraposed if the selecting finite verb incorporates the negative particle *en*. On the other hand, it may not be extraposed at all when the selecting verb is non-finite. Finally, an infinitival complement must always be extraposed independently of the finiteness of the selecting verb. To capture these regularities in a single rule that follows from other properties of West Flemish or from general principles of grammar seems almost impossible.

Hence we will try to give a better explanation of these regularities within the antisymmetry approach. In the antisymmetry approach all complements, that is, infinitives, IPP complements and participles in our case, start out to the right of the selecting verb. All we have to say about infinitival complements is that they stay in their base position, as illustrated in (11a).

- (11)
- | | F1 | Spec | F2 | Complement |
|----|----------------|------|--------------|------------|
| a. | (verb) | | (verb) | infinitive |
| b. | <i>te</i> | IPP | Aux | t_{IPP} |
| c. | | IPP | Auxfin | t_{IPP} |
| d. | Auxfin | IPP | t_{auxfin} | t_{IPP} |
| e. | <i>en</i> -Aux | IPP | t_{aux} | t_{IPP} |

Remember, as shown in (9) above, that participles as opposed to infinitives have to precede the selecting auxiliary and that the infinitive in an IPP complement stands for a participle. Thus, we would like to propose that IPP complements are Particle Phrases (PartPs) and that they move like participles into a Specifier, say SpecF2P, of the selecting auxiliary to check the auxiliary's subcategorization. Now we would like to adopt the ingenious account by Haegeman (1995), who proposes that the complex pattern illustrated in (10) follows from the availability of leftward head-movement of the selecting verb. If we assume that non-finite verbs as opposed to finite ones cannot move to F1, then we derive the fact that an IPP complement may not be extraposed if the selecting verb is non-finite, as noted above (11b). All we have to say to derive the fact that an IPP complement may or may not be extraposed if the selecting verb is finite (and does not incorporate the negative marker *en*) is to assume that finite verbs may optionally move to F1 (11c-d).

Still the question arises why an IPP complement can be extraposed while a simple participle, as is shown in (9b), cannot. The answer is that a participle moves even higher than F1. (12) shows that a participle cannot intervene between the infinitival marker and the auxiliary but must always precede the infinitival marker.

- (12)
- | | |
|----|---|
| a. | <i>mee Valère dienen boek gewild te een</i>
with Valere that book wanted to have
(<i>vu zenen verjoardag</i>)
for his birthday |
| | 'Valere having wanted that book for his birthday' |
| b. | * <i>mee Valère dienen boek te gewild een</i> (<i>vu zenen verjoardag</i>) |
| c. | ?* <i>mee Valère dienen boek l'een gewild</i> (<i>vu zenen verjoardag</i>) |

Finally, if we assume, following Haegeman's (1995) proposal that a) the negative particle *en* is licensed in F1 and b) that it has to incorporate into the verb, then we derive the fact that an IPP complement has to be extraposed if the finite verb incorporates *en* (11e).

In (13), we summarize the distribution of participles, infinitives and IPP complements with respect to the selecting verb and infinitival marker *te*.

- (13) participle *te* IPP verb infinitival complement

To minimize the difference between participles and IPP complements (hidden participles) we propose that participles are not moved in one swoop from their base position to the right of the selecting verb to their surface position but that they, like IPP complements, first undergo XP-movement to SpecF2P of the selecting auxiliary (to check its subcategorisation) and subsequently undergo X⁰-movement to F1. The latter (additional) movement of participles must be triggered by the participial morphology that IPP infinitives lack.

That participles indeed undergo this complex two-step movement in West Flemish and the other West Germanic languages is supported by the behavior of participles in Afrikaans. In this language, the intermediate step of the complex movement of participles, absent in all other West Germanic languages, is evidenced. As is illustrated in (14), the participle is spelled out between the infinitival marker and the infinitival verb. (14) also provides the ultimate confirmation for our hypothesis that IPP infinitives are hidden participles: in Afrikaans, participles and IPP infinitives have exactly the same distribution (cf. (14) and (5b)).

- (14) *Jy behoort die lig af te geskagel het.*
you ought the light off to turned have
'You should have turned the light off.'

2.2.2 The internal syntax of IPP complements

In this section, we provide an account of the IPP effect which we left unexplained so far. We will also explain why participles and IPP infinitives pattern exactly alike in Afrikaans but have a slightly different distribution in the other West Germanic languages, as illustrated above for the case of West Flemish.

The IPP effect occurs in restructuring contexts. One important feature of restructuring is the formation of verbal complexes (cf. Haider 1993; Rutten 1991). In Hinterhölzl (1999), we argue that in restructuring contexts, due to a defective complementizer, the dependent infinitive moves into SpecF2 of the selecting verb to check its subcategorisation. Following Bech (1955), we assume that a verb selects for the status of its non-finite complement. That is, it determines whether the dependent nonfinite verb is a participle, a bare infinitive or a *to*-infinitive. Thus we will henceforth refer to F2P as Status Phrase (StatP).

To explain the IPP effect, we will make use of the particular structure of participle phrases in West Germanic. We note that the languages and dialects in which the participle is formed without the participial prefix *ge*, namely Frisian and Low German, do not display an IPP effect. In the following we will show

Nominal complements of the verb always have to leave the VP before Spell-out (independently of whether they are definite or indefinite) and are licensed in functional projections above the position of manner adverbs. b) Also small clauses, idioms and directional PPs have to move out of the VP and are licensed in a position below manner adverbs. c) Full sentential complements are not licensed in their base position within VP either. They undergo short movement and are licensed in a functional projection directly below the position to which the verb in embedded clauses moves.

That arguments move out of the VP obligatorily can already be shown with the help of manner adverbs. Adverbs like *sorgfältig* ('carefully'), *genau* ('precisely'), 'exactly'), *gut* ('well'), *schlecht* (badly) and so forth show that both definite and indefinite NPs have to leave the VP (cf. Haiden 1995; Brugger & Poletto 1993; Hinterhölzl 1999). Since manner adverbs are usually analyzed as being adjoined to VP (we will later show that they actually occupy a higher position in the tree), an NP preceding a manner adverb must have moved out of the VP. (18) and (19) show that in sentences with neutral intonation, the direct object precedes the manner adverb.

