

## Verbal Complexes and the Syntax of IPP-Complements

In chapter 3 (section 3.2), I concluded that verb-particles are licensed by undergoing XP-movement into [Spec,AspP] rather than by head movement that adjoins them to the selecting verb. In chapter 4, I argued that VR-constructions in German and Dutch must be described as involving movement of the infinitival AspP and TP into the C-domain of the infinitival clause followed by additional movement of these constituents into licensing positions in the matrix clause.

In particular, I have proposed that the infinitival TP moves into [Spec,PredP] of the higher verb and that the infinitival AspP moves into a licensing position of the higher verb below PredP that I have not identified yet. The purpose of this final step in the licensing of dependent verbs is to check the (exact) subcategorization of the selecting verb and to temporally localize the embedded event with respect to the matrix event.

In non-restructuring clauses the embedded event is localized via the local TP, which in turn is assigned a reference time dependent on the matrix event time, as I have argued in chapter 4 (section 4.4.2).

In restructuring clauses, the embedded TP is not temporally linked to the matrix event time and the embedded event is then directly localized with respect to the matrix event by movement of the infinitival Aspect Phrase into a checking position of the matrix verb. For this local relationship, any of the functional positions in the V-domain of the selecting verb, illustrated in (1) later, seems appropriate. In sum, further movement of the embedded Aspect Phrase serves two purposes:

(1) checking of the subcategorization of the matrix verb and (2) temporal linking with the matrix verb.

Another issue that is in need of further explication is the question of whether the final step in the licensing of dependent verbs in restructuring contexts also constitutes XP-movement.

In this chapter, I will take a closer look at the formation of verb clusters and investigate the positions that are relevant for licensing nonfinite verbs. In chapter 4, I have established that all VP-internal material, including CP-complements, has to move out of the VP to be licensed in specific licensing positions. On the basis of to-infinitives, I have concluded that CP-complements are licensed in [Spec,F3P] below F2, the position I had assumed that the verb in embedded clauses moves to. To remind us of the pertinent structures, let us have a look again at example (19) of chapter 4, the relevant part of which is repeated for convenience in (1a).

- (1) a. [<sub>AspP</sub> zu [<sub>F2P</sub> V [<sub>F3P</sub> CP [<sub>VP</sub> ... ]]]]  
 b. [<sub>AspP</sub> (V2) zu [<sub>F2P</sub> (V2) V1 [<sub>F3P</sub> CP [<sub>VP</sub> ... ]]]]  
 c. [<sub>AspP</sub> te [<sub>F2P</sub> V1 [<sub>F3P</sub> V2 [<sub>VP</sub> ... ]]]]

Assuming that the CP in [Spec,F3P] is the CP-complement of a restructuring verb, movement of the dependent verb to the left of the selecting verb will derive a left-branching verb cluster if it is spelled out in the higher copy, as is typical for German (1b), or yield a right-branching verb cluster if it is spelled out in the lower copy, as is typical for Dutch (1c). Given that the matrix verb is spelled out in the head position of F2, the dependent infinitive could in principle be taken to be licensed in [Spec,F2P] or in [Spec,AspP] in German.

In this chapter, we will look at different types of data from the West Germanic languages that can help us settle the issue of what the licensing positions of the different nonfinite verbs in restructuring contexts are. I will present arguments to indicate that F2P is responsible for temporal linking, while the subcategorization of the matrix verb can be checked either in [Spec, F2P] or in [Spec,AspP]. While the surface data (in German) suggest that dependent verbs in restructuring contexts are licensed in [Spec,AspP] of the selecting verb, there is evidence from the syntax of IPP-complements in West Flemish and Afrikaans that (at least) participles move through (and sometimes remain there) the Specifier of F2P below AspP.

With the help of Frisian data, I will establish that the West Germanic dialects have two types of infinitives, one being directly licensed in AspP, the other, like participles, moving through [Spec,F2P] below AspP, thereby giving rise to the IPP-effect. Finally, I will discuss the derivation and distribution of the different types of verb clusters in German, Dutch, and West Flemish. But first, I would like to establish that movement of the dependent infinitive into the domain of the licensing verb is indeed XP-movement, as I have simply assumed so far, by showing that a head-movement account cannot explain the properties of German (left-branching) verb clusters.

## 6.1 Left-branching verb clusters in German

In this section, I will argue on the basis of the syntax of verb clusters in German that left-branching verbal complexes, like right-branching verbal complexes, are created by XP-movement. I will discuss two phenomena that strongly indicate that an XP-movement account is to be preferred over a head-movement account. Hence I will adopt an XP-movement account and conclude this section with a note on the distribution of CP-complements in left-branching verb clusters.

The first phenomenon concerns the behavior of particles in German verb clusters. Particles in German have a very restricted distribution in the verb cluster: They may only occupy a position immediately preceding the selecting verb. Remember that Dutch particles enjoy a rather free distribution in their verb clusters (cf. [2a–b]).

- (2) a. (Dutch) dat hij mij (weg) zou (weg) kunnen (weg) horen (weg) rijden  
that he me (away) would (away) can (away) hear (away) drive  
'that he would be able to hear me drive away'
- b. (German) dass er mich (\*an) wird (\*an) haben (an) rufen (\*an) wollen  
that he me (up) will (up) have (up) call (up) want-IPP  
'that he may very well have wanted to call me up'
- c. (German) \*dass er mich wird haben rufen<sub>i</sub> wollen [<sub>CP</sub> [<sub>F1P</sub> [<sub>XP</sub> an] t<sub>i</sub>]]  
that he me may very well have call want up

I have accounted for the distribution of particles in the Dutch verb cluster by assuming that in Dutch particles are licensed in [Spec,AspP]. Thus, they will be pied-piped by movement of AspP into the C-domain in restructuring contexts, making them part of the verb cluster. Within the verb cluster they may move via XP-movement into [Spec,AspP] of the higher verb. The same holds for small clause predicates in Dutch provided that they are unmodified. If they are modified, small clause predicates are licensed in [Spec,PredP] of the selecting verb and will thus be pied-piped by TP-movement in restructuring contexts, which lands them in front of the matrix verb, that is, in front of the entire verb cluster.

That the particle may not follow its selecting verb German shares with Dutch, but contrary to Dutch, the particle in German may also not climb up in the verb cluster, as indicated in (2b). Let us assume for the sake of the argument that left-branching verb clusters in German are derived by head movement of the dependent infinitive. In this approach, we could assume that the dependent verb left-adjoins to the selecting verb in the head position of F2P or of the Aspect Phrase. It is not clear in this account what prevents the particle in (1b) from climbing up in the verb cluster by moving it into the Specifier of the Aspect Phrase of the selecting verb, as they arguably do in Dutch. Assuming for the moment that German right-branching verb clusters are formed like their Dutch counterparts by spelling out the lower copy of the dependent verb, the ungrammatical cases of (2b) cannot be excluded. Also, this account cannot derive the only grammatical order in (2b). What it derives is (2c), which is ungrammatical.

In order to derive (2b) from (2c) the particle would have to undergo movement on its own. We arrive at a contradiction. With (2b), I concluded that the particle in German, unlike its Dutch counterpart, cannot undergo movement separately of the infinitival verb. This additional movement of the particle can be avoided if we assume either that particles in German are licensed in PredP or that in (2c), instead of moving only the verb as head, the whole AspP is moved from [Spec,SP] in the C-domain into [Spec,AspP] of the higher verb.

The first option is untenable. If particles are licensed in PredP, then they are not affected by AspP-movement into the C-domain but are pied-piped by TP-movement into PredP of the higher verb. This implies that an auxiliary that precedes the particle must have moved high up (beyond PredP) in the tree. Furthermore, we expect that an adverb that precedes the auxiliary in this (high) position should only have matrix scope, because adverbs that modify the embedded verb are contained in PredP of the matrix verb. As the ambiguity of the adverb in (3) shows, this expectation is not borne out.

- (3) weil Hans die Marie oft hat anrufen wollen  
since Hans the Maria often has up-call want-IPP  
'since Hans has often wanted to call up Maria'  
'since Hans has wanted to often call up Maria'

This leaves us with the second option, which also accounts for the restricted distribution of particles in German verb clusters. If dependent infinitives in German are licensed by movement into [Spec,AspP] of the selecting verb, then it is clear that this Specifier is not available for further movement of the particle of the dependent verb as it is in Standard Dutch. This, in turn, implies that Dutch infinitives cannot be assumed to be licensed in [Spec,AspP] and must thus be taken to be licensed in [Spec,F2P] below. I will come back to this issue at the end of this chapter.

The second phenomenon concerns to-infinitives. I have argued extensively in chapter 4 that the sequence *to + infinitival verb* cannot be analyzed as a head-adjunction structure. Thus, movement of the to-infinitive in (4a) in front of the matrix verb must involve XP-movement. So at best we could have a mixed system: To-infinitives undergo additional XP-movement, but bare infinitives undergo additional head movement.

- (4) a. weil Hans das Buch [<sub>AspP</sub> zu [<sub>F2P</sub> lesen]] versprach  
since Hans the book to read promised
- b. \*ohne das Buch [<sub>AspP</sub> zu [lesen<sub>i</sub> wollen [<sub>CP</sub> t<sub>i</sub>]]]  
without the book to read want
- c. ohne das Buch [lesen]<sub>i</sub> [<sub>AspP</sub> zu [<sub>F2P</sub> wollen [<sub>CP</sub> t<sub>i</sub>]]]  
without the book read to want  
'without wanting to read the book'

However, this mixed system leads to problems whenever a verb cluster comprises a bare infinitive and a to-infinitive. First of all, the case of a bare infinitive selected by a

to-infinitive shows that bare infinitives cannot be taken to head-adjoin to the selecting verb. If this were possible, then (4b) should be grammatical, contrary to fact. As (4c) shows, the bare infinitive, since it precedes the infinitival marker, can only be taken to head-adjoin to the infinitival marker of the selecting verb. Note, however, that the dependent infinitive in (4c) cannot have reached its surface position via head movement, since it cannot skip the intervening verb. The position of the dependent infinitive in (4c) also suggests that bare infinitives are licensed in [Spec,AspP] of the selecting verb.

A problem similar to the problem illustrated in (2c) arises if a to-infinitive is embedded under a verb that itself is embedded under a modal verb that selects a bare infinitive. In this scenario, the to-infinitive would in the first cycle undergo XP-movement to a position in front of the selecting verb. The resulting verb cluster would be moved in the second cycle into the C-domain of the clause of the bare infinitive (below the modal). If bare infinitives were licensed by undergoing  $X^0$ -movement to the selecting verb, then we would expect that the to-infinitive selected by the verb in bare infinitival form would be stranded to right of the matrix verb, as is shown in (5a).

- (5) a. weil Hans versprechen, wollte [<sub>CP</sub> [<sub>AspP</sub> [zu kommen]  $t_i$ ]]  
since Hans promise wanted to come
- b. weil Hans [zu kommen versprechen] wollte  
since Hans to come promise wanted  
'since Hans wanted to promise to come'

Example (5a), contrary to (2c), is not ungrammatical but appears to be different from the standard construction given in (5b). The order of verbs in (5a) is reminiscent of cases of Remnant Extraposition in Dutch. As Kroch and Santorini (1990) point out, the verb sequence in cases of Remnant Extraposition may be interrupted by sentence adverbs like *nicht* 'not' or *doch* 'after all'. This is illustrated in (5c-d). Example (5a) may thus have an entirely different derivation from (5b). Whether sentences of the type of (5c-d) can be analyzed as Cases of VPR I will have to leave open here.<sup>1</sup>

- (5) c. weil ich seinen neuesten Roman beschlossen habe, nicht zu lesen  
since I his newest novel decided have not to read  
'since I have decided not to read his most recent novel'
- d. weil ich seinen neuesten Roman beschlossen habe, doch zu lesen  
since I his newest novel decided have to read after all  
'since I have decided to read his most recent novel after all'

The important point here is that (5b), the standard VR-construction, cannot be derived under the preceding account without postulating an additional movement operation for the to-infinitive, which seems unmotivated.

I will thus assume that left-branching verb clusters are derived via XP-movement of the dependent infinitive into [Spec,AspP] of the higher verb. In the following, I will briefly outline the consequence of this account for the distribution of CP-

complements in V(P)R-constructions. I have argued that CP-complements, contrary to other arguments of the verb, are licensed within AspP of the selecting verb. As such they will be pied-piped by movement of AspP into the C-domain of the infinitival clause. If the entire phrase, as I have argued is moved into [Spec,AspP] of the selecting verb, we derive structures of the type of (6a), which are ungrammatical. In order to derive the grammatical (6b) we have to assume that CP-complements move out of the containing AspP at some point in the derivation. In the standard SOV approach this fact is accounted for by assuming that CP-complements are extraposed, that is, right-adjoined to VP or TP. So far, I have not addressed the issue of how extraposition can be accounted for in the antisymmetric approach. I will take up this issue in chapter 7, which deals with the complex interaction between verb cluster formation and extraposition.

- (6) a. \*weil Hans [[<sub>AspP</sub> zu sagen [<sub>CP</sub> dass er krank war]] versuchte]  
since Hans to say that he sick was tried  
'since Hans tried to say that he was sick'
- b. weil Hans [[<sub>AspP</sub> zu sagen] versuchte] [dass er krank war]  
since Hans to say tried that he sick was

## 6.2 The syntax of IPP-constructions

As I mentioned in chapter 1 (section 1.3.3), the (IPP)-effect occurs when a restructuring verb, for example, a modal verb, that selects 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 (7) and German in (8), where the infinitival forms *willen/wollen* replace the participial forms *gewild/gewollt* of the modal verb *want*.

- (7) a. \*dat Elsje hem een brief heeft **gewild** schrijven  
that E him a letter has wanted-PART write
- b. dat Elsje hem een brief heeft **willen** schrijven  
that E him a letter has want-INF write  
'that E has wanted to write him a letter'
- (8) a. \*dass Else ihm einen Brief schreiben **gewollt** hat  
that E him a letter write wanted-PART has  
'that E has wanted to write him a letter'
- b. \*dass Else ihm einen Brief schreiben **wollen** hat  
that E him a letter write want-INF has
- c. dass Else ihm einen Brief **hat** schreiben **wollen**  
that E him a letter has write want-INF

As the contrast between (7b) and (8b) shows, in German it is not sufficient to simply replace the participle with a bare infinitive, as it is 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 (8c). I will give an account of inversion in German in this context when I 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 (1899/1969, 195) put forth the hypothesis that the IPP-infinitive is a prefixless participle. I will adopt the hidden participle account for the following reasons: First, based on the distribution of participles, infinitives, and IPP-complements in West Flemish and Afrikaans, I will argue in section 6.2.1 that IPP-complements behave like participles and unlike infinitives. Second, 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.

### 6.2.1 The external syntax of IPP-complements

In chapter 3 (section 3.2), I discussed in detail the distribution of participles, infinitives, and IPP-complements in West Flemish, concluding that IPP-complements behave like participles rather than infinitival complements. To remind us of the essential regularities in West Flemish, (9) summarizes the distribution of participles, infinitives, and IPP-complements with respect to the selecting verb and the infinitival marker *te*.

(9) participle *te* IPP verb infinitival complement

To minimize the difference between participles and IPP-complements (hidden participles) I 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 [Spec,F2] of the selecting auxiliary (to check its subcategorization) and subsequently undergo further XP-movement to AspP. 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, unevicenced in all other West Germanic languages, is displayed. As is illustrated in (10), the participle is spelled out between the infinitival marker and the infinitival verb. Example (10) also provides the ultimate confirmation for my hypothesis that IPP-infinitives are hidden participles: In Afrikaans, participles and IPP-infinitives have exactly the same distribution. Compare (10) and (4b) from chapter 4 (section 4.1), repeated here as (11).

- (10) Jy behoort die lig af te geskage het  
 You ought the light off to turned have  
 'You should have turned the light off'

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

### 6.2.2 The internal syntax of IPP-complements

In this section, I provide an account of the IPP-effect, which I have left unexplained so far. I 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 was illustrated earlier for the case of West Flemish.

The IPP-effect occurs in restructuring contexts. One important feature of restructuring is the formation of verb clusters. I propose that the formation of verb clusters is motivated by the need of the dependent infinitive, due to a defective complementizer, to check the subcategorization of the selecting verb.

In section 6.1 earlier, I have discussed evidence that dependent infinitives are licensed in [Spec,AspP] of the selecting verb in German. Here I will assume that infinitives, like participles, move through [Spec,F2P] to [Spec,AspP] of the selecting verb. This assumption will be motivated in 6.2.3 on the basis of Frisian data.

Following Bech (1955/1983), I assume that a verb selects for the status of its nonfinite complement. That is, it determines whether the dependent nonfinite verb is a participle, a bare infinitive, or a to-infinitive. To explain the IPP-effect, I will make use of the particular structure of participles in West Germanic. 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 (cf. also vanden Wyngaerd [1994, 1996]). In the following I will show how the IPP-effect can be reduced to a structural incompatibility between the participial prefix and the infinitive dependent on the restructuring verb.

In the West Germanic languages that display the IPP-effect, the participle is formed by affixation of the prefix *ge* and the suffix *t/d*. I follow Halle and Marantz (1993) in assuming that inflected forms are (partially) derived in the syntax. More specifically, I propose that the participial prefix *ge* is inserted in [Spec,F2P] of the participial phrase. The verb in the participial phrase will first move to F2, to check its prefix, and then up to the Aspect-head to merge with the suffix that contains the temporal interpretation. In the final step the prefix left-adjoins to the complex of verb and suffix to form the participle before Spell-out. This is illustrated in (12). The participial prefix originally was an optional derivational morpheme separable from the verb that has become grammaticalized as an obligatory marker of the participle. In this account the prefix is base generated as an XP in the Specifier of a functional head. Since the prefix is both a maximal and a minimal projection it can incorporate into the inflected verb in the higher head position.

- (12) [<sub>AspP</sub> -t [<sub>F2P</sub> [ge] [F2 [<sub>VP</sub> V]]]]

If the verb in the participle phrase is a restructuring verb, then the dependent infinitive will move into [Spec,F2P] in the course of the derivation. It follows that a verb in participial form and a bare infinitive selected by such a verb rule each other

out. In this case the participial prefix is blocked by the dependent infinitive, that is to say, it cannot be inserted. The question now arises of why the pertinent verb is realized as an infinitive and not as a prefixless participle. To address this question it is useful to consider also the diachronic development of participles in general and that of restructuring verbs in particular.

In a synchronic account, one could assume that the blocking of the prefix leads to a violation of a selectional requirement, namely, of the requirement that a participle consist of a suffix *and* a prefix. The grammaticalization of the prefix, which initially was selected by the (aspectual properties of the) verb stem such that an imperfective verb would form its participle with the prefix but perfective verbs without it, can be accounted for by assuming that currently the prefix is selected by the participial suffix, which requires to combine with a verb stem and a prefix. In this account we can assume that the violation of this requirement is avoided in that (1) no phonological material is inserted in the Aspect-head that would require a prefix, that is, assume that the suffix is dropped, and (2) the verb remains in F2 and is spelled out with the default morphology of a bare infinitive. Instead a zero-morpheme is inserted in the head of AspP that contains the formal feature [+participle] and a semantic feature [+PAST] (or the condition that event time precede reference time in a Reichenbachian system). This is illustrated in (13).

- (13) [<sub>AspP</sub> 0 [<sub>F2P</sub> [dependent infinitive] IPP-infinitive<sub>i</sub> [<sub>VP</sub> t<sub>i</sub>]]]

From a diachronic perspective, it is important to note that modal verbs, which form a large portion of today's VR-verbs that trigger the IPP-effect, belonged to the class of strong verbs in Old High German and became weak verbs rather late, when compared to other verbs, at the end of the Middle High German period. In this scenario it is tempting to analyze IPP-infinitives as related to prefixless participles. Note that the participial ending of strong verbs is *en*, which is identical to the infinitival ending. Thus, with some verbs, depending on the ablaut-class of the stem, infinitive and prefixless participle were probably indistinguishable, as is illustrated in (14).

- (14) a. sehen-sah-(ge) sehen (infinitive, past tense, and participle of *see*)  
 b. lassen-ließ-(ge) lassen (infinitive, past tense, and participle of *let*)  
 c. Infinitive and past participle of the modals in OHG  
 können ('can')-cunnan-(gi)cunnan  
 dürfen ('may')-durfan-(gi)dorfan  
 sollen ('shall')-sculan-(gi)scolan  
 mögen ('want')-magan-(gi)magan  
 müssen ('must')-muozan-(gi)muozan

However, it is not known whether the strong forms of modals were still productive when the periphrastic perfect, which gave rise to the modern IPP-construction, had become fully grammaticalized in MHG. In some dialects, including my own, strong participles have been preserved, as is illustrated in (15). In (15a), the position of the auxiliary suggests that the form *wollen* should not be analyzed as an IPP-infinitive but

as a prefixless strong participle, an analysis that is corroborated by the appearance of the same form in a nominal context that does not license IPP-infinitives.

- (15) a. weil er das Buch lesen wollen hat  
 since he the book read want-Inf?/Part? has  
 b. weil er einen Kuchen wollen hat  
 since he a cake want-Part has

If strong participles were still productive—if only in dialects and the spoken language—at the time of the introduction of the IPP-construction, then we could assume that when the new participial forms that ended in *-t* were introduced, possibly first as optional variants, replacing the strong form in more and more contexts, prefixless participles in the IPP-context may have become too isolated to be recognized as participles and hence were reanalyzed as infinitives.

Note, however, that this scenario, though plausible, must remain a mere speculation, for several reasons. First of all, the constructed participial forms in (14) are not attested in texts. Only three participial forms of the class of *preterito-presentia*, which modal verbs belonged to, are attested in OHG texts: *giwizzan* ('known'), *vercunnan* ('been able'), and *gitorran* ('dared'). Moreover, periphrastic perfects were not yet grammaticalized in OHG times, implying that the source-construction for an IPP-infinitive did not exist in OHG. In MHG times, the periphrastic perfect had fully grammaticalized, but modals in this period lacked a participle according to MHG grammars. It is not clear whether this statement means that they still lacked the new weak form of the participle that developed late with modals or whether modals lacked a participle altogether. In the former case, a development as sketched in the scenario described earlier can be assumed. Note that even in this scenario, IPP-infinitives today cannot be interpreted as (leftover) prefixless strong participles since the modals *can* and *must* in IPP-contexts are marked with the umlaut that is confined to the morphological forms derived from the present stem (cf. *können* and *müssen* instead of *konnen* and *mussen*). In the latter case, we must assume that the infinitive was used as a suppletive form, since no participial form whatsoever was available. More research on the development and usage of modals in the MHG period is in order to shed some light on the development of IPP-infinitives, a type of research that is beyond the scope of this book. Nevertheless, the diachronic dimension is important since in both scenarios it can provide a reasonably good explanation of why the participle in restructuring contexts was replaced with an infinitive: At the time, the construction can be assumed to have developed modals either lacked participles altogether or displayed participles that looked like infinitives.

Independently of its diachronic conditioning, IPP-infinitives synchronically must be assigned a structure like (13), with the verb being spelled out with infinitival morphology in F2 and the presence of an additional morpheme in the Aspect-head that guarantees the correct temporal interpretation of the IPP-infinitive, since synchronically modals do possess participles that are formally quite different from IPP-infinitives.

Given the structure in (13), we can assume that further movement of true participles is triggered by the need to move the semantic feature of the participle up to the

Aspect-head of the auxiliary to be linked with the tense of the auxiliary. These assumptions derive the two-step movement process of participles. First the participle phrase moves into [Spec,F2P] of the auxiliary to check its status (its subcategory) with the auxiliary. Then it moves up into [Spec,AspP] to be linked with the tense of the auxiliary. The latter movement remains invisible in the case of an IPP-infinitive. Let us look at a concrete derivation.

In the derivation of the West Flemish example in (16a), the participle phrase will first move into [Spec,F2P] below the infinitival marker of the selecting verb *een*. Then movement of the AspP of the participle to the AspP of the selecting verb will move the participle in front of the infinitival marker. In the case of an IPP-infinitive, the latter step will only affect a phonologically empty morpheme, leaving the IPP-infinitive that is spelled out in F2P in the participial phrase behind. Stranding of the IPP-infinitive is only possible if the empty morpheme can be taken to undergo head movement (while the participle undergoes XP-movement) into the Aspect Phrase. The difference follows if we assume that only heads that contain phonological material can induce movement that pied-pipes the entire phrase. This stipulation is supported by the observation that [Spec,AspP] of the auxiliary is available for other material to move in, as will be shown later.

- (16) a. *mee Valere dienen book [AspP gekocht te [F2P [AspP gekocht [F2P]] een]]*  
with Valere that book bought to have
- b. *mee Valere dienen book [AspP 0 te [F2P [AspP 0 [F2P willen kuopen]] een]]*  
with Valere that book to want-IPP buy have

Returning to obligatory inversion with the IPP-complement of the auxiliary in German (cf. [8b–c]), I propose that finite and nonfinite verbs in German, contrary to West Flemish, always move up to the head of the Aspect Phrase, as is illustrated in (16c).<sup>2</sup> If the IPP-infinitive is stranded in [Spec,F2P] of the auxiliary, as I have argued earlier, it follows that the auxiliary precedes the infinitives in German (16c). Example (16c) also clearly demonstrates a case of leftward V-movement in German.

- (16) c. *dass Else ihm den Brief [AspP  $\uparrow$  hat<sub>i</sub> [F2P [AspP 0 [[schreiben] wollen]] t<sub>i</sub> [VP t<sub>i</sub>]]]*  
that Else him a letter has write want-IPP
- d. *dass Else ihm den Brief [AspP [AspP schreiben]<sub>i</sub> [AspP hat [F2P t<sub>i</sub> wollen]]]*  
that Else him the letter write has want-IPP

The analysis in (16c) is supported by data that indicate that the Specifier of the Aspect Phrase of the auxiliary is indeed available for other elements in this case. Bavarian dialects display the famous V3 V1 V2 order with IPP-infinitives, which can be analyzed, parallel to the movement of particles in Dutch, as movement of the dependent infinitive into the Specifier of the higher AspP, as is illustrated in (16d). A similar behavior can be seen in Afrikaans, which fills the highest AspP with the particle that belongs to the suffixless participle that stays behind in [Spec,F2P], as we have seen in (10) earlier.

Why then do IPP-infinitives and participles behave alike in Afrikaans while they differ in their distribution in the other West Germanic languages? Note that verbs in Afrikaans have lost all their endings. In particular, participles, while retaining the *ge-* prefix, have lost their *d/t-* suffix. It stands to reason that participles in Afrikaans, like IPP-infinitives in general, contain an empty morpheme in the Aspect-head, movement of which will fail to pied-pipe the participle in F2P below. Thus, I have assimilated my account of the IPP-effect in West Germanic to an independent fact in one of the West Germanic languages, namely, Afrikaans. In both cases, we find the morphology of the participle to be defective. In the case of IPP-infinitives, this is caused by the blocking of the prefix part of the participial morphology. In the case of the participle in Afrikaans, this is due to the general loss of verbal endings in this language.

We also have now an explanation for why it is that verbal elements in West Germanic do not normally appear between the infinitival marker and the infinitival verb (cf. in German and Dutch). The explanation is that only nonfinite verbs with defective morphology will remain there, while all others will just move through [Spec,F2P] on their way to the Aspect-head of the selecting verb. To conclude, the behavior of participles in Afrikaans provides good independent evidence for this account of IPP-infinitives in West Germanic.

### 6.2.3 What Frisian may teach us about the IPP-effect

It is a peculiarity of perception verbs in Standard German that they can optionally trigger an IPP-effect, as is illustrated in (17a–b). This case is to be distinguished from the case of the presence and absence of the IPP-effect with the permissive/causative verb *lassen* ('let', 'make'). Example (17c) exhibiting the IPP-effect is clearly distinct in meaning from (17d). While (17d) can only mean 'he allowed her to continue to sing' (presupposing that she was already singing), (17c) can mean 'he caused her to start to sing' (presupposing that she did not sing already). In (17a–b), however, no similar or for that matter, any other difference in meaning can be observed between the a and b examples to the best of my knowledge.