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

We assume that sentences with neutral intonation correspond to the unmarked or basic word order, from which sentences with marked word order (often accompanied with a special intonation pattern) are derived by additional movement. These considerations are important since in a scrambling language like German alternative orders are often equally good but can — due to the assumptions above — be treated as marked or secondary. The negative marker *nicht* ('not') obligatorily precedes manner adverbs as is shown in (20).

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

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

All definite nominal arguments precede the negative marker (21). If an indefinite NP precedes the negative marker it is interpreted as specific (22a). If an indefinite NP follows the negative marker, the reading one gets most easily is the one in which the negative marker is interpreted as negating only the nominal argument that follows it (this holds for definite and indefinite NPs), which receives a (negative) contrastive interpretation. Depending on whether it is the determiner or the noun that receives the non-neutral (contrastive) stress, the negative marker negates the (cardinality of the) determiner or the descriptive content of the NP in (22b).

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

It has been argued that in these cases, the negative marker acts as "constituent negation". Because the negative marker can be topicalized together with an argument of the verb, it is assumed that negation in German can be simply adjoined to an XP which it narrowly or exclusively negates (23a–b).

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

The nonspecific (existential) interpretation of an indefinite NP in a negated German sentence is expressed with the determiner *kein* (24a). In this case, the

negative marker is non-overt or fused⁵ (24b). Thus, we cannot determine in (24) whether a nonspecific indefinite NP has to move across the negative marker.

- (24) a. *weil Hans kein Buch gelesen hat*
 since Hans no book read has
 'since it's not the case that Hans read a book.'
 b. *weil Hans (*nicht) kein Buch (*nicht) gelesen hat*
 since Hans not no book not read has

That a nonspecific indefinite NP must at least move up to the negative marker is indicated by the behavior of negative existentials in Upper Austrian. This dialect exhibits, like other Bavarian dialects, the phenomenon of *negative concord* which allows for the Spell-out of the negative marker even in the presence of negative constituents. As (25) shows, the negative existential NP *kein Buch* ('no book') has to precede the negative marker *net* ('not'). In the following, we will assume that a negative existential NP with a *kein*-determiner occupies SpecNegP.

- (25) a. *woei da Hans ka Buach net glesn hot*
 since the Hans no book not read has
 'since it's not the case that John read a book'
 b. **woei da Hans net ka Buach glesn hot*
 since the Hans not no book read has

That nonspecific indefinite NPs may not only follow what may be analysed as constituent negation, but may also follow sentential negation, can only be shown with more than one indefinite NP. If a sentence contains more than one indefinite NP, the highest non-specific argument is spelled out with the *kein*-determiner, i.e., checks the negative marker in SpecNegP. This is shown in (26).

- (26) a. *weil ein Mann einer Frau eine Blume schenkte*
 since a man a woman.DAT a flower gave
 b. *weil kein Mann einer Frau eine Blume schenkte*
 since no man a woman.DAT a flower gave
 'since it is not the case that some man gave some flower to some woman'
 c. *weil ein Mann keiner Frau eine Blume schenkte*
 since a man no woman.DAT a flower gave
 'since a (certain) man did not give some flower to some woman'

(26a) is a sentence that contains three indefinites. If all three DPs are interpreted nonspecifically, the negation of (26a) must be (26b). In (26c), where the indirect object is spelled out with a *kein*-determiner, the higher subject must be interpreted

as specific, if we exclude focus-affected and quantificational readings. (26b) in conjunction with (25) and (26c) shows — if we analyze the *kein*-phrase as occupying SpecNegP — that nonspecific indefinites may follow negation.

Also quantified NPs may follow the negative marker without giving rise to a *constituent negation*-interpretation (27a–b). In (27a–b), the negative marker can act as sentence negation. As (27c) shows, the negative marker can be construed narrowly with the higher subject NP, which is a typical property of sentence negation, but is unexpected of constituent negation. Hence, it follows that quantified NPs need not move across negation.

- (27) a. *weil der Hans nicht viele Bücher liest*
 since the Hans not many books reads
 'since it is not the case that Hans reads many books'
 b. *weil der Hans nicht jede Frau anbetet*
 since the Hans not every woman adores
 'since it is not the case that Hans adores every woman'
 c. *Der HANS hat nicht viele Bücher gelesen, der PETER hat*
 the Hans has not many books read the Peter has
viele gelesen.
 many read
 'it was not Hans but Peter who read many books.'

To summarize the above discussion, we conclude that *all* nominal arguments have to leave the VP before Spell-out. It seems that nominal arguments in German have to undergo a type of scrambling that moves them across the position of manner adverbs (short scrambling). This type of scrambling does not affect the interpretation of the moved NP. On the other hand, movement across the negative marker seems to be motivated by semantic features. Specific NPs obligatorily move across the negative marker while nonspecific indefinite NPs, unless they move into SpecNegP to check sentential negation, remain below the negative marker. This is reminiscent of the well-known facts, reported and discussed by Diesing (1992) and Kratzer (1989), that indefinite NPs in German differ in their interpretation depending on whether they follow or precede sentential adverbs like *oft* (often), as illustrated in (28).

- (28) a. *weil Hans ein Buch oft gelesen hat*
 since Hans a book often read has
 'since Hans often read a certain book' (only specific interpretation)

- b. *weil Hans oft ein Buch gelesen hat*
 since Hans often a book read has
 'since Hans often read some book or other' (only nonspecific interpretation)

Definite NPs may only then remain below the negative marker if they receive a contrastive interpretation. Along the same lines, nonspecific indefinite NPs may defy movement into SpecNegP only if they receive a contrastive interpretation as illustrated in (22b) above. Finally, quantified NPs depending on their scope may stay below or move across the negative marker. A QP below the negative marker may have a specific or non-specific interpretation. (29a) is an example of a specific, that is, partitive QP that occurs below the negative marker that acts as sentence negation. But if a QP scrambles higher than the negative marker, then it can, like indefinites, only have a specific interpretation as is shown in (29b).

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

So the movement of NPs across manner adverbs (short scrambling) has to be distinguished from the type of scrambling that moves them across the negative marker and other scope-bearing sentential adverbs. While the latter kind of movement is apparently triggered by a semantic feature, namely specificity, the former kind seems to occur for reasons of purely formal licensing. For purposes of reference, we will call the latter kind of movement *long scrambling*.

We like to propose that the Case-licensing positions in German occur between manner adverbs and sentential negation. So short scrambling will be motivated by Case-licensing. Any further movement of an NP (long scrambling) must be motivated with semantic properties of that NP. We classify movement across sentential negation as long scrambling. To account for the fact that DPs that follow sentence negation receive a contrastive interpretation, we will take up a proposal by Richard Kayne (p.c.) and assume that there is a Focus phrase just below negation into which contrastively focussed elements move (cf. also Brody 1990). The resultant structure is illustrated in (30).

- (30) [_{CP} [_{TP} T [Specifics [*oft*] [Neg [Focus [AgrNom [AgrDat [AgrAcc [Manner [V]]]]]]]]]]]]

At this point, we will not provide a formal account of the regularities discussed above but simply restate them as descriptive generalisations. It seems that a strong Focus feature blocks the movement of definite NPs into the licensing positions of specifics as well as the movement of the highest nonspecific indefinite into SpecNegP. A specific QP may stay below negation if it is to be read with narrow scope, while a definite NP must (in the absence of any focus feature) check its specificity feature. It is not clear to me how to properly express these regularities in a system of feature checking. One possibility is to assume that something like (31) holds.

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

Given (31), a DP with a specificity and a contrastive focus feature will move overtly only to the closest licenser, that is in this case, into SpecFocusP.

In a VO-based approach, we have to assume that the non-verbal predicates in (32) have been moved leftward from a position to the right of the verb. We assume that these nonverbal predicates, together with the "direct object" of the verb, form a Small Clause which in turn forms the complement of the verb as is illustrated in (33).

- (32) a. *weil Hans das Haus gelb färbte*
 since Hans the house yellow painted
- b. *weil Hans ihm einen Idioten nannte*
 since Hans him an idiot called
- c. *weil Hans Maria intelligent findet*
 since Hans Maria intelligent finds
 'since Hans considers Maria intelligent'
- (33) a. *weil Hans [_{VP} färbte [_{SC} das Haus gelb]]*
- b. *weil Hans [_{VP} nannte [_{SC} ihm einen Idioten]]*
- c. *weil Hans [_{VP} findet [_{SC} Maria intelligent]]*

Following Zwart (1993) and Koster (1994), we assume that these small clauses undergo XP movement to check some feature of the verb and are moved into the Specifier of a *Predicate Phrase* (PredP) that dominates the VP. (34) shows that this Predicate Phrase occupies a position below the position of manner adverbs. (34a) also shows that the subject of the small clause *den Zaun* is moved out of the domain of the manner adverb. Presumably it moves, like the nominal

arguments of verbs, to its Case-licensing position below the negative marker, and from there, it moves like other specifics (if not contrastively focused) to a licensing position above the negative marker, as is indicated in (34c).

- (34) a. *weil Hans den Zaun sorgfältig gelb angestrichen hat*
 since Hans the fence carefully yellow up-painted has
 b. *?weil Hans den Zaun gelb sorgfältig angestrichen hat*
 since Hans the fence yellow carefully up-painted has
 c. *weil Hans den Zaun_i nicht t_i [t_i gelb] angestrichen hat*
 since Hans the fence not yellow up-painted has

That VP-internal predicates (including small clauses, idioms and directional PPs) in fact occupy a position in the middle field, namely PredP, rather than remain within a right-headed VP, can be shown with the help of the infinitival marker. The data in (35) show that an adjectival small clause predicate cannot remain within the VP or for that matter, incorporate into the verb, as is often assumed (cf. Neeleman 1994), but has to move out of the VP to a licensing position above the infinitival marker. (35) shows that PredP dominates F1P in German (cf. (35a-b)) and in West Flemish (cf. (35c-d)). The contrast in (35c-d) is even more significant since we have seen in (5a) above that the infinitival marker in West Flemish can in principle be separated from the verb. We have argued above that Small Clauses are licensed in PredP. (35) shows that the head of a Small Clause predicate obligatorily precedes the infinitival marker occupying F1, hence PredP must dominate F1P.

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

The test with sentential negation indicates that idiomatic expressions and directional PPs are licensed in PredP too. Since these elements can only occur between the negative marker and the infinitival marker, even if they have a definite reference as the PPs in (36c-d) do, they must occupy PredP in (36).

- (36) a. *um es ihr nicht zur Verfügung zu stellen*
 in.order it her not to.AGR availability to put
 'in order to not make it available for her'
 b. **um es ihr zur Verfügung nicht zu stellen*
 in.order it her to.AGR availability not to put
 c. *um die Milch nicht in den Kühlschrank zu stellen*
 in.order the milk not in the refrigerator to put
 'in order not to put the milk into the fridge'
 d. **um die Milch in den Kühlschrank nicht zu stellen*
 in.order the milk into the refrigerator not to put

So far we have arrived at the following picture of the lower middle field in German. Nominal arguments (including prepositional arguments) are Case-licensed in functional positions above the position of manner adverbs. The negative marker dominates Manner adverbs. Small clauses, idiomatic expressions and directional PPs are licensed in PredP directly below the position of VP adverbs. This Predicate Phrase dominates F1, a position which itself immediately dominates VP (37).