- (17) a. *weil Hans die Maria nicht hat kommen hören/sehen*  
since Hans the Maria not has come hear/see-IPP  
'Hans did not hear/see her come'
- b. *weil Hans die Maria nicht kommen gesehen/gehört hat*  
since Hans the Maria not come seen/heard has
- c. *weil Hans die Maria hat singen lassen*  
since Hans the Maria has sing let-IPP  
'Hans caused Maria to sing'
- d. *?weil Hans die Maria singen gelassen hat*  
since Hans the Maria sing let-PART has

The optionality in (17) is problematic for any account of the IPP-effect. However, I will provide another argument (see chapter 5 for an initial argument derived

from the syntax of coherent to-infinitives) that German has two types of infinitives, which are accidentally homophonous and only one of which triggers the IPP-effect. Contrary to German, Frisian also formally distinguishes two infinitives: the regular infinitive ending in *e*, called the Nammefoarm, and the so-called Doelfoarm, ending in *en*. About Doelfoarms Tiersma (1985) makes the following statement in his *Frisian Reference Grammar*: "These forms may function as verbs, in which event they are very similar to infinitives; or as nouns, in which case they are gerundives."<sup>3</sup> Now, it is interesting to note that the group of verbs that select the Doelfoarm in Frisian largely overlaps with restructuring verbs that do not trigger an IPP-effect in German. According to Wolf (1997), the two infinitives are in complementary distribution in Standard Frisian. Doelfoarms occur, among other places, after the infinitival marker *te*, in the complement of perception verbs, and in the complement of *bliuwe* ('remain'). Nammefoarms (the regular infinitives) occur in most other positions, for example, in the complement of *litte* ('let'). Example (18) is taken from Wolf (1997).

- (18) a. Ik kin har der rinnen sjen  
 b. \*Ik kin har der rinne sjen  
 I can her there run see  
 c. \*Ik sil har mar restich lezen litte  
 d. Ik sil har mar restich leze litte  
 I will her just calmly read let

Wolf (1997) also notes that in Dutch both infinitives are used as well, but that they can freely alternate. Compare (18) with (19).

- (19) a. Ik kan haar daar zien lope(n)  
 I can her there see run  
 b. Ik zal haar maar rustig laten leze(n)  
 I will her just calmly let read

This suggests that the (morphological) distinction between Doelfoarm and Nammefoarm has been lost in Dutch. Since the IPP-effect is so pervasive with VR-verbs in Standard Dutch, it stands to reason that these speakers analyze both phonetic forms as Nammefoarms (the two endings are analyzed as free allomorphs of the morpheme that represents the Nammefoarm).

In Standard German, there is only one infinitival form that ends in (*e*)*n*. We may assume, however, that the ending (*e*)*n* is a homomorph that represents two different infinitival morphemes, one that has the feature [+D] (for Doelfoarm) and one that has the feature [-D] (for Nammefoarm). Then we can assume that perception verbs in Standard German are special in that they can select both types of infinitives.<sup>4</sup> *Lassen* ('let') in one of its meanings, namely, 'allow to remain', selects the German version of the Doelfoarm, and in its other meaning, namely, 'allow to begin', it selects the German version of the Nammefoarm. *Lassen* in its first meaning can thus be analyzed as the transitive version of *bleiben* ('remain'), which, in German, like in Frisian,

selects a Doelfoarm. That *lassen* in its causative meaning only selects a Nammefoarm is consistent with this analysis, since to cause something means bringing about something that was not there before (making something start).

If this analysis is correct, then we could assume that Nammefoarms are checked in [Spec,F2P] and Doelfoarms are checked in [Spec,AspP] of the selecting verb. In the first case, the dependent infinitive would trigger an IPP-effect (by interfering with the *ge*-prefix in [Spec,F2]). In the latter case, the dependent infinitive would not trigger an IPP-effect. This account then raises the question of why IPP-infinitives are never found with particle verbs. Under this analysis, IPP-infinitives and verb-particles should not be incompatible: The infinitive is licensed in [Spec,F2P] and the particle is licensed in [Spec,AspP] of the selecting verb. In this account, I would have to either stipulate that particle verbs only select Doelfoarms or assume that Nammefoarms also have to move into [Spec,AspP] as well, in order to check some feature. The latter assumption is necessary anyway, since a Nammefoarm selected by a modal always has to precede the infinitival marker in the Aspect-head, as I noted in section 6.1 earlier and is illustrated again in (20).

- (20) a. \*ohne das Buch [<sub>AspP</sub> zu [<sub>F2P</sub> [lesen] wollen]]  
 without the book to read want  
 b. ohne das Buch [<sub>AspP</sub> [lesen] zu [<sub>F2P</sub> wollen]]  
 without the book read to want  
 'without wanting to read the book'

Is there any evidence that Nammefoarms indeed move through [Spec,F2P] rather than moving directly into [Spec,AspP]? De Haan (1992) notes that there is a variety of Frisian, called Dutchified Frisian or Interference Frisian, henceforth IF, in which the distinction between Nammefoarm and Doelfoarm is in the process of being lost. IF is mostly spoken by young people and seems to be the result of the heavy influence of the Dutch language on the Frisian-speaking minority in the Dutch province of Frisia (cf. De Haan [1996] and Wolf [1997] for some discussion of the considerable changes in the linguistic situation in Frisia in the past decades).

The interesting fact about the recent changes in IF is that concomitant with the loss of the morphological distinction between infinitives, infinitives in IF may<sup>5</sup> fail to precede the selecting verb as they do in German and Standard Frisian (SF). Compare the sentences in (21), taken from De Haan (1996).

- (21) a. SF sunder ferfelend weze te wollen  
 without boring be[-D] to want [+D]  
 'without wanting to be boring'  
 b. IF sunder ferfelend te wolle\_ weze  
 without boring to want be

The infinitives in (21) differ in both their syntactic positioning and their morphological marking. While the infinitives in SF must be analyzed as marked for

[+/-D], all the infinitives in IF can be analyzed either as Nammefoarms or simply as unmarked for the feature [+/-D]. De Haan points out that speakers of IF not only produce structures like (21b), which is essentially the Standard Dutch order in a verbal complex that comprises a to-infinitive, but also structures as in (21c), where the dependent infinitive appears between the infinitival marker and the infinitival verb.

- (21) c. IF *sunder syn auto te meitsje litte*  
 without his car to repair let  
 'without letting repair his car'

I interpret the occurrence of verbal complexes like (21c) in the following way: Since the order of verbs in (21c) is possible neither in SF nor in Standard Dutch, speakers of IF who produce verbal complexes of the type of (21c) must follow a principle of UG, namely, that infinitives move through [Spec,F2P] at some point in the derivation. Speakers who produce verbal complexes of the type in (21b) and speakers who produce verbal complexes of the type in (21c) only seem to differ in their interpretation of the morphological breakdown of infinitival forms, that is, in their interpretation of whether there is any morphological feature (a non-binary feature) left that needs to be checked overtly.

Wolf (1997) in his very interesting statistical investigation of the recent changes in the verbal complex in Frisian notes that structures of the type of (21c) are rather rare compared to structures of the type of (21b). The frequency of structures like (21c) is only between 3 and 10 percent. Assuming that speakers do not make arbitrary mistakes, I treat the occurrence of sentences like (21c), despite their low frequency, as significant and attribute their low frequency to sociolinguistic factors that lead speakers to settle predominantly for the Standard Frisian or the Standard Dutch order.

Given this evidence from IF, I propose that those infinitives in German that correspond to the Nammefoarm in Frisian move through [Spec,F2P] on their way to [Spec,AspP]. This raises the question of which property of these infinitives in German requires this double checking in both [Spec,F2P] and [Spec,AspP]. We can assume that both Nammefoarms and Doelfoarms have to check the subcategorization of the selecting verb. Thus, we should expect that there is a difference in temporal linking between the two forms.

Enç (1986) has argued convincingly that verbs need to be linked with Tense, while nominals are interpreted independently of Tense (this was one of her major arguments against treating Tense as a [sentential] operator).<sup>6</sup> If it turns out that it is correct to interpret Nammefoarms as verbal infinitives and Doelfoarms as nominal infinitives (or gerunds), then we can assume that F2P is responsible for the temporal linking of dependent nonfinite verbs. Nammefoarms as verbal infinitives can then be taken to move into [Spec,F2P] to be temporally anchored to the matrix event time and move on into [Spec,AspP] to check the subcategorization of the selecting verb, while Doelfoarms as nominalized infinitives move directly into [Spec,AspP] to the check the subcategorization of the matrix verb.

This treatment of one type of infinitives as nominalized verbs that do not need (the same type of) temporal anchoring as verbs do can help us understand the difference in meaning in (17c-d) earlier. I have noted that the singing event that is designated by the nominal infinitive in (17d) is interpreted temporally independently of

the matrix event. This would suggest that in principle a difference in meaning is also present in (17a-b), but that this difference is leveled out by the semantics of a verb of direct perception. I will have to leave this issue for further research.

One advantage of this analysis of the checking positions in German verb clusters is that it helps us to consolidate the analysis of coherent to-infinitives given in chapter 5. Recall that I assumed that an infinitival marker *zu* that is not temporally anchored selects a nominalized infinitive (the gerund). In this analysis, the coherent to-infinitive is directly moved into [Spec,AspP] during restructuring and remains temporally unlinked throughout the derivation (preserving the selectional properties of *zu*).

In sum, the distinction between the Nammefoarm and the Doelfoarm not only can help us explain the presence or the absence of the IPP-effect but also sheds some light on the role of the different licensing positions in German verb clusters. In the following chapter I will therefore assume that this distinction is relevant also in (modern) German and will refer to the Nammefoarm and the Doelfoarm as (verbal) infinitive and nominal infinitive or gerund, respectively.

To return to the appearance of the IPP-effect, the distinction between the two types of infinitives seems to me to be the best means for accounting for the considerable dialectal variation in the occurrence of the IPP-effect. I have mentioned earlier that Dutch VR-verbs are pervasive in displaying the IPP-effect. However, the situation is different in the various dialects. There are dialects where the same verb that displays the IPP-effect in the standard does not display it. Given the distinction between Nammefoarm and Doelfoarm, we may then simply account for this divergence by assuming that these dialects are more conservative in preserving the Doelfoarm.

### 6.3 Right-branching verb clusters in German

While the prevalent order in German verb clusters is the one that results from a strictly left-branching structure, that is,  $V_4 V_3 V_2 V_1$  for a four-member cluster, with  $V_1$  being the matrix verb, which is illustrated in (22a), right-branching structures are possible as long as the two most deeply embedded verbs show a left-branching structure. This is illustrated in (22b), which shows a verb cluster of the type  $V_1 V_2 V_4 V_3$ .

- (22) a. *weil er den Text [[[lesen] können] müssen] wird]*  
 since he the text read can must will  
 b. *weil er den Text [wird [müssen [lesen können]]]*  
 since he the text will must read can  
 'since he will have to be able to read the text'

The formation of right-branching verb clusters is also subject to the following condition: Once a right-branching structure is introduced at one level—as is possible as soon as we have a three-member verb cluster as in (23a)—the structure has to be right-branching also at the next level. This is illustrated by the ungrammaticality of the verb cluster in (23b), which shows a left-right-branching order.



- (23) a. weil er den Text muss lesen können  
since he the text must read can  
'since he must be able to read the text'
- b. ??weil er den Text [[müssen [lesen können]] wird]  
since he the text must read can will

Given the (restricted) possibility of having right-branching verb clusters in German, it is striking that right-branching verb clusters cannot be topicalized (24a), with the exception of a right-branching cluster that ensues from an IPP-infinitive, as is given in (24b), which only yields a mildly deviant result. Contrary to the situation in German, right-branching verb clusters prevail in Dutch, as we have seen in chapter 3 (section 3.1), and these verb clusters can be topicalized as they are (24c).

- (24) a. ?\*[müssen lesen können] wird er den Text  
must read can will he the text
- b. ?[haben lesen wollen] wird er den Text  
have read want-IPP will he the text  
'he will have wanted to read the text'
- c. [hebben willen lezen] zal hij het boek  
have want-IPP read will he the book  
'he will have wanted to read the book'

The data in (24) suggest that right-branching verb clusters in Dutch differ from right-branching verb clusters in German. The variation in order illustrated in (22) seems to be of a stylistic nature or, more precisely, of a prosodic nature. Also, the condition that a right-branching order triggers a right-branching order at the next level up seems to be of a prosodic kind in Germanic. Koopman and Szabolcsi (2000) provide a systematic syntactic account of why right-branching verb clusters trigger right-branching in the higher cycle in Hungarian verb clusters. In Germanic, however, such a condition can be overruled if the syntactic derivation requires such an order as is the case with IPP-constructions in West Flemish and Afrikaans, which display the order V2 V3 V1.

One way to account for the soft nature of this condition is to assume that (23b) only violates a prosodic condition. Violation of this condition yields a (prosodically) marked structure that is grammatical if there is no alternative derivation but counts as ungrammatical if there is an alternative derivation or Spell-out option available. This condition can be formulated as a constraint on the mapping between syntactic and prosodic constituents, as given in (25a). Furthermore, to prevent verb clusters that are entirely right-branching in Standard German (the situation is different in the dialects), the condition in (25b) can be assumed to hold.

- (25) a. A right-headed phonological phrase in a verb cluster must sit on a right branch with respect to the non-head.
- b. The most deeply embedded phonological phrase in a verb cluster must be left-headed.

I have argued earlier that (coherent) infinitives in German first move to [Spec,F2P] and then to [Spec,AspP] of the selecting verb, while the selecting verb, whether finite or not, always moves to the head position of the Aspect Phrase. Given the conditions in (25), we can then assume that German allows dependent infinitives to be spelled out either in [Spec,F2P] or in [Spec,AspP]. Thus, (23a) is analyzed as given in (26a), with the Spelled-out copy in bold letters. The condition in (25a) then ensures that a right-branching verb cluster like (26a) must be spelled out in the lower Specifier included in the right branch of the selecting verb in the next cycle up. The parallel structures of the phonological phrases are given in (26c-d).

- (26) a. weil er den Text [<sub>AspP</sub> [lesen können] [**muss** [<sub>F2P</sub> [**lesen können**]]]]
- b. weil er den Text [<sub>AspP</sub> [müssen lesen können] [**wird** [<sub>F2P</sub> [**müssen lesen können**]]]]
- c. (muss ((lesen) können))
- d. (wird (müssen ((lesen) können))) versus \* ((müssen ((lesen) können)) wird)

This account in terms of variable Spell-out is supported by historical findings. Ebert (1980) observes that the order within the verbal complex is almost entirely free in early Modern German, subject only to prosodic constraints that favored sequences that alternated weak and strong elements.<sup>7</sup> The current state of affairs can then be seen as the result of a development in which certain prosodic patterns were favored while alternative patterns became increasingly marked.

As for the difference in topicalizability of right-branching verb clusters in German and Dutch, I want to propose that it is the Aspect Phrase, not the VP itself, as proposed in Chomsky (1998, 2001), that constitutes a (strong) phase, implying that extraction out of a verb cluster is only possible via [Spec,AspP], with that Specifier constituting the left edge of the phase.