- (37) [DPs [Neg [VP-adverbs [Pred⁰ [F1 [vp]]]]]

Let us now look at the behavior of sentential complements (CPs). CPs in German appear invariably to the right of the verb selecting them. Given that it is standardly assumed that the German verb in embedded clauses does not move, the CPs in (38a-b) seem to be in their base position, as is indicated by the analysis of (38b) in (38c). Although there is clear evidence that the German embedded verb does not move to Tense — as we have seen above it cannot even move across negation or even VP adverbs — it is still possible that it undergoes some type of short local movement that moves it across a sentential complement that has itself moved into the Specifier of a functional projection for purposes of licensing, as is illustrated in (38d) for the sentence in (38b).

- (38) a. *weil Hans der Maria nicht sagte, daß Peter krank ist*
 since Hans the Maria.DAT not told that Peter sick is
 'since Hans did not tell Maria that Peter is sick'
 b. *ohne der Maria zu sagen, daß Peter krank ist*
 without the Maria.DAT to say that Peter sick is
 'without telling Maria that Peter is sick'
 c. *ohne der Maria [F1 zu [VP sagen daß Peter krank ist]]*
 d. *ohne der Maria [F1 zu [F2 sagen [F3 CP [VP t_V t_{CP]]]]}*

From the licensing movement of adjectives (cf. (35) above) an argument can be constructed that CP complements cannot remain within the VP. (39a) shows the only possible order between adjective and CP complement in an infinitival clause. The adjectival phrase undergoes licensing movement into PredP above the infinitival marker. As (39b) shows, pied-piping of the CP complement leads to ungrammaticality. It follows then that the CP complement has to move out of the VP before the adjectival phrase moves to PredP, in order to derive (39a) from the underlying structure in (39c).

- (39) a. *ohne froh zu sein, daß der Hans nicht kam*
 without happy to be that the Hans not came
 'without being happy that Hans did not come'
 b. **ohne [froh, daß der Hans nicht kam] zu sein*
 without happy that the Hans not came to be
 c. [CP *ohne* ..._{[F1P zu [VP sein [AdjP froh [CP]]]]]}

In the standard theory, cases like (39) have been accounted for by the operation of *extraposition* that right-adjoins CP complements to the local VP or IP. Since, following Kayne (1994), we want to refrain from positing right-adjunction, we propose that the CP complements are licensed in SpecF3P directly above VP. This entails that the verb in German moves up (at least) to F2, a functional projection dominating the licensing projection for CPs. We thus arrive at the following structure of the German sentence, a structure that we assume also holds for Dutch and West Flemish. In (40), L-NPs stands for "long-scrambled NPs", S-NPs for "short-scrambled NPs" and S-Advs for "sentential adverbs" like "often". For the sake of simplicity, we assume that the domain of L-NPs corresponds to the traditional TP.

- (40) [L-NPs [S-Advs [Neg [S-NPs [VP-Advs [Pred⁰ [_{F1P zu} [_{F2P V} [_{F3P CP} [VP]]]]]]]]]]]

3. Of what remains in the VP: Stranding as Copy and Delete

In the previous section, we have argued that the arguments of the verb, including sentential complements, and VP-internal predicates all move out of the VP to specific licensing positions in the middle field. In this section, we want to investigate which elements can remain in the VP.

The elements that can remain in the VP are essentially CP-adjuncts and PP-adjuncts. As (41) shows, CP-adjuncts to DPs can follow the verb that has

moved out of the VP into F2 in the middle field. In the absence of rightward movement, the simplest analysis of the position of the relative clause in (41a) and of the so-called Noun-complement clause in (41b), is one in which it is assumed that these clauses remain in the VP — stranded by the licensing movement of the DP they modify.

- (41) a. *Hans hat die Frau eingeladen, die ich ihm empfohlen habe.*
 Hans has the woman invited who I him recommended have
 b. *Hans hat die Behauptung zurückgewiesen, daß die Erde rund ist.*
 Hans has the claim refuted that the earth round is

As (42) shows, also PP-adjuncts to DPs (42a) or the verb (42b) can appear in a position following the verb in F2. Cases like (42a), which we will call PP-out-of-NP, have traditionally been analyzed as involving extraction of the PP out of the NP it modifies plus subsequent right-adjunction of the PP to either VP or IP. Cases like (42b), which we will call PP-extrapolation, have traditionally been analyzed as involving right-adjunction of the PP to either VP or IP. This is illustrated in (42c).

- (42) a. *Hans hat ein Buch (über Chomsky) gekauft (über Chomsky)*
 Hans has a book about Chomsky bought about Chomsky
 b. *Hans hat (in Wien) ein Buch gekauft (in Wien)*
 Hans has in Vienna a book bought in Vienna
 c. [CP *Hans hat* [_{IP} PP [_{VP} [_{NP ein Buch PP}] *gekauft*] *hat*]]

In the following section, we want to investigate in which manner PPs modifying DPs can be stranded in positions following the verb.⁶ We will argue against analyses that assume rightward movement. Furthermore, we will argue that PP-out-of-NP cases should not be accounted for in terms of extraction of the PP and subsequent remnant movement of the constituent containing the verb and the NP.

3.1 PP-out-of-NP

The data and arguments presented in this section are drawn from Brugger & Hinterhölzl (1998). Brugger & Hinterhölzl (1998) argue that cases of PP-out-of-

NP should not be accounted for in terms of extraction of the PP, be it rightward extraction or leftward extraction plus subsequent remnant movement. Here we will briefly sketch the most important arguments.

One important property of cases of PP-out-of-NP is the fact that the PP following the verb can receive nuclear stress and give rise to a wide focus reading, such that (43) is a perfect answer to an out-of-the-blue question "What happened?"

(43) *Ich glaube daß Hans ein Buch gekauft hat über* CHOMSKY.

I believe that Hans a book bought has about Chomsky

The fact that the PP in (43) can receive nuclear stress (with the DP *ein Buch* receiving secondary stress) immediately militates against the assumption that the PP has been right-adjoined to VP or IP, after having been extracted out of the DP *ein Buch*. If the PP were right-adjoined to VP or IP, nuclear stress should fall on the DP *ein Buch*, according to standard assumptions about the relation between phrase structure and stress assignment (cf. Cinque 1993; Zubizarreta 1998).