In Chomsky's theory of phases, the access to the lexicon is a onetime selection of a lexical array LA. LA enters the derivation in different steps. In each step a subarray of LA is put in active memory. The syntactic object that is formed when a subarray is exhausted is called a *phase*. Furthermore, Chomsky assumes that VPs and CPs, but crucially not IPs, are strong phases. A derivation by phases involves a cyclic Spell-out of (sub)structures, the point of which is determined by (27). Computation is strictly local and constrained by the Phase Impenetrability Condition as given in (28).

- (27) Evaluation for a phase is done at the level of the next highest strong phase.

- (28) *Phase Impenetrability Condition* (PIC)

The complement of a strong phase *a* is not accessible to operations at the level of the next highest strong phase *b*, but only the head and the edge of *a* are.

The term *evaluation* in (27) is meant to indicate the moment in which Spell-out takes place. After Spell-out only the entire phase or its edges are still accessible for further computation. Given (28), the assumption that the Aspect Phrase constitutes a strong phase will constrain VP-topicalization in the following way.

Since a right-branching verb cluster in German is derived via Spell-out in the lower [Spec,F2P], the escape hatch in the Aspect Phrase for a right-branching verb cluster is blocked by its own copy (cf. [26b]). A topicalized right-branching verb cluster, as in (24a), can only be derived if the verb cluster (*müssen lesen können*) is spelled out in [Spec,AspP] of the matrix verb. Then it can be extracted from the matrix Aspect Phrase and be topicalized without inducing a syntactic violation. However, (24a) is rendered ungrammatical since it adduces a prosodic violation in the course of the derivation. If Spell-out obtains cyclically as determined in (27) earlier, the derivation of (24a) involves a violation of the prosodic condition in (25a) in the cycle of the matrix Aspect Phrase, although it does not violate the condition at the end of the derivation. Since there is an alternative derivation that does not violate the prosodic filter, namely, the derivation that spells out the cluster *lesen können* in the higher Specifier in the lower cycle, (24a) is ungrammatical.

In the case of the right-branching cluster that involves an IPP-infinitive in (24b), however, an alternative derivation is not available, since the IPP-infinitive only moves to [Spec,F2P] in the lower cycle, as I have argued in the previous section. Since IPP-infinitives cannot be optionally spelled out in the lower or higher Specifier, there is no alternative derivation that does not violate the prosodic condition, and since the derivation of (24b) does not involve a syntactic violation, besides the prosodic violation, the result is marked but grammatical.

In Dutch, dependent infinitives are licensed in [Spec,F2P] alone (see later discussion) such that the local [Spec,AspP] is (1) available for particles to climb and (2) free as an escape hatch for topicalization, which will be discussed in detail in the following chapter.

To sum up, I have provided an account of rather subtle differences in (23) and (24) that rests on three assumptions: (1) the Aspect Phrase (not the VP) constitutes a phase, (2) Spell-out is cyclic (rather than ensuing at the end of the entire derivation), and (3) there are interface constraints (like the mapping rules between syntactic structure and prosodic structure in [25]) whose violation only leads to ungrammaticality under certain conditions.

Finally, right-branching verbal complexes in German provide evidence that Standard German (not only some of its dialects) allows for VPR. First, note that entirely left-branching verb clusters are ambiguous between a VR- and VPR-analysis. Thus the sentence in (29a) can be analyzed as being either the result of VR (29b) or the result of VPR (29c).

- (29) a. weil er das Buch lesen wollte  
since he the book read wanted
- b. [<sub>CP</sub> weil [er [<sub>PrepP</sub> das Buch [<sub>AspP</sub> [lesen] wollte]]]]
- c. [<sub>CP</sub> weil [er [<sub>PrepP</sub> [<sub>AspP</sub> [das Buch lesen] wollte]]]]

In the previous section, I have argued that in IPP-constructions the IPP-infinitive stays in [Spec, F2P] below the position to which the temporal auxiliary moves to. In this position, the auxiliary precedes quite naturally manner adverbs and material licensed

in PredP belonging to the dependent infinitive, as is illustrated in (30a–b). Example (30c) shows that even definite DPs can undergo VPR in German; (30c) is taken from Haider (1991).

- (30) a. weil er das Buch **hat langsam** lesen wollen  
since he the book has slowly read want-IPP  
'since he wanted to read the book slowly'
- b. weil er ihr das Buch **hat zur Verfügung** stellen wollen  
since he her the book has to availability put want-IPP  
'since he wanted to make the book available for her'
- c. weil er für ihn nicht **hat die Firma am Leben** halten wollen  
since he for him not has the company on life keep want-IPP  
'since he did not want to keep the company alive for him'

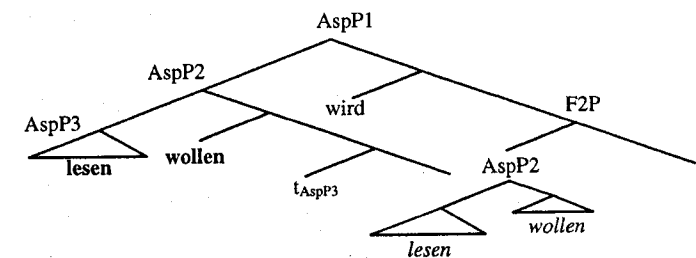
#### 6.4 Overview of the structure of verb clusters

In this section, I want to summarize the structural representations of the different verb clusters in German, Dutch, and West Flemish. In the following examples, characters in boldface represent copies of constituents that are spelled out, whereas characters in italic represent copies in checking positions that are not spelled out. Let us start with German.

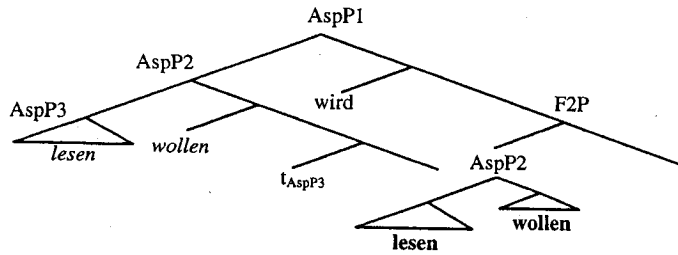
##### 6.4.1 Verb clusters in German

In German, both finite and nonfinite verbs move into the head position of the Aspect Phrase. A dependent infinitive undergoes checking movement into [Spec,F2P] to be temporally linked and subsequently into [Spec,AspP] to check the subcategorization of the selecting verb. In a left-branching verb cluster the dependent infinitive is also spelled out in [Spec,AspP]. In a right-branching verb cluster, however, the infinitive is spelled out in [Spec,F2P] below. This is illustrated in (31a–b).

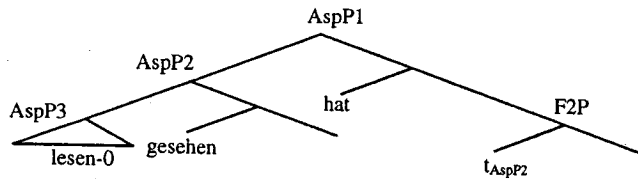
- (31) a. left-branching dependent infinitive in German: *lesen wollen wird*



b. right-branching dependent infinitive in German: *wird lesen wollen*

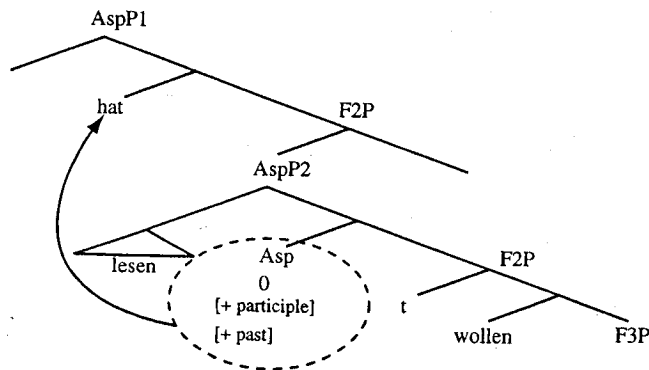


c. verb cluster that involves a gerund: *lesen gesehen hat*

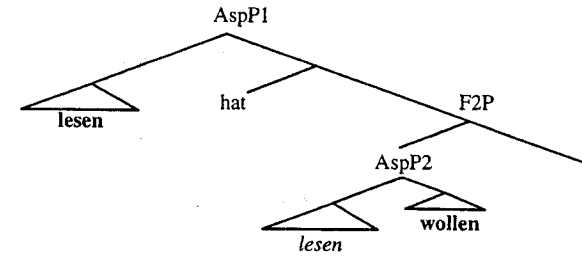


Contrary to a dependent infinitive, a gerund is directly moved into [Spec,AspP] failing to induce an IPP-effect, as is illustrated in (31c). An IPP-infinitive, like other infinitives, is licensed in [Spec,F2P] of the selecting verb but does not move on into [Spec,AspP]. Only the empty participial morpheme undergoes head movement to the head of AspP. This is illustrated in (32). Since [Spec,AspP] of the temporal auxiliary remains empty, the finite verb appears in front of the other verbs of the verb cluster in Standard German (*Inversion*). In Bavarian dialects, this position is regularly filled with the dependent infinitive (*Zwischenstellung*), as is illustrated in (32b).

(32) a. external and internal structure of an IPP-infinitive: *hat lesen wollen*



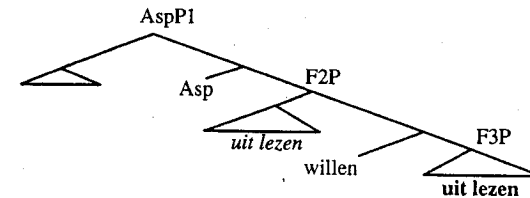
b. IPP-infinitive in Bavarian: *lesen hat wollen (Zwischenstellung)*



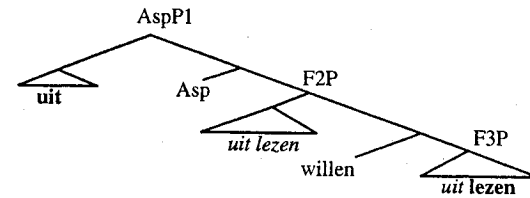
6.4.2 Verb clusters in Dutch

For Dutch, we must assume that F2P is responsible for the temporal linking as well as for checking the subcategorization with infinitives, since particles can raise in the verb cluster. Since Dutch verb clusters are predominantly right-branching, I assume that dependent infinitives undergo licensing movement into [Spec,F2P] of the selecting verb but are spelled out in the licensing position of the containing CP, that is, in [Spec,F3P] of the selecting verb. The Specifier of the Aspect Phrase in a Dutch verb cluster is empty and can thus be used for the preposing of verb particles, as is illustrated in (33).

(33) a. right-branching dependent infinitive in Dutch: *(zal) willen uitlezen*



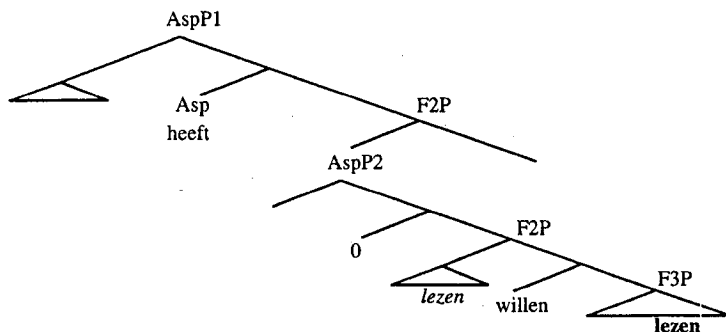
b. particle-raising: *(zal) uit willen lezen*



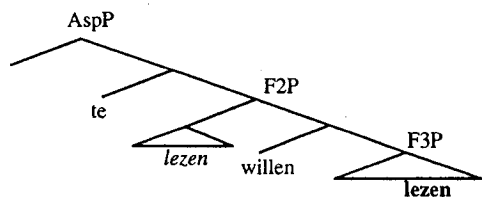
A dependent infinitive in an IPP-construction is spelled out in [Spec,F3P], while the IPP-infinitive is spelled out in the head position in F2, since the head of the Aspect Phrase, like in German, is occupied by the empty participial morpheme, as is

illustrated in (34a). Assuming that Dutch nonfinite verbs move at least as high as the head position of F2P, dependent infinitives and IPP-infinitives are analyzed parallel to the position of the infinitive in *te*-infinitives (cf. [34a–b]).

(34) a. verb cluster that contains an IPP-infinitive in Dutch: *heeft willen lezen*



b. verb cluster that contains a *te*-infinitive: *te willen lezen*

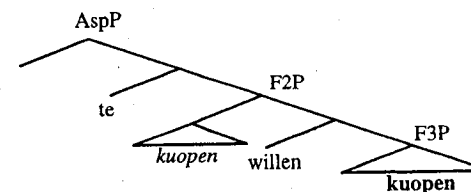


In conclusion, Dutch dependent infinitives differ in two respects from their German counterparts. First, they are not licensed in the highest Specifier position in the V-domain, allowing for particles to climb in the verb clusters. Second, given that Dutch nonfinite verbs like their West Flemish counterparts do not move to the Aspect-head, a dependent infinitive in Dutch is not spelled out in [Spec,F2P] but in [Spec,F3P] below. This has important consequences as far as the possible topicalization of parts of the verb cluster is concerned, as we will see in chapter 7.

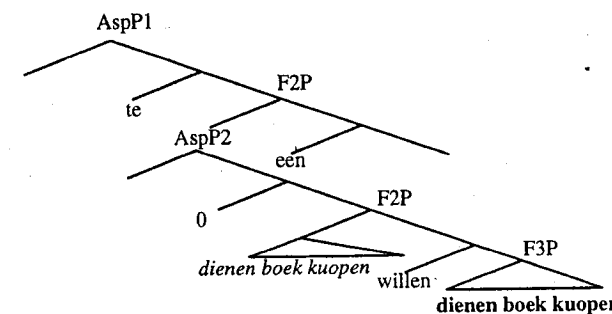
### 6.4.3 Verb clusters in West Flemish

In West Flemish, as in Dutch, dependent infinitives are checked in [Spec,F2P] of the selecting verb but must be taken to be spelled out in [Spec,F3P], since, as we have already seen in chapter 3, nonfinite verbs in West Flemish fail to move up to the head of the Aspect Phrase. Only IPP-infinitives are checked and spelled out in [Spec,F2P], while participles in West Flemish move through F2P and are licensed and spelled out in [Spec,AspP], as is illustrated in (35).

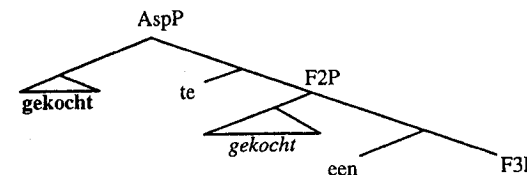
(35) a. verb cluster that contains a dependent infinitive in WF: *te willen kuopen*



b. verb cluster with an IPP-infinitive in WF: *te willen dienen boek kuopen een*



c. verb cluster that contains a participle in WF: *gekocht te een*



West Flemish shows that participles clearly have a different distribution from infinitives in the verb cluster. The partial parallelism in the distribution with IPP-infinitives indicates that participial verbs move into [Spec,F2P] for temporal linking and for checking the subcategorization of the selecting verb. Contrary to infinitives, however, participial phrases move on into [Spec,Asp] of the selecting verb to make the temporal information contained in the participial morphology available (visible) for the rest of the derivation. This is an effect of the phase condition discussed earlier.

### 6.4.4 Conclusions

To summarize, German, on the one hand, and Dutch and West Flemish, on the other hand, differ in the amount of movement of nonfinite verbs in the clause. While in German finite and nonfinite verbs always move to the highest head in the VP-phase,

that is, the head of the Aspect Phrase, only finite verbs in Dutch and West Flemish move to this position, with nonfinite verbs only moving up to the head of F2P. This has important consequences for the analysis of verb clusters. A dependent nonfinite verb in a left-branching verb cluster in German must be analyzed as occupying [Spec,AspP] preceding the selecting verb in Asp<sup>0</sup>. A dependent nonfinite verb in a right-branching verb cluster in Dutch or West Flemish must be analyzed as occupying [Spec,F3P] following the selecting verb in F2<sup>0</sup>.

Independently of these surface facts, we have seen evidence that indicates that the licensing position that dependent nonfinite verbs in the three languages share is [Spec,F2P], where I argued that dependent verbs are temporally linked to the matrix event. The three languages, however, differ in the positions in which they check the subcategorization of the selecting verb as well as in the positions in which they spell out dependent nonfinite verbs.

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## Open Issues: Extraposition, VP-Topicalization, and the Status of Gerunds

**I**n this chapter, I would like to address questions that are left open by the account that I have developed in this book. Furthermore, I would like to tie up some loose ends and bundle certain observations, foremost about the role of gerunds, that are scattered in different chapters throughout the book.

The first issue pertains to extraposition, a notoriously difficult topic within anti-symmetric approaches. To be clear from the outset, I am not even *trying* to devise a theory of extraposition within a universal base approach. Such a theory would involve finding out the triggers and licensing positions of the different types of extraposition and is well beyond the scope of this book. I will only address one case of extraposition, namely, that of CP-complements, that is problematic due to the account of sentential complementation developed in chapter 4. Because of their licensing requirements, CP-complements become part of the verb cluster (they are licensed by movement into [Spec,F3P] of the selecting verb) and due to the PIC become inaccessible for further computation. Clearly, this is an unwanted result, since CP-complements (1) can be topicalized and (2) must be extraposed from left-branching verb clusters. The account that I provide is a technical solution to this particular problem and does not claim to be a solution to extraposition in general.

The second issue concerns the topicalization of verb projections in coherent infinitives. As we have seen in chapter 5, topicalization of the verb cluster or the dependent infinitive alone is one criterion for detecting a coherent construction. However, the test of topicalization also shows that large parts of the embedded clause can also be topicalized, even with verbs that restructure obligatorily. This is a hard problem, which to my knowledge has not been given a satisfactory explanation so

far. I will outline an account that takes advantage of the availability of the two kinds of infinitives in West Germanic. I argue that the two forms are in partial competition with each other, with the gerund functioning as a means of last resort. Though some questions of mostly technical execution remain, this account paves the way to a general solution to this problem.

Finally, I will address the observations that I made about gerunds in different places in the last two chapters and try to tie them together to a coherent account of the structure and the role of gerunds in West Germanic.

### 7.1 Verbal complexes and the distribution of CP-complements

As pointed out at the end of section 6.1, left-branching verb clusters pose a problem for my account of the licensing of CP-complements. In chapter 4, I have argued that CP-complements are licensed in [Spec,F3P], just above VP, by checking the features of the complementizer against the subcategorization properties of the selecting verb. Since the German verb moves up to the Aspect-head and the entire Aspect Phrase in front of the selecting verb in the formation of a German verbal complex, CP-complements are incorrectly predicted to show up within verb clusters, as is illustrated again in (1a). Furthermore, it is not clear how the correct distribution of CP-complements to the right of the entire verb cluster is to be derived in an antisymmetric approach (1b) (see also Lattewitz [1997]).

- (1) a. \*weil Hans [[<sub>AspP</sub> zu sagen [<sub>CP</sub> dass er krank war]] versuchte]  
 since Hans to say that he sick was tried  
 'since Hans tried to say that he was sick'
- b. weil Hans [[<sub>AspP</sub> zu sagen] versuchte] [dass er krank war]  
 since Hans to say tried that he sick was

Note, however, that the assumption that CP-complements are licensed inside the Aspect Phrase of the selecting verb not only raises problems with respect to left-branching verb clusters. Given our assumption that the Aspect Phrase constitutes a strong phase, the question arises how CP-complements, being deeply embedded within the verb cluster, can ever be moved out of the matrix Aspect Phrase in the final cycle. Consider, for instance, that CP-complements can be topicalized in the matrix clause, that is to say, can be moved into [Spec,CP] of the matrix clause after restructuring has applied (2a).

- (2) a. [dass er krank war] hat Hans [<sub>AspP</sub> [zu sagen t] versucht]  
 that he sick was has Hans to tell tried  
 'Hans has tried to say that he was sick'
- b. [zu sagen dass er krank war] hat Hans mehrmals versucht  
 to say that he sick was has Hans several times tried

Thus, the account of CP-licensing given in chapter 4 cannot be complete, not even for right-branching verb clusters. In right-branching verb clusters the distribution of verbs and CP-complements correctly follows from the fact that the dependent infinitive with its CP-complement is spelled out in a position to the right of the selecting verb, but extractability remains a problem also for right-branching verb clusters.

One way to solve this problem would be to assume that CP-complements move out of the local Aspect Phrase before the latter moves into the Aspect Phrase of the higher verb. This raises the question of what the motivation of CP-complements could be to undergo additional movement after having been formally licensed. In the standard SOV approach to the syntax of West Germanic, it is assumed that CP-complements must be extraposed, that is, right-adjoined to the local IP/TP. To my knowledge, no satisfactory motivation has been proposed for this kind of movement. Furthermore, there is the issue that in cases of VP-topicalization the CP-complement can be pied-piped by the movement of the selecting verb, seemingly implying that the CP-complement may also stay within the Aspect Phrase of the selecting verb (assuming for the time being that VP-topicalization involves movement of the Aspect Phrase), as is illustrated in (2b).

I have no genuine insight to offer on the nature of extraposition and its motivation. I will outline an account of extraposition in the standard theory that explains the data in (2). Then I will provide a parallel account in the antisymmetric approach. This account, like the standard account, merely constitutes a technical solution to the problem posed by the data given in (2). Thus, the purpose of this section is not to provide a novel account of extraposition but simply to sketch an account that is at least as good as the standard approach to extraposition.

The standard account that I will adopt and modify is the treatment of extraposition by Buring and Hartmann (1997) (henceforth B&H). Among other issues, this article is concerned with the fact that verbs can both pied-pipe and strand their CP-complement in cases of VP-topicalization. Let us have a look at a typical example.

- (3) a. [zeigen dass die Erde eine Scheibe ist] möchte er  
 show that the earth a disk is wants he
- b. [zeigen] möchte er [dass die Erde eine Scheibe ist]  
 show wants he that the earth a disk is  
 'He wants to be able to show that the earth is a disk'

To account for cases like (3), they propose a dynamic account of VP-topicalization that assumes that there is no particular or unique position for extraposition. Pied-piping of the CP-complement in (3a) requires that the CP is adjoined to the VP, while stranding of the CP-complement in (3b) requires that the CP is adjoined higher than the VP, say, IP. They argue that the variability of adjunction sites can be derived from the following trigger condition on extraposition. Government in (4) is defined, following van Riemsdijk and Williams (1981, 291), as given in (5).

- (4) Finite sentences may not be governed by V or I.

- (5) X governs Y iff (a) X-c-commands Y and  
(b) XP is the smallest maximal projection that contains Y.

According to them, this filter is reminiscent of Stowell's Case-Resistance Principle (cf. Stowell [1981]) and rules out finite sentences in their base position. In effect, the clause has to flee from the government domain of  $V^0$  and  $I^0$ . According to B&H, this can be achieved in three ways. Either the clause is extraposed, that is to say adjoined to IP, or it can be topicalized alone or together with the VP. In the last case, adjunction to VP is sufficient in order to fulfill (4), since a clause adjoined to VP in [Spec,CP] is outside of the government domain of  $I^0$  and  $V^0$ .

This is a rather elegant account that derives the different adjunction sites from the general freedom of move alpha. Extraposition as an instance of move alpha may in principle target any position provided that the resulting structure fulfills the condition in (4).

To translate this account into a minimalist framework is not a trivial issue. In minimalism, movement is assumed to be triggered and non-optional, in the sense that movement cannot freely target either category A or B or C. Note also that in a derivational approach we face a look-ahead problem with respect to the target of extraposition: At the point of the derivation where it is to be decided whether extraposition is to target the VP of the selecting verb or some other XP, it is not known whether VP-topicalization does apply or not. Thus, a derivational approach to extraposition must assume that there is only one extraposition site and derive the variable distribution of CP-complements in VP-topicalization in other ways. Also, there is a technical difficulty with B&H's approach: In cases where the CP-complement is stranded by VP-topicalization, as illustrated in (3b), the CP is governed by the finite verb when extraposed to the matrix IP and is governed by (the trace of)  $I^0$  when it is extraposed to the VP projected by the matrix verb. B&H must assume that if  $I^0$  moves to  $C^0$  the trace of  $I^0$  does not count as a governor while it is standardly assumed that I-to-C movement would extend the government domain of  $C^0$  (cf. Baker [1988]). However, if the trace of  $I^0$  does not count as a governor, then the matrix IP protects the CP-complement adjoined to the VP projected by the matrix verb from government by the verb in  $C^0$ .

In minimalism we cannot make use of the restricted notion of locality as defined by government. Replacing government with C-command, we cannot assume that it is the verb that triggers extraposition, since all material to the right of the finite verb in  $C^0$  is in the C-command domain of the verb in V2-clauses. Thus, I propose to replace (4) with the condition in (6).

- (6) A Tense-head may be neither in the checking domain nor in the scope (defined by C-command) of an Aspect- or Tense-head.

The definition in (6) is certainly a stipulation, but it is not more stipulative than (4) and does the same job as (4), as we will see later. I propose that the condition in (6) is met by moving the CP-complement, after it has been formally licensed in [Spec,F3P] of the selecting verb, into the Specifier of a functional head above TP, which constitutes the unique invariant extraposition site in this account. The surface

property that extraposed material appears to the right of the rest of the clause is achieved via licensing movement of both AspP and TP around it, as I have proposed in chapter 4 and as is illustrated again in (7).

- (7) a. [<sub>CP</sub> C [<sub>MoodP</sub> M [<sub>StatP</sub> S [<sub>TP</sub> [<sub>AspP</sub> V CP]]]]]  
 b. [<sub>CP</sub> C [<sub>MoodP</sub> M [<sub>StatP</sub> S [<sub>CP</sub> [<sub>TP</sub> T [<sub>AspP</sub> V t]]]]]]] extraposition  
 c. [<sub>CP</sub> C [<sub>MoodP</sub> M [<sub>StatP</sub> [<sub>AspP</sub> V t] S [<sub>CP</sub> [<sub>TP</sub> T]]]]] licensing of the VP  
 d. [<sub>CP</sub> C [<sub>MoodP</sub> [<sub>TP</sub> T] M [<sub>StatP</sub> [<sub>AspP</sub> V t] S [<sub>CP</sub>]]]]] licensing of the TP

At the end of the derivation neither Tense nor Aspect c-command Tense within the "extraposed" CP. Note that in restructuring contexts every verb in the verb cluster, not only the selecting verb, can pied-pipe or strand a CP-complement when undergoing VP-topicalization, as is illustrated in (8).

- (8) a. Zeigen [dass die Erde eine Scheibe ist] wird er schon können wollen  
 show that the earth a disk is will he well can want  
 'He may well want to be able to show that the earth is a disk'  
 b. Zeigen können [dass die Erde eine Scheibe ist] wird er schon wollen  
 c. Zeigen können wollen [dass die Erde eine Scheibe ist] wird er schon  
 d. Zeigen können wollen wird er schon [dass die Erde eine Scheibe ist]

At the end of chapter 4, I proposed that in restructuring infinitives the licensing projections of the VP and TP in the C-domain are present but inert, so that the embedded TP and (extended) VP will just move through these positions on their way to the licensing positions in the next cycle. The variable distribution of CP-complements in (8) then comes about in the following way: In each derivational cycle, movement of the Aspect Phrase into the higher Aspect Phrase can either pied-pipe or strand the CP-complement contained in the Specifier below. Starting with (7d), which represents the structure at the end of the first cycle, pied-piping the CP complement involves movement of the entire StatP into the Aspect Phrase of the next cycle. In the case in which the CP-complement is stranded, it will be induced by the Tense-head in the next cycle to move to the Specifier position above TP of the higher verb. In restructuring infinitives this movement (across domains) is possible since the CP of a defective complementizer does not constitute a strong phase, as I assumed in chapter 6, and movement of the CP to its "scope" position in the next cycle only involves movement out of the strong phase of the Aspect Phrase into the next higher weak phase. This movement is allowed by the PIC, since only movement from a strong phase *a* into another strong phase *b* (or beyond) must proceed via the left-edge of *a*. In non-restructuring contexts, this movement will be prohibited, since the containing CP constitutes a phase, allowing extraction only via its left edge, that is, [Spec,CP]. Thus, in non-restructuring contexts, "extraposition" can only apply locally, deriving the Right Roof Constraint from the Phase Impenetrability Condition. If a CP-complement is pied-piped by movement of the local AspP into the next higher AspP, the

derivation will only then converge, if the lower AspP is extracted from the higher AspP via VP-topicalization, since the CP-complement being contained too deeply in the matrix AspP cannot extract by its own, leading to a violation of the condition in (6). In this account, (8a) is derived in that the CP-complement is pied-piped by movement of the AspP in the first cycle (into the second cycle). Example (8b) is derived in that the CP-complement is pied-piped by movement of the AspP of the second cycle into the next cycle, and so on. No pied-piping applies in the case of (8d), which involves CP-movement to the Specifier above the higher TP in every cycle.