The fact that the PP in (43) can receive nuclear stress and give rise to a wide focus reading can also be taken as an argument against an analysis in which it is assumed that the PP is extracted leftward followed by remnant movement of the constituent *ein Buch gekauft hat*. In German, elements that undergo leftward movement out of their licensing positions are either deaccented (long scrambling) or if stressed give only rise to a narrow focus (contrastive focus) reading.

Secondly, if sentences like (43) were derived via extraction of the PP out of the DP, then it remains unclear why cases of PP-out-of-NP in German neither violate the Specified Subject Condition nor the Specificity Condition. (44a) shows that a specified subject blocks extraction of DP-internal material. (44b) shows that cases of PP-out-of-NP are unaffected by a specified subject.

- (44) a. *Who did you read Peter's book of?
 b. *Hans hat Peters Buch gelesen über* Chomsky.
 Hans has Peter's book read about Chomsky

Müller (1995) takes the contrasts between wh-extraction out of a DP and the extraction of a PP out of a DP, exemplified above for the Specified Subject condition, as an argument in favor of a rightward movement analysis of these cases and of extraposition in general. He surmises that leftward subextraction out of a DP must proceed through SpecDP, and will thus be affected by a specified subject, while rightward subextraction out of a DP uses right-adjunction to the DP and is thus unhampered by a specified subject, as is illustrated in (45).

- (45) that [_{IP} [Hans [_{VP} [a book *t_i*] bought]] PP]_i

The problem with Müller's solution to the extraction paradox, illustrated in (44), is that the resultant structure of rightward movement makes the wrong predictions about quantifier binding. In cases where more than one PP has been "extraposed", an analysis in terms of right-adjunction predicts for the sequence XP PP1 PP2 either that PP2 c-commands PP1 if adjunction is to different maximal projections or that PP1 and PP2 c-command each other if adjunction is to the same maximal projection.

As the pronominal binding facts in (46) indicates an analysis in terms of right-adjunction is untenable. The contrast in (46a–b) requires that PP1 c-commands PP2. For cases where only one PP has been extraposed, Müller's account of extraposition fails to explain why pronominal binding out of an extraposed PP is impossible, as is illustrated in (46c).

- (46) a. *weil Hans eine Rede gehalten hat [in jeder Stadt] [über*
 since Hans a speech given has in every city about
ihre UW-Probleme]
 its environmental-problems
 b. ??*weil Hans eine Rede gehalten hat [über ihre Umwelprobleme]*
 [in jeder St.]
 c. ??*weil Hans ihren Bürgermeister getroffen hat in jeder Stadt*
 since Hans its mayor met has in every city

The binding facts in (46) as well as the prosody and focus properties in (43) follow straightforwardly if we assume that the PPs in (46) and (43) are simply stranded in the VP. Kayne (1994) proposes that a relative clause is stranded in the VP by subextraction of the DP modified by the relative clause for reasons of case licensing. Since in the structure in (47), D and NP do not form a constituent excluding the PP that could be subextracted for reasons of Case-licensing, leaving behind the PP within VP, and since subextraction of PPs is excluded also, as we have argued above, we need to look for an alternative means of stranding PPs that modify DPs.

- (47) [_{DP} D [_{NP} N [_{PP} P [DP]]]]
 a book about Chomsky

3.2 Extraction as partial deletion

In the Minimalist Program (Chomsky 1993, 1995) movement is viewed as the result of the application of two basic operations, *copy and delete*. The standard

application of copy-and-delete has it that one copy, normally the material that corresponds to the trace in the traditional treatment of movement, is entirely deleted, as illustrated in (48a). In (48a) movement targets the constituent **C** consisting of the lexical items **X** and **Y**, in which process both **X** and **Y** are deleted in their pre-movement position. This is the standard case of total deletion of one copy yielding the traditional pattern of the antecedent-trace relationship of movement.

- (48) a. [C X Y] [C X̄ Ȳ]
 b. [C X Y] [C X̄ Ȳ]

However, total deletion of one copy is not a logical necessity. We can imagine cases of partial deletion. In (48b), movement again targets constituent **C** consisting of the lexical items **X** and **Y**, but this time **X** has been affected by *forward deletion* while **Y** has been affected by *backward deletion*.⁷

Given the operations of forward and backward deletion, the structure in (49a) can be derived from (49b), where two full sentences have been coordinated, by forward deletion of *John* and backward deletion of *the newspaper*.

- (49) a. John bought and read the newspaper
 b. John bought ~~the newspaper~~ and ~~John~~ read the newspaper

Since in Minimalism, the operation of *move alpha* is deconstructed into independent copy and deletion processes, Wilder (1995) proposes to investigate whether the operations of FWD and BWD are available in ordinary antecedent-trace relationships and formulates the condition of Chain-Internal Selective Deletion (CISD) given in (50) as a means of constraining partial deletion. The deletion operations illustrated in (48) are two possible outcomes of applying CISD in an antecedent-trace configuration.

- (50) Phonological deletion can remove part of the antecedent and the complementary part of the trace (Wilder 1995: (57))

In the next section, we will argue that the deletion processes operative in antecedent-trace configurations may delete parts of constituents but have different properties from the deletion processes that Wilder (1994) argues occur in contexts of ellipsis. Deletion in ellipsis contexts is deletion of phonological features only, while deletion within antecedent-trace configurations is essentially guided by the deletion of formal features. Only in the cases where deletion of formal features is not at stake, that is in cases of deletion of material that is pied-piped by movement operations, does deletion in antecedent-trace configurations obey the same restrictions that are relevant for deletion in cases of ellipsis. In the

following, we will continue to use FWD and BWD as descriptive terms to refer to deletion operations as illustrated in (48b).

3.2.1 Deletion and feature checking

Given (50), a sentence like (51) could be derived simply by selective deletion operations, that is, without employing any extraction operation. As we have argued in 2.3 above, the direct object in German moves overtly into SpecAgrAccP to check its Case, leaving behind a copy in its base position following the verb. This is illustrated in (52). Under these assumptions (51) can be derived by forward deleting *ein Buch* and backward deleting *über Chomsky*, as is illustrated in (53a). However, (50) would allow us to derive also (53b–d) which are ungrammatical.