Summarizing, in this approach variability comes into play via pied-piping or the lack of it. We can then assume that pied-piping is possible (and necessary) if the AspP and the CP-complement share a feature. In the case of VP-topicalization, this shared feature can be assumed to be a discourse-related feature like TOP(ic) or FOC(us), which is checked by movement into [Spec,CP] in the matrix clause. Since exactly one phrase can be moved into [Spec,CP], lack of pied-piping would leave the discourse-related feature of either the AspP or the CP-complement unchecked, causing the derivation to crash.

I have provided an account of extraposition of CP-complements in a UBH approach. It is a partial solution to a more general problem. The trigger that I proposed for this case of extraposition is not very insightful and needs to be improved. The account just serves as a "patch" till a better and more general solution to extraposition is found.

## 7.2 Topicalization of verb projections

The preposing of verb(phrase)s supports the account that I have argued for in this book, namely, that restructuring in general and verb cluster formation in particular involve XP-movement rather than head movement. For example, note that if the dependent infinitive in (9a) were incorporated (via head movement) into the selecting perception verb, then it is not clear how the dependent infinitive could have been fronted to the exclusion of the perception verb. Since excorporation is excluded, the dependent infinitive can only have been fronted by first moving out the perception verb.

- (9) a. weil Hans die Maria kommen gesehen hat  
 since Hans the Maria come seen has  
 'since Hans saw Maria come'
- b. kommen hat Hans die Maria gesehen  
 come has Hans the Maria seen  
 'it was coming what Hans saw Maria do'  
 'as for coming, it was Hans who saw Maria do it'

On the other hand, if the dependent infinitive has been moved via XP-movement to the position preceding the perception verb in (9a), then no additional movement of the perception verb itself has to be assumed in order to derive (9b): The dependent

infinitive in [Spec,AspP] of the perception verb just moves on into [Spec,CP] of the matrix clause.

To be more precise, (9b) shows that movement of the Specifier in the Specifier of the left edge of the matrix VP into the next higher strong phase of CP is allowed. Earlier I assumed that AspP and CP constitute the strong phases within a cycle. Having proposed that the CP of the dependent infinitive does not constitute a strong phase in restructuring contexts, I may assume that the phase of the Aspect Phrase "closes" as soon as it is moved into the next higher phase up, that is, into the Aspect Phrase of the selecting verb. In other words, all material that has not been moved into the left edge, that is, [Spec,AspP], in the previous cycle is inaccessible for further computation after verb cluster formation in each cycle. This is the reason that I proposed that CP-complements must be "extraposed" in each cycle before the local Aspect Phrase moves into the higher Aspect Phrase. In this way, I derive that every phrase in the Specifier of an Aspect Phrase can be topicalized at the point of the derivation that constitutes the end of verb cluster formation, which is illustrated in (10a). In (10a), the property of being in the left edge of a phase is transitively extended to the specifiers of all Aspect Phrases contained in the Aspect Phrase of the matrix. Thus, (10b) is derived by moving the left edge (= the Specifier) of the highest Aspect Phrase into [Spec,CP], while (10c) is derived by moving the left edge within the left edge of the highest Aspect Phrase into [Spec,CP], and so on.

- (10) a. weil er einen Roman [AspP [[[lesen] können] wollen] wird]  
 since he a novel read can want will  
 'since he will want to be able to read a novel'
- b. lesen können wollen wird er einen Roman
- c. lesen können wird er einen Roman wollen
- d. lesen wird er einen Roman können wollen

Thus, the variable topicalizability of verbs in the German verb cluster follows from the fact that they are licensed as XPs in the left edge of the VP-phase (the Aspect Phrase) in each cycle. This raises the question of how dependent infinitives can be topicalized in Dutch and West Flemish, which according to our analysis are not spelled out in the left edge of the Aspect Phrase. Before I address this question, I will discuss two long-standing problems posed by VP-topicalization.

### 7.2.1 Problems posed by topicalization data

The first problem is that topicalization of the dependent infinitive either alone or together with (some of) its arguments leads to a bleeding of the IPP-effect. This generalization holds to my knowledge without exception in Dutch and West Flemish. In German, perception verbs pattern with the behavior of Dutch and West Flemish V(P)R-verbs in this context, while modals and the permissive/causative verb *lassen* display the IPP-effect even when the dependent infinitive is topicalized. This is illustrated for modals by the contrast between the West Flemish example in (11a)



and its Standard German pendant in (11b).<sup>1</sup> Even those speakers of Standard German who have retained the participial form of modals in constructions like (11c) prefer the infinitive over the participle in (11b). This observation is important, since one might believe that due to the gradual loss of the participial forms of modals (cf. ??gemusst < müssen ['must'] and \*gesollt < sollen ['shall']) the infinitival forms in (11b) are simply suppletive for the participial forms, which are becoming rarer and rarer in Standard German. The fact that speakers can still use the participle in sentences like (11c) but prefer the infinitive in structures like (11b) strongly suggests that we are dealing with a real case of IPP-effect, meaning that we are dealing with a situation in which the participle is blocked in the syntax, rather than with one in which it is replaced by the infinitive because it is lost in the lexicon.

- (11) a. in nen bank werken ee se niet *gewild*/\**willen*  
in a bank work has she not wanted/want-IPP
- b. in einer Bank arbeiten hat sie nicht *wollen*/\**gewollt*  
in a bank work has she not want-IPP/wanted
- c. das hat sie nicht *gewollt*/*gekonnt*  
that has she not wanted/can-PART

The bleeding of the IPP-effect in the context of VP-topicalization is problematic for my account of it, since I explained the IPP-effect as a syntactic, mechanic effect of the licensing of nonfinite verbs in restructuring contexts. The data in (11a) can be taken to indicate that the IPP-effect is a shallow morphological "Agreement" effect that arises between two adjacent nonfinite verbs. While the data in (11b) show that the IPP-effect in German proves to be more "stable" under non-adjacency, it raises an additional problem, namely, the issue of how to account for the crosslinguistic variation in the bleeding of the IPP-effect between German on the one hand and Dutch and West Flemish on the other hand, and also for the intralinguistic variation between modal verbs and perception verbs in German.

The second problem concerns the behavior of the nominal complements of the dependent infinitive. The dependent infinitive can be topicalized together with one of its arguments to the exclusion of the VR-verb (12a). In (12a), we face the problem that the preposed phrase is not a constituent anymore after VR has applied. Remember that the arguments of the dependent infinitive undergo TP-movement into [Spec, PredP] of the selecting verb, while the infinitive itself is moved into the Specifier of the AspP of the selecting verb below PredP. In order to derive (12a) from this resultant structure (the output of restructuring), we have to assume that the modal *wollen* ('want') undergoes additional movement for which there does not seem to be any motivation but to evacuate a larger projection for topicalization. We can describe this state of affairs by assuming that the modal undergoes *evacuating movement*.

- (12) a. ein Haus kaufen hat er ihr wollen  
a house buy has he her want-IPP  
'buy a house that is what he wanted to do for her'

- b. ??ein Buch zu geben hat er seiner Frau versucht  
a book to give has he his wife-DAT tried
- c. zu geben hat er seiner Frau ein Buch versucht  
to give has he his wife a book tried

At this point, it is important to note that there is a difference between bare infinitives and to-infinitives. Split topicalization with to-infinitives leads to decreased acceptability. In (12b), a to-infinitive has been topicalized together with its direct object while the indirect object *to his wife* is left behind in the IP of the main clause. This is what I mean by *split topicalization*. With to-infinitives, either the infinitive with all its arguments can be topicalized (in which case we probably deal with a non-coherent construction) or the infinitive alone can be topicalized, as is illustrated in (12c).

The alternative to accounting for cases like (12a) in terms of evacuating movement of the selecting modal verb is to assume that (12a) results from a VPR-structure. In this analysis, the minimal XP that contains the indefinite object would be pied-piped by movement of the AspP of the infinitival into [Spec, AspP] of the selecting modal. From there, the constituent [ein Haus kaufen] can be easily extracted and moved into [Spec, CP]. The difference between bare infinitives and to-infinitives with respect to split topicalization one would then reduce to the fact that verbs that select to-infinitives do not allow for VPR in German (in West Flemish some verbs do if the infinitival marker is deleted).

In the previous section, we have seen evidence from right-branching verbal complexes that indicates that VPR is indeed possible in Standard German. The problem with this alternative is that examples like (12a) can also be found in Dutch, which clearly does not allow for VPR. Example (13) is taken from Zwart (1993).

- (13) a. [Snel Marie gekust] heeft Jan niet  
quickly Mary kissed has Jan not  
'Kiss Mary quickly is not what Jan did'
- b. [Snel Marie kussen] wil Jan niet  
quickly Mary kiss wants Jan not  
'Kiss Mary quickly is not what Jan wants'

If we want to provide a unitary account of verb(phrase)-topicalization in German and Dutch, then the account sketched earlier does not seem to be viable in the light of data like (13).<sup>2</sup> Zwart (1993) himself argues on the basis of data like (13) and following an idea by Haider (1990) that so-called preposed verb phrases are base-generated in a position outside of [Spec, CP]. I will discuss this alternative in the following section.

### 7.2.2 The base generation approach to VP-topicalization

In this section, I would like to investigate whether the base generation approach fares any better with respect to the problems that the account in terms of XP-preposing is confronted with, as I outlined in the previous section.

Haider (1990) and Zwart (1993) propose that topicalized verb-projections are base-generated in a position outside the matrix CP. In this analysis, the preposed verb (phrase) is not reconstructed. What is reconstructed is the possibly empty d-word that occupies [Spec,CP] and is somehow identified with the (so-called) preposed phrase. An analysis of the sentence in (12a) under this approach is given in (14).

- (14) [ein Haus kaufen] <sub>CP</sub> das<sub>i</sub> hat er t<sub>i</sub> wollen]

Before we take a closer look at the theoretical implications of this account, let us first see how it fares with respect to the problems I discussed earlier. The first problem concerned the bleeding of the IPP-effect. The d-word in Zwart's analysis has nominal features though its (semantic) content stands for a verb. Nominal complements of participles never induce an IPP-effect. This explains the absence of the IPP-effect in Dutch and West Flemish in cases where the dependent infinitive has been topicalized. But it fails to explain the presence of the IPP-effect with modals and the causative verb *lassen* in German. To put it differently, this account is forced to assume that the infinitive in (14) earlier is a suppletive form for the participle rather than a "real" IPP-case. I have argued earlier that this is unlikely.

The second problem consisted in the fact that the preposed phrase, when containing a complement of the dependent infinitive, does not represent a constituent anymore after restructuring. This problem disappears (trivially) in a base-generation approach but reappears in a different form, namely, in the question of how material that is left behind in cases of split topicalization is related to preposed material. To be more concrete, the question arises in this approach of how, for instance, a CP-complement stranded by VP-topicalization (as is illustrated in [8d] in section 7.1) is related with its selecting verb in its base-generated position above CP. This issue will be dealt with in more detail later.

Finally, addressing a problem discussed in the previous chapter, it is not clear at all how a base generation account can explain why right-branching verbal complexes can be topicalized in Dutch but are mostly (with the exception of IPP-infinitives) ungrammatical in German.

### 7.2.3 Problems of the base generation approach

In this section, I will try to make the following argument: First I will point out several technical difficulties for the base generation approach. Then I will argue that these difficulties force us to assume that the d-word is an exact copy of the preposed phrase. Hence if we have to reconstruct an exact copy of the preposed phrase we might as well assume that the preposed phrase is reconstructed. Hence it should be assumed that the preposed phrase has been moved to its surface position from a clause-internal position rather than having been base generated there.

The first technical issue concerns Case checking. This approach raises the question of how the Case of a DP is checked when the DP is preposed and how it is checked when the DP remains behind. With regard to the first part of the question, let us look at a case such as (15a). It is generally assumed that participles cannot assign or check Accusative Case. Nevertheless, (15a) is fully acceptable. In approaches to passive

that try to derive the different properties of active and passive clauses from a unique participle (cf. Baker, Johnson and Roberts [1989], Roberts [1985]), it is assumed that the auxiliary *haben* ('have') assigns Case to the direct object of an active participle. Hence the d-word must contain a copy of the DP *ein Buch* ('a book'), which is licensed (after reconstruction) by the auxiliary and which in turn licenses, probably via identification, the copy of this DP in the base generated phrase.

With regard to the second part of the question, let us look at a case like (15b). While it is reasonable to assume that the auxiliary *have* can check Accusative Case, it is unlikely that it can also check Dative Case. So the question arises as to how the Dative Case of the pronoun *ihr* ('her') is checked in (15b).<sup>3</sup> The answer seems to be that the d-word contains a copy of the relevant feature of the verb *schenken* ('give') that serves to license the Dative argument that remains within IP in (15b). Along a similar line, it has to be assumed that the d-word also contains the relevant feature of the verb *lesen* ('read'), in order to guarantee that the right auxiliary (*haben* rather than *sein*) is selected in structures like (15a-b).

- (15) a. [ein Buch gelesen] das hat er nicht  
a book read-PART that has he not  
b. ?[ein Buch geschenkt] das hat er ihr noch nie  
a book given that has he her yet never

The second technical issue concerns the question of how PRO in the base-generated constituent is interpreted. In a sentence like (16), PRO would be assigned an arbitrary interpretation according to standard assumptions, since it does not have a c-commanding controller. However, its interpretation is that of a PRO controlled by the matrix subject. To accommodate this fact with a base generation approach, we have to assume that the d-word is a copy of the base generated phrase, whose member PRO is identified by the matrix subject after reconstruction has applied to the d-word.

- (16) [ PRO<sub>arb?</sub> ein Buch lesen] das<sub>i</sub> will er t<sub>i</sub>

The third technical issue concerns temporal features. Example (17) shows that it is relevant for the licensing of adverbials like *noch nie* ('so far never') that the preposed constituent contains a verb and also what type of verb it contains. The contrast between (17a) and (17b) shows again that we cannot assume that in reconstructing the d-word only its nominal features are reconstructed. If that were the case, then (17a) should be as good or as bad as (17b), where we replaced the d-word with another nominal constituent, the DP *einen Apfel* ('an apple'). The contrast between (17a) and (17c) shows that it is relevant that (1) the preposed phrase contains a verb and (2) this verb has the right temporal feature, namely, one that licenses a past interval presupposed by the adverbial. The participle in the preposed phrase in (17a) has this feature, which the infinitive in (17c) lacks. This information has to be available in the IP within which the adverb is interpreted. Hence the d-word, being the only constituent that is reconstructed under the base-generation approach, must contain this information.