- (51) *weil Hans ein Buch liest über Chomsky*
 since Hans a book reads about Chomsky
 (52) *weil Hans* [_{AgrAcc} [*ein Buch*] [_{VP} *liest* [_{VP} [*ein Buch*]]]]
 (53) a. *weil Hans* [*ein Buch über-Chomsky*] *liest* [~~*ein Buch*~~ ~~*über*~~ *Chomsky*]
 b. ~~**weil Hans*~~ [*ein Buch über Chomsky*] *liest* [~~*ein Buch*~~ ~~*über*~~ *Chomsky*]
 c. ~~**weil Hans*~~ [*ein Buch-über-Chomsky*] *liest* [~~*ein Buch*~~ ~~*über*~~ *Chomsky*]
 d. ~~**weil Hans*~~ [~~*ein Buch*~~ ~~*über-Chomsky*~~] *liest* [*ein Buch über* *Chomsky*]

It is clear from the examples in (53) that CISD is too unconstrained as it stands. Intuitively speaking, what is going on in cases like (53) is the following. The DP *ein Buch* moves out of its VP-internal base position into AgrAccP in order to check its case. This operation pied-pipes the DP-internal PP. Given this view, (53a) can be derived from the stipulations in (54) (cf. Hinterhölzl 1997).

- (54) Free Deletion of Pied-piped Material (FDPM)
 a. Material that is moved to check a feature is subject to forward deletion
 b. Material that is pied-piped by such movement is subject to optional backward deletion

The FDPM, if correct, should follow from more basic principles in the grammar. We will later argue that clause a) of the FDPM follows from the elementary mechanics of the operation of feature checking in a derivation and that clause b)

can be derived from the LCA.

Before doing that, we would like to point out that the FDPM raises an interesting question concerning the operation of feature checking. With respect to feature checking, the question arises what the scope of the checked feature is. For example, in order to derive (53a) from (54), we have to assume that "material that is moved to check the Case-feature" comprises the determiner *and* the head noun but not the rest of the DP (the preposition and the DP within its scope). The traditional assumption has been that Case is a property of the head noun of an NP and that the determiner agrees with its head noun in Case (and possibly other features).

Within the DP-based approach we have to assume that Case is minimally a property of the determiner. In an LGB-framework, we would assume that when a DP is moved to check Case the scope of this operation comprises the head of the DP and all heads governed by it. In the Minimalist Framework, we have to assume that when a DP moves to check Case, Case is checked on the determiner only. Additional movement of the head noun to the determiner is necessary to check Case (and possibly some other features)⁸ on the head noun as well.

The question then arises how to derive (54a) from more basic principles. The question is relevant since in fact, in Chomsky's (1993, 1995) execution of the feature checking operation, it has to be stipulated which copy is to be spelled out. There it is assumed that if an element X has to check a feature *f* and X is copied and merged with the target category containing feature *f*, feature *f* is checked in all copies of X. In such a system, it is indeed necessary to stipulate that it is always the highest copy that is spelled out.

Nunes (1995) argued that a particular execution of the feature checking mechanism gives us for free the effect that it is always the highest copy that is spelled out. This follows simply from the assumption that only the feature of the copy is checked that merges with the target category containing the relevant feature. This is illustrated in (55), where the DP *ein Buch* is moved into SpecAgrAccP to check its case. In both (55a–b), the Case feature is only checked off in the copy in SpecAgrAccP but left unchecked in the copy in the VP-internal position. The derivation then converges only if, as in (55a), the lower copy is deleted, since deletion of the lower copy also effects deletion of the offending unchecked Case-feature. If, on the other hand, as in (55b), the higher copy is deleted, the copy with the offending unchecked feature remains and causes the derivation to crash.

- (55) a. *weil Hans* [_{AgrOP} [_{DP} *ein Buch* _C]] [_{VP} *kaufte* [_{DP} *ein-Buch* _ε]]
 b. **weil Hans* [_{AgrOP} [_{DP} *ein-Buch* _ε]] [_{VP} *kaufte* [_{DP} *ein Buch* _C]]

So it is the feature checking mechanism itself that decides which copy is spelled out and which copy is deleted. This immediately predicts clause b) of (54), namely that the computational system is silent with respect to pied-piped material. Copies of pied-piped material are identical in their feature content and it only follows from the LCA, namely from the fact that two or more identical copies cannot be ordered with respect to third elements in the clause, that only one of the identical copies can be spelled out but it is left to the liberty of the speaker to decide which one.

Now let us go back to (53) and see whether we can derive from the specific interpretation of (54) why (53a) is grammatical and (53b–d) are not. Let us start with the easy case (53d). (53d) is ungrammatical for the very same reason (55b) is ungrammatical: the copy with the offending Case feature remains and causes the derivation to crash. In order to converge, at least the determiner containing the offending Case feature must be spelled out in the higher copy. This is the case of (53c). Why is (53c) still ungrammatical? (53c) is ungrammatical since the head noun still has a Case-feature to check, which it can only do in the higher copy, since in the lower copy the determiner with the relevant feature has been deleted.⁹

This leaves us with the choice between (53a–b). Let us look at the Spell-out of the preposition. The preposition being pied-piped by the operation of Case checking of the containing DP is free to be spelled out in the higher or in the lower copy. Note, however, that if the preposition is spelled out in the higher copy its complement must be spelled out in the higher copy as well. And if the preposition is spelled out in the lower copy then its complement must as well. This is so because the preposition, so we assume, checks the Case of its DP argument. If the preposition were to be spelled out in the higher copy and its argument in the lower copy, as in (53b), Case-checking would be impossible due to the deletion of the Case feature of the preposition in the lower copy. In this case, the offensive Case-feature of the DP argument of the preposition remains unchecked and causes the derivation to crash.