- (17) a. [ein Buch gelesen] das, hat er noch nie  $t_i$   
a book read-PART that has he yet never
- b. \*er hat noch nie [einen Apfel]  
he has so far never an apple
- c. \*[ein Buch lesen] das wird/hat er noch nie  
a book read-INF that will/has he yet never

The fourth technical issue involves thematic licensing. It is not clear how in this approach thematic restrictions are handled. If thematic roles are relations in the VP, then this account is untenable, since, for instance, in (18a-b) the pronoun *ihr* ('her') is not related with any position in a VP.

- (18) a. ?ein Buch geschenkt das hat er ihr noch nie  
a book given that has he her yet never
- b. ein Buch geschenkt hat er ihr noch nie  
a book given has he her yet never

The same argument holds for the "stranded" CP-complement in (19a): There is no position in the VP that the CP-complement could be related with. That thematic restrictions need to be checked also in topicalization structures is shown in (19b). Example (19b) can only be ruled out as a violation of thematic restrictions within Zwart's account. It cannot be ruled out as a Case violation, for instance. Remember (cf. note 3 earlier) that Case can be freely checked in Agr-positions of auxiliaries and VR-verbs under Zwart's assumptions.

- (19) a. [fragen müssen] wird er wohl [ob wir einverstanden sind]  
ask must will he well whether we agree
- b. \*[ein Buch gelesen] das hat er *ihr* noch nie  
a book read-PART that has he her yet never

If, however, thematic roles are features, then we have another instance for the argument that a whole lot of features of the preposed phrase have to be reconstructed. Thus, instead of identifying the preposed phrase with the d-word and reconstructing only the d-word, it is simpler to assume that the preposed phrase (with or separately of the d-word) reconstructs.

#### 7.2.4 Differences between topicalization and d-word left dislocation

In Haider's and Zwart's accounts the preposing of verb projections is identified with d-word left dislocation where the d-word is phonetically empty. Example (20a) is a standard case of d-word left dislocation and (20b) is a standard case of topicalization. According to the base generation approach, (20b) is analyzed as given in (20c) and should thus not differ in its core properties from (20a). I will argue, however, that

there are major differences between the two constructions, which do not seem to be reducible to the fact of whether the d-word is overt or covert.

- (20) a. [einen Roman gelesen] das hat er noch nie  
a novel read that has he yet never
- b. einen Roman gelesen hat er noch nie  
a novel read has he yet never
- c. [einen Roman gelesen] [<sub>d-word</sub> 0] hat er noch nie

Fronting of only the (nonfinite) verb leads to ungrammaticality in cases of d-word left dislocation, while topicalization of only the verb is fine (cf. [21]). Split topicalization leads to reduced acceptability if the fronting (of the partial constituent) involves a d-word. No such effect is found in cases of fronting without d-word ([22], cf. also [18] earlier).

- (21) a. \*gelesen das hat er einen Roman noch nie
- b. gelesen hat er einen Roman noch nie  
read-PART (that) has he a novel yet never
- (22) a. ??einen Roman geschenkt das hat er seiner Frau noch nie
- b. einen Roman geschenkt hat er seiner Frau noch nie  
a novel given (that) has he to-his wife yet never
- c. \*geglaubt das hat er nicht an Gott
- d. geglaubt hat er nicht an Gott  
believed (that) has he not in God

Furthermore, there are reconstruction effects that appear in cases of topicalization but are absent in cases of d-word left dislocation. This is illustrated in (23). In (23a), negation can only have narrow scope with respect to the modal (as is expected), meaning more or less 'what he wanted to do was not reading a book'. Example (23b) can have the same reading. But it has an additional reading in which the negation takes scope over the modal, meaning 'what he did not want to do was to read a book'.

Very likely related to this difference in reconstructability of the preposed phrase is the phenomenon that in Bavarian dialects, which allow for negative concord (NC), NC is possible in cases of topicalization but missing in cases of d-word left dislocation. So (24a) can mean that 'he did not want to read a book' while (24b) construed with a d-word can only mean that 'he did not want to read no book'.

- (23) a. kein Buch lesen das wollte er (modal > neg)
- b. kein Buch lesen wollte er (neg > modal)  
no book read (that) wanted he

- (24) a. ka Buach lesn woit'a net (NC)  
 b. ka Buach lesn das woit'a net  
 no book read (that) wanted-he not

To summarize, in the previous section I have shown that the base-generation approach that has been proposed by Haider (1990) and adopted by Zwart (1993) is untenable. In this section, I have shown that the properties of VP-topicalization also differ significantly from the properties of its presumed source structure, namely, d-word left dislocation. Thus, I conclude that whatever the correct account of d-word left dislocation may be, VP-topicalization cannot be explained by a base generation approach.

### 7.3 Toward a movement account of VP-topicalization

So we are back to square one. In the following I will sketch a movement account of VP-topicalization that is partially speculative but derives support from the coherence of the overall picture it yields as well as from the insight into the architecture of grammar it provides. I will start with developing a solution to the exceptional behavior of perception verbs with respect to the bleeding of the IPP-effect in German. Before we look at concrete data, let me point out that I am only concerned with the syntactic conditions of extracting VPs out of verbal complexes and not with the discourse pragmatic conditions that license or motivate VP-topicalization.<sup>4</sup> The question of what the relevant discourse conditions of VP-topicalization are will not be addressed here at all and would merit a separate (empirical) investigation that is beyond the scope of this book.

#### 7.3.1 VP-topicalization in German

Remember that perception verbs in German only optionally display the IPP-effect (25a–b) and that this IPP-effect is “bled” (contrary to the behavior of modals in German) in VP-topicalization contexts (25c).

- (25) a. weil Hans die Maria kommen gesehen hat  
 since Hans the Maria come seen has  
 b. weil Hans die Maria hat kommen sehen  
 since Hans the Maria has come see-IPP  
 c. kommen hat Hans die Maria nicht gesehen/ \*sehen  
 come has Hans the Maria not seen/ see-IPP

In chapter 6, I argued that the optionality of the IPP-effect in (25a–b) can be explained best if we assume that perception verbs select two types of infinitives: one type that is licensed in [Spec,AspP] without inducing an IPP-effect, as in (25a), and the other type, which is licensed in [Spec,F2P], where it induces the IPP-effect, before it is moved to [Spec,AspP] as well. Furthermore, I have proposed to analyze the

first type of infinitive as a nominalized infinitive (called *gerund*) and the second type of infinitive as a verbal infinitive (simply called infinitive). As will become clear in what follows, this analysis is supported by VP-topicalization data.

At the end of verb cluster formation, before VP-topicalization applies, the sentences in (25a–b) have the following structures: The infinitive of (25a) is in the (transitive) left edge of the Aspect Phrase of the auxiliary and can be extracted for topicalization without further ado. The infinitive of (25b), however, occupying the lower Specifier, is not accessible for further computation. Extraction of the infinitive in (25b) would only be possible if it had moved to [Spec,AspP] in the previous cycle.

- (26) a. weil Hans die Maria [<sub>AspP</sub> [[kommen] gesehen] [<sub>Asp'</sub> hat]]  
 b. weil Hans die Maria [<sub>AspP</sub> [<sub>Asp'</sub> hat [kommen sehen]]]  
 c. weil Hans das Buch nicht hat lesen wollen  
 since Hans the book not has read want-IPP  
 d. lesen hat Hans das Buch nicht wollen  
 lesen hat Hans the book not want-IPP  
 e. weil Hans das Buch nicht lesen hat wollen (Bavarian)  
 since Hans the book not read has want-IPP

That the latter movement must be possible in principle is evidenced by modal verbs in VP-topicalization contexts in German. Given that (26d) is derived via extraction from the verb cluster in (26c), the dependent infinitive, due to the presence of the IPP-effect, must have been moved from the lower Specifier into [Spec,AspP] of the auxiliary before extraction took place. This movement of the dependent infinitive from the lower Specifier into the left edge, which is evidenced in dialects of Bavarian (cf. [26e]), is clearly non-triggered movement. That is to say that it cannot be taken to be due to any licensing requirement, since all the verbs in the cluster have been licensed at the end of cluster formation. Thus, this movement must be considered as a last-resort operation that is only allowed if no other option is available to prevent the derivation from crashing.<sup>5</sup> Assuming that the dependent infinitive has a focus- or topic-feature that needs to be checked in [Spec,CP], the derivation would crash without the application of the last-resort operation since with modal verbs, contrary to perception verbs, there is no other option in the grammar.

However, with perception verbs there is another option. I have said earlier that perception verbs may optionally select an infinitive or a *gerund*. When taking the lexical choice of the *gerund*, topicalization of the dependent *gerund* can proceed without a last-resort operation and must thus be considered to be less costly than the parallel derivation with an infinitive. A note is in order here concerning the rationale of competition. In the MP, it is assumed that derivations with different lexical choices, that is, different numerations, do not compete with each other. Here we are dealing with one and the same lexical item, a perception verb that, however, has two sub-categorization frames, selecting an infinitive or a *gerund*. However, the distinction between infinitive and *gerund* in this case is a purely formal one and does not involve a distinction in either meaning or style. Since normally lexical choices give

rise to a difference in meaning (or style), we can assume that even derivations with differing lexical choices can compete as long as the lexical choice does not imply a difference in meaning (the role of stylistic differences in cases of competition needs further empirical investigation, but it seems to me that a stylistic effect is enough to prevent competition between two derivations that involve lexical choices that in all other respects are completely identical).

As for the second problem concerning topicalization, namely, topicalization of the dependent infinitive with one or more of its arguments, I propose to assume the simplest solution that is possible in German. Instead of assuming that there is evacuating movement, I propose that these cases fall out simply from the fact that even Standard German allows for VPR. With these ramifications, topicalization of verb-projections in German proves to be unproblematic. But the burden of explanation is shifted onto topicalization of verb-projections in Dutch. Before I start to tackle this problem, I will address the issue of the surprising scope effects with VP-topicalization in German.

In discussing the differences between topicalization and d-word left dislocation in German I found that a topicalized negative phrase can give rise to a wide scope interpretation in the Standard and to negative concord (NC) in Bavarian. The data are illustrated again in (27).

- (27) a. [kein Buch lesen] wollte er  
no book read wanted he  
'he did not want to read a book'
- b. [koa Buach lesn] woit a net (NC)  
no book read wanted he not  
'he did not want to read a book'
- c. [ein Buch lesen] wollte er nicht  
a book read wanted he not  
'he did not want to read a book'

Assuming that topicalized verb projections are derived via movement, we may assume that the topicalized phrase can reconstruct into its extraction site, that is, [Spec,AspP] in the matrix clause. In this position the negative determiner *kein* is accessible for further computation. In particular, we may assume that it can enter into an Agreement relation with matrix negation, giving rise to a wide scope interpretation in (27a) and to negative concord in (27b). Alternatively, we may assume that the negative DP *kein Buch* moves into [Spec,NegP] in the matrix clause, to license sentence negation/negative concord—before topicalization affects the containing verb projection—but is spelled out in [Spec,AspP]. Then topicalization applies and the resulting structure is interpreted like the parallel clause in (27c).

### 7.3.2 VP-topicalization in Dutch

Before we look at VP-topicalization, recall how we have come to analyze complex verb clusters in Dutch. For Dutch, I have assumed that the dependent infinitive moves

into [Spec,F2P] of the matrix verb but is spelled out in [Spec,CP] of the embedded clause, which is itself licensed in [Spec,F3P] (the formal licensing position of CP-complements) of the selecting verb, as is illustrated for the dependent infinitive *lezen* in (28a). The selecting nonfinite modal *willen* in (28a) is thus analyzed parallel to the position of the nonfinite verb of a *te*-infinitive, as in (28b) and parallel to nonfinite verbs in West Flemish, which I showed fail to move up to the head of the Aspect Phrase.

- (28) a. dat Jan het boek [AspP zal [F2P lezen willen [F3P lezen]]]  
that Jan this book will want read
- b. om het boek [AspP te [F2P willen [F3P lezen]]]  
in order this book to want read

Let us assume we want to topicalize the dependent infinitive *lezen* out of the resulting verb cluster in (28a). Then due to the PIC, the dependent infinitive should move to [Spec,AspP] of *zal* in the previous cycle. Though this movement must be considered as a last-resort operation, it should be freely available given the lack of an alternative derivation. However, there is a crucial difference between a Dutch verb cluster as analyzed in (28a) and a German verb cluster. On the one hand, the dependent infinitive in (28a) would have to move across its own un-spelled-out copy, something that we may assume is excluded in principle. On the other hand, we expect that the containing F2P *willen lezen* can move to the local escape hatch and thus can be topicalized without problems. However, these predictions are not borne out. The data in (29) show that topicalization in Dutch may be as liberal as topicalization in German.

- (29) a. [willen lezen] zal hij het boek niet  
want read will he the book not
- b. [lezen] zal hij het boek wel willen  
read will he the book well want
- c. (\*)?[hebben willen lezen] zal hij het boek niet  
have want read will he the book not
- d. (\*)?[willen lezen] zal hij het boek niet hebben  
want read will he the book not have
- e. [het/een boek willen lezen] zal hij niet  
the/a book want read will he not
- f. [het/een boek lezen] zal hij niet willen  
the/a book read will he not want

While most speakers judge (29c) and (29d) as more marked than the rest but consider them still acceptable, there does not seem to be a difference between topicalization of part of the nonfinite verbs and topicalization of the entire nonfinite verb cluster (cf. [a–b, c–d, and e–f]). Also note that so far we have no derivational base for the sentences in (29e–f), given that Dutch does not allow for VPR. Before I address

this issue, let me point out that there is an interesting gap in the paradigm that may point to a possible solution of the problem. When we look at IPP-infinitives, we find the restriction borne out that I hypothesized earlier. Incidentally, there seem to be two groups of speakers, who differ in an interesting way in their judgments. For speakers of both groups topicalization of the dependent infinitive out of a verb cluster that contains an IPP-infinitive is impossible (cf. the a examples in [30] and [31]). However, speakers of group B have an alternative strategy that employs a participle that is for some reason unavailable to the speakers of group A (cf. the b examples in [30] and [31]), a strategy, however, that becomes available also for speakers of group A if topicalization does involve not only the dependent infinitive but the infinitive plus its direct object (cf. [30c]). No problem arises for speakers of both groups if the complete nonfinite verb complex is topicalized, as is illustrated in (30d). Finally, note that speakers who can use the alternative strategy in (31a) can freely rephrase the topicalization as d-word left dislocation (31c).