That it is actually Case-checking that is relevant for distinguishing between the grammatical (53a) and the ungrammatical (53b) can be shown with the following interesting contrast. In German, there are essentially three ways of expressing the possession relation between two DPs. a) The postnominal Possessor can be marked with genitive Case as in (56a). b) The postnominal Possessor, typically a name, is marked with the genitive *s*-morpheme, as in (56b). Or c) The possessive preposition *von* is inserted between the head noun and the postnominal Possessor, as in (56c). It is interesting to note that only option c) allows for "extraposition" of the possessor DP, as is shown in (57).

- (56) a. *weil Hans das Buch der Maria gelesen hat*
 since Hans the book [the Maria].GEN read has
 'since Hans has read Maria's book'
- b. *weil Hans das Buch Marias gelesen hat*
 since Hans the book Maria's read has
- c. *weil Hans das Buch von der Maria gelesen hat*
 since Hans the book of [the Maria].GEN read has
- (57) a. **weil Hans das Buch gelesen hat der Maria*
 since Hans the book read has [the Maria].GEN
- b. **weil Hans das Buch gelesen hat Marias*
 since Hans the book read has Maria's
- c. *weil Hans das Buch gelesen hat von der Maria*
 since Hans the book read has of [the Maria].GEN

The difference between (57a–b) on the one hand and (57c) on the other hand follows if we assume that in (56a–b)/(57a–b), the Case of the possessor is checked in an Agreement position by the head noun *Buch* in the case at hand, while in (56c/57c) the inserted preposition *von* checks the Case of the post-nominal possessor.

3.2.2 Prosodic constraints on partial deletion

Partial deletion creates discontinuous relations between (parts of) constituents that seem to be subject to prosodic constraints. In (58a), the PP *von Chomsky* must be construed with the direct object *ein Buch*, yielding the reading *the student is reading a book by Chomsky*. The extraposed PP in (58a) cannot be construed with the subject DP yielding the reading *the student of Chomsky's is reading a book*. However, if, as in (58b) the object is scrambled across the subject, the extraposed PP must be construed with the subject and cannot be construed with the direct object, allowing only the reading *a student of Chomsky's is reading the book*.

- (58) a. *weil die Studentin ein Buch liest von Chomsky*
 since the student a book reads of Chomsky
- b. *weil das Buch eine Studentin liest von Chomsky*
 since the book a student reads of Chomsky

It is clear that the contrast in (58) cannot be easily reduced to a syntactic distinction. If one only looks at the contrast in (58a), one may conclude that "extraposition" is possible from objects but not from subjects. However, (58b) immediately shows that the restriction at hand cannot be reduced to an instance of the famous subject-object asymmetry.

Rather what is at stake in (58) is a notion of prosodic distance between the elements of a discontinuous relation. The backward deleted PP in (58) is construed with the DP that is contained within a certain restricted domain of the preceding clause.

From (58) it may be concluded that the backward deleted PP is simply construed with the closest DP. That this is not the case is shown by the contrast in (59). In both (59a) and (59b), the direct object is the closest "antecedent" for interpreting the backward deleted PP, but (59b) is considerably worse than (59a). The difference between (59a–b) is that in (59a), the antecedent is contained in the immediately preceding phonological phrase, whereas in (59b), another phonological phrase — constituted by the adjunct — intervenes between the backward deleted PP and its "antecedent". This is illustrated in (60) where constituents belonging to the same phonological phrase are given in round brackets. These observations were first made by Truckenbrodt (1995). The phonological constraint at work in (59) can thus be stated as given in (61) (adopted from Truckenbrodt 1995).

- (59) a. *weil der Peter nach langer Überlegung das Buch gekauft*
 since the Peter after long consideration the book bought
hat | über Chomsky
 has about Chomsky
- b. *?weil der Peter das Buch nach langer Überlegung gekauft hat |*
über Chomsky
- (60) a. *(weil der Peter) (nach langer Überlegung) (das Buch) (gekauft*
hat über Chomsky)
- b. *(weil der Peter) (das Buch) (nach langer Überlegung) (gekauft*
hat über Chomsky)
- (61) The antecedent of a backward deleted phrase must be contained in the immediately preceding phonological phrase

While we agree with most of Truckenbrodt's observations, we do not agree with the conclusion he draws from them, namely, that extraposition is the result of a PF-movement rule (cf. also Rochemont 1978; Chomsky 1986). Such an approach is untenable in the light of evidence that extraposition has syntactic consequences. For instance, as pointed out already by Guéron (1980), extraposition can affect the licensing of (N)PIs, as is illustrated in (62).

- (62) a. *[The names of any of these composers] weren't called out
 b. The names weren't called out [of any of these composers]

In our account, "extraposition" is the result of the partial deletion of phonological features,¹⁰ guided by checking of the formal features, in the copies created by syntactic movement. Since Spell-out, the deletion or insertion of phonological features, is the last syntactic operation, its result is visible both at PF and at LF. Thus it is to be expected that partial deletion, being an operation of Spell-out, is subject both to prosodic constraints, as sketched above, as well as to interpretive constraints that, as Guéron (1980) and Guéron & May (1984) have argued, apply at LF.

Syntactic movement is usually not subject to prosodic locality conditions but obeys constraints like the Specified Subject condition, while "extraposition" is subject to the former type of conditions but violates the latter type of conditions. Since extraposition does not display the typical properties of syntactic movement operations and since its effects are visible at LF, we conclude that extraposition must be treated as the result of the Spell-out operation of partial deletion.

To summarize, we have provided empirical evidence showing that VP-interpretable elements undergo licensing movement into the middle field and sketched a general mechanism for stranding material in the VP, in terms of partial deletion.

4. VP-preposing in English

In this section, we will outline some consequences of the account we have argued for in the previous sections for the proper analysis of English. More specifically, we will address the question of whether verb-preposing in English (Kayne 1998; cf. also Hróarsdóttir, this volume, for arguments for VP-preposing in Icelandic) made necessary by this account, as we will argue, is to be characterized as head-movement or XP-movement.

Haider (this volume) points out that the stranding approach to Extraposition leads to impossible word orders. If the relative clause were simply stranded in the base position of the DPs that have undergone passive movement, then the sentences in (67) should be grammatical.

- (67) a. *A man was awarded [that noone knew] the prize. (DP)
 b. *A book was put [that noone knew] on the shelf. (PP)
 c. *The barn was painted [that Mary liked so much] red. (AP)
 d. *A man came [who noone knew] in. (particle)
 e. [came [[a man who ...] in]]

A tentative solution to this problem would be to assume that arguments (67a), directional PPs (67b), small clause predicates (67c) and particles (cf. (67d) as

derived from (67e)), like in West Germanic, move into their licensing positions in the middle field.

However, this immediately creates a new problem concerning the position of the verb in English. The English verb too must move into the middle field. Where does the English verb move to? Movement of the English verb must occur for a very general reason, since it occurs in every clause. The most plausible assumption is thus that the English verb (phrase) moves to the local Tense-head.

Assuming verb (phrase) movement to Tense has, of course, far-reaching consequences, of which we can only sketch the most important ones in the remainder of this paper. The first problem with the assumption that the English verb moves to Tense concerns the position of Negation. It is standardly assumed that negation, which precedes the main verb in English, occurs between Tense and the verb. Given that we now have to assume that the English verb moves to Tense, negation must occur higher in the tree, presumably between Tense and AgrS. The second problem concerns auxiliaries. If auxiliaries are base-generated in functional projections outside of the VP, including Tense, then we get the wrong word order whether we assume that the verb undergoes head- or XP-movement to Tense, as is illustrated in (68).

- (68) a. [_{TP} [_T has [_{AspP} been [_{VP} seen]]]]
 b. *[[_{TP} [_T seen]_i has [_{AspP} been [_{VP} t_i]]]] V-movement
 c. *[[_{TP} [_{VP} seen] [_T has [_{AspP} been t_{VP}]]]] VP-movement

The right word order can only be derived if we assume that auxiliaries are part of the VP. Assuming that auxiliaries head their own VP-shells, verb-movement must affect all VP-shells containing either auxiliaries or the main verb. Thus verb movement in English must be XP movement given these assumptions. The third problem concerns the infinitival marker, which is standardly assumed to be base-generated in Tense in English. Since VP-movement into SpecTP would derive the wrong word order, we would have to assume that the infinitival marker is base-generated somewhere else. One possibility is that the infinitival marker, like in the West Germanic languages, occupies F1. VP-preposing in English would then be akin to movement of F1P that occurs in restructuring contexts in West Germanic (cf. Hinterhölzl 1999). Another possibility is to assume that the infinitival marker is a prepositional complementizer.

If the whole VP undergoes verb-movement in English, then we expect that PPs and clauses that have been stranded in the VP precede the other arguments of the verb, contrary to fact, as is illustrated in (69).

- (69) a. *John [_{VP} bought about Chomsky] a book
 b. *John [_{VP} bought that Peter liked] the book

However, cases like (69) can be excluded if we adopt partial deletion as a mechanism of stranding, since they violate an important constraint on backward deletion (BWD). Wilder (1995) shows with independent evidence from deletion within coordinate structures that a BWD-site must precede its antecedent. To simplify things, this constraint has the effect that BWD-material can only surface in the rightmost copy. In (69), backward deleted material *about Chomsky* and *that Peter liked* surfaces in the leftmost copy.

Notes

- Haegeman (1995) also argues that if non-finite verbs cannot move to F1, as we have assumed, then one can derive the fact that *en* can only be spelled out on a finite verb.
- Note that in German, even non-finite auxiliaries have to invert with IPP complements (i), while the opposite holds in West Flemish (ii). It follows that in West Flemish, due to the inability of non-finite verbs to move to F1, the empty morpheme may be licensed at LF.

(i) a.	<i>Else wird ihm einen Brief haben schreiben wollen</i>	letter have write want(IPP)
b.	<i>*Else wird ihm einen Brief schreiben wollen haben</i>	letter write want(IPP) have
	'Else will have wanted to write him a letter'	
(ii) a.	<i>dan-ze kosten willen dienen boek kuopen een</i>	that-they could have want(IPP) that book buy have
b.	<i>*dan-ze kosten een willen dienen boek kuopen</i>	that-they could have wanted to buy that book'
- Often, as in (18b) the order *manner adverb* < *nominal argument* yields a perfect sentence. This is always the case when the manner adverb is eligible for an alternative interpretation. So, for instance, (18b) is perfect under the interpretation 'it was careful of Hans to read the book', where the adverb is interpreted as sentential rather than as a VP-adverb. Also (19b) is perfect under the interpretation 'Hans executed exactly one/this plan', where the adverb is construed as modifying the DP.
- (21b) is perfect if the negative marker is interpreted as constituent negation (see (22) and (23) below).
- The determiner *kein* has been analyzed as created by fusing a determiner with existential force with negation (cf. Kratzer 1989).
- PP-extraposition has properties that differ considerably from the properties of cases of PP-out-of-NP. These issues are discussed in detail in Brugger & Hinterhölzl (1998).
- The terms *forward deletion* (FWD) and *backward deletion* (BWD) are loaned from the literature on coordination (cf. Wilder 1994). The operation of FWD targets left-peripheral material in the first conjunct and deletes this material under identity in all conjuncts following. The operation

of BWD, in contrast, targets right-peripheral material in the last conjunct and deletes this material under identity in all preceding conjuncts.

- In the German DP, determiner, noun and adjectives agree in Case, Number and Gender.
- It is thus important to distinguish between feature checking and feature deletion. Feature deletion removes a feature from the computation. Feature checking, so to say, only removes the offensive character of a feature for the rest of the computation (cf. Nunes 1995). Secondly, feature deletion is total, that is to say, it deletes all formal and phonological features. To allow for reconstruction, we have to assume that semantic features are not affected by this deletion operation.
- Whether Spell-out is to be described as deletion or insertion of phonological features is immaterial for our purposes here. However, since, in our account of the IPP effect, we treated Spell-out as the insertion of phonological features into a syntactic tree, we have to assume that phonological features are inserted into the one copy in which all strong formal features have been checked.

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