## (30) Group A

- a. \*lezen heeft hij het boek niet willen  
read has he the book not want-IPP
- b. \*lezen heeft hij het boek niet gewild  
read has he the book not wanted
- c. een boek lezen heeft hij niet gewild  
a book read has he not wanted
- d. willen lezen heeft hij het boek niet (also B)  
want-IPP read heeft he the book not

## (31) Group B

- a. \*lezen heeft hij het boek niet willen  
read has he the book not want-IPP
- b. lezen heeft hij het boek niet gewild  
read has he the book not wanted
- c. lezen dat heeft hij het boek niet gewild  
read that has he the book not wanted

How can we account for these data? Let me first address the speakers of group A. Seemingly, speakers of this group cannot extract a dependent infinitive out of an IPP-infinitive cluster but manage to do that out of a true infinitive cluster (cf. ([30a] versus [29b]). From the fact that they have no alternative strategy available in (30a-b) we can relatively safely conclude that the topicalization in (29b) really does involve subextraction of the dependent infinitive out of the previously formed verb cluster rather than some alternative derivation. We may assume that speakers of group A only use/can use the alternative strategy if topicalization affects a verb plus one of its arguments. The behavior of speakers of group A follows if they analyze structures like (28a) as is indicated in (32a), with nonfinite verbs moving into the Aspect-head

like in German. However, IPP-infinitives, as I have proposed in chapter 6, exceptionally stay in F2 with the local Aspect-head being occupied by a zero-morpheme. Thus, a verb cluster with an IPP-infinitive must be analyzed also for the speakers of group A as given in (32b). In this structure, the dependent infinitive *lezen* cannot be extracted from the cluster by moving across its own copy. Since these speakers do not have an alternative strategy available in this case, there is a gap in the paradigm.

- (32) a. dat Jan het boek [AspP zal [F2P [AspP willen [F2P lezen]]]] A
- b. dat Jan het boek [AspP heeft [F2P [AspP 0 [F2P lezen willen [F3P lezen]]]] A + B
- c. dat Jan het boek [AspP zal [F2P [AspP [F2P lezen willen [F3P lezen]]]] B

Finally, let me address the question of what the alternative strategy is that saves the topicalization of verb plus argument for speakers of both groups (cf. [30c]). This strategy is also available for speakers of group B in case of topicalization of a dependent infinitive. Furthermore, I note that this strategy induces the presence of a participle instead of the IPP-infinitive and seemingly involves a nominalized infinitive as is suggested by the optional presence of the d-word.

I would like to propose that the derivation of (30/31c) and of the parallel structures in (29e-f) involves a gerund. I analyze the gerund as a phrasal affix that morphologically selects for an infinitive. This means that the gerund can be attached to any verbal projection provided that the latter can satisfy its morphological requirement.<sup>6</sup> Assuming that this requirement is satisfied through adjacency, we can analyze the gerund as a functional head that attracts the phrase that it attaches to into its Specifier, as is illustrated in (33).

Let us assume we are at the point of the derivation where we have Case-licensed the direct object in *ein Buch lesen/ een boek lezen*. In a German coherent infinitive we can simply VP-raise this constituent, which will move after a number of steps into [Spec,AspP] of the matrix verb, from which position it can be subextracted for topicalization. In Dutch, VPR is not available. Let us assume that as a last resort a functional head that contains the gerund affix can be inserted that attracts the complement into its Specifier and is XP-moved in the very same fashion as a VPR-constituent into a Specifier of the selecting verb. However, contrary to a plain infinitive, it will not move into [Spec,F2P] but directly into [Spec,AspP] of the selecting verb. Thus, it will fail to induce an IPP-effect and be eligible for subextraction to be topicalized in the final step of the derivation.

- (33) a. [0 G [AgrAcc een boek [AspP lezen [VP]]]] Insertion of a functional head
- b. [GP [AgrAcc een boek [AspP lezen [VP]]] 0] Adjacency
- c. the affix is fused with the adjacent infinitive to fulfill its morphological subcategorization

The question now arises as to why the gerund in Dutch can only be used in VP-topicalization contexts. We can assume that modals and other verbs that take bare infinitival complements do not select a gerund. They select an infinitive. Thus, the

gerund cannot compete with the infinitive and is only available as a means of last resort. Since the derivation with the gerund involves extra steps (the insertion of a functional head, attraction of the complement of the gerund into its Specifier), it will only be licit if the more economical derivation with the infinitive crashes. This in turn raises the question of how the subcategorization of the selecting verb can be satisfied by a gerund. At this point the answer to this question, though plausible, must remain somewhat speculative. There is a selectional chain between the selecting verb and the complement of the gerund. The selecting verb selects an infinitive and a last-resort operation inserts an element, the gerund, that itself selects an infinitive.

To summarize, we have seen that speakers of group A can use the gerund only if an extended verb phrase is topicalized. This is consistent with a treatment of the gerund as a means of last resort: An infinitive cannot give rise to VPR in Dutch and hence the (extended) infinitive is replaced, actually is augmented, with a gerund. Topicalization of the infinitive alone does not and cannot employ the gerund, as is indicated by the ungrammaticality of (30b). This seems to imply that (1) the gerund is only employed in the topicalization of extended VPs and (2) the topicalized bare VP in (29b) is a real infinitive and does not involve a gerund.

How can we characterize the judgments of speakers of group B in this account? These speakers allow the replacement of an IPP-infinitive by a participle in case of the topicalization of the bare dependent VP. Within my account this situation can be analyzed in two ways. Either these speakers have extended the insertion of the gerund as a last-resort operation from non-derivable extended VPs to non-extractable bare VPs, which then shows up in the context of an IPP-infinitive, or they have used a last-resort operation also in this case, since bare VPs cannot be extracted at all in their dialect, so that the gerund is used in all cases of topicalization. This would then be the case if they quite generally analyze the Dutch verb cluster parallel to the West Flemish verb cluster, where only finite verbs move up into the local AspP.

This analysis is indicated in (32c). In this structure, extraction of the dependent infinitive *lezen* is blocked by its own copy and topicalization of any verbal projection must thus always make use of the gerund.

Now the question arises of whether there is any evidence for this analysis beyond its initial appeal. At this point, the proposal that is implied by my rigid account of verb clusters is a bit speculative. Let me stress, though, that some speculation is allowed or even in order in this case, since so far there is no convincing account of VP-topicalization anyway. Whether this approach is correct I have to leave for further research. What I can do here is simply point out that if this approach is adopted, then some loose ends can be tied up and some observations that I made in the last chapters fall into place nicely, thereby giving rise to a rather coherent picture of restructuring infinitives in German, Dutch, and West Flemish.

The first observation is that topicalization of extended VPs seems to involve two constructions in German but only one in Dutch. We have seen earlier that topicalization and d-word left dislocation for some German speakers have different properties, while according to Zwart (1993) they cannot be distinguished in Dutch. As far as German is concerned, there are speakers who do accept cases of split d-word left dislocation more readily.<sup>7</sup> And it remains to be seen whether all Dutch speakers agree with Zwart's judgments. Apart from these empirical issues, which would deserve

further investigation, I can make the following generalizations. In German, due to the availability of VPR, topicalization may involve an extended verbal projection or a gerund. Thus, topicalization without a d-word in German can be analyzed as the topicalization of a VPR-constituent. Assuming that the d-word indicates the presence of a nominalized constituent, topicalization with the d-word involves the gerund, yielding two constructions with the differences noted earlier.

In Dutch, however, due to the unavailability of VPR, the topicalization of an extended VP must involve a gerund independently of the presence of a d-word. That is why topicalization and d-word left dislocation can be equated in Dutch or, as proposed by Jan-Wouter Zwart, can be analyzed as involving covert and overt variants of the d-word.

The second observation concerns the fact that d-word left dislocation in German and Dutch, at least for one group of German speakers, behaves slightly differently. As we have seen in the previous section, split d-word left dislocation is degraded for some German speakers but is judged completely grammatical in Dutch. This is a fact that, given the natural assumption that d-word left dislocation in German and Dutch involve the same construction, is hard to explain. In my account, this difference can be relegated to the different status of the use of the gerund in German and Dutch. In Dutch, use of the gerund is the only way of topicalizing an extended verb projection. In German, there is a more economical alternative as long as topicalization does not involve the entire nonfinite complement of a selecting verb, namely, topicalization of a VPR-constituent. In other words, the gerund as a means of last resort may only apply to the entire infinitival TP, where there is no alternative derivation in terms of VPR. The degraded character of split d-word left dislocation in German can then be assumed to follow from being blocked by a more economic alternative derivation that involves VPR, while in Dutch, since there is no alternative derivation in terms of VPR, split d-word topicalization is judged grammatical. For those German speakers who accept cases of split d-word left dislocation, we have to assume that their use of the gerund is not blocked by their use of VPR. This could be the case if the competition between the two forms is somehow suspended, either because the two forms have slightly different functions (d-word left dislocation can only be used if the topicalized constituent is given in the discourse; no such restriction applies to [bare] topicalization) or possibly because these forms are treated as stylistically marked alternatives. More research on grammatical variants that are semantically indistinct is necessary to evaluate these options.

Summing up, the preceding explanation of the difference between d-word left dislocation in German and Dutch can be called a functional explanation, since it considers the status or the role of the gerund in the entire grammatical system. In Dutch, use of the gerund is without alternative and thus unconditionally grammatical. In German, the use of the gerund is restricted by the availability of a more economical derivation in terms of VPR for one group of speakers and by functional or stylistic factors for the other group of speakers.

The third observation concerns the fact that topicalized extended verb-projections in German and West Flemish also differ considerably in the two languages. These facts will be discussed in the following section.

## 7.3.3 VP-topicalization in West Flemish

West Flemish, contrary to Dutch, does allow for VPR and thus supplies a good testing case for my account. First, consider the observations about VPR in West Flemish that I made in chapter 3. VPR-constituents always have narrow scope (they cannot undergo QR at LF to take inverse scope) and, if negated, cannot give rise to negative concord. These properties fall out nicely from our analysis of the structure of West Flemish verb clusters: Being deeply contained in the verb cluster, operators in VPR-constituents are not eligible for further computation. It is interesting to observe that these operators in VPR-constituents behave differently under VP-topicalization in German and West Flemish. In other words, it is interesting to note that the lack or the presence of the IPP-effect in these constructions is paired with an interpretive difference, as is illustrated in (34). Example (34a) in German is ambiguous, allowing for a wide scope interpretation of negation over the modal verb *want*, while in the parallel West Flemish structure in (34b) negation can only take narrow scope with respect to the modal verb.

- (34) a. kein Buch lesen hat er wollen (neg > modal possible)  
no book read has he want-IPP
- b. geen boek lezen eet Jan gewild (only modal > neg)  
no book read has Jan wanted
- c. kein Buch lesen das hat er gewollt (only modal > neg)  
no book read that has he wanted

This fact is surprising if we assume that the topicalized VP in West Flemish is derived in a similar fashion as it is in German, namely, via VPR and subextraction out of the verb cluster. If subextraction of a VPR-constituent (via [Spec,AspP] of the matrix verb) were possible in West Flemish, then we could not explain why the negative operator cannot give rise to the same reading via agreement with a local and c-commanding negative head after reconstruction into [Spec,AspP], as I argued is the case in German. The answer is that VPR-constituents in West Flemish cannot extract from the verb cluster. The last-resort operation of moving an infinitival VP into the local [Spec,AspP], necessary within a right-branching verb cluster, is blocked. Remember that I have argued that dependent infinitives in West Flemish are spelled out in [Spec,F3] of the licensing verb. Further movement of the dependent infinitive is thus blocked by its own copy in [Spec,F2] of the selecting verb as is illustrated in (35).

- (35) dat Jan [AspP zal [F2P [AspP [F2P [een boek lezen] willen [F3P een boek lezen]]]]]

What is important in this context is not only that (34a) and (34b) differ in their interpretation but also the fact that VP-topicalization in West Flemish has the same interpretational properties as d-word left-dislocation in German, as is indicated by the parallelism between (34b) and (34c). Assuming that the alternative derivation in West Flemish involves a gerund, the derivation of (34b) proceeds as follows: The gerund will directly move into [Spec,AspP] of the selecting verb and thus fail to give

rise to an IPP-effect. From there it can undergo last-resort movement to [Spec,AspP] of the auxiliary, the escape hatch for subsequent movement into [Spec,CP] of the matrix clause. To explain the interpretative difference between (34a) and (34b-c) we have to assume that the gerund blocks agreement between the negative operator and negation under reconstruction. For German, this fact is explained straightforwardly. Since I argued that in German the gerund attaches to the entire TP, the gerund can be taken to contain a more local negative head for the negative operator, barring any interaction with a higher, less local head. For West Flemish we can also assume that the gerund can only attach to the entire infinitival TP, though I will have to leave this issue open for further research that clears the status of split d-word left dislocation in this language.

## 7.3.4 Conclusions

To summarize, if we assume that topicalized extended VPs in West Flemish simply involve VPR and extraction out of the verb cluster, then we cannot explain the interpretive differences in VP-topicalization between German and West Flemish. Again, where German has two constructions with different interpretations, West Flemish has only one, which has the properties of d-word left dislocation and arguably involves the gerund. In West Flemish, like in Dutch, the derivational source of the alternative construction is lacking, despite the availability of VPR. This shows that the presence or absence of VPR is not crucial for the availability of topicalized extended VPs. What is crucial is the licensing position of VPR-constituents. These are different in German and West Flemish. The crucial difference between German on the one hand and Dutch and West Flemish on the other is the (branching) structure of the verb cluster. Whereas in German both infinitives and gerunds are licensed in the left edge of the verb cluster and can thus be extracted for VP-topicalization, Dutch and West Flemish have to resort to the gerund alone, either because VPR is not available at all, as in Dutch, or because the VPR-constituent is not extractable from the verb cluster, as in West Flemish. In addition, we have seen that the presence or absence of the IPP-effect in VP-topicalization correlates with syntactic and interpretative properties of the topicalised VP, providing additional support for my account of the IPP-effect as a structural effect in the licensing of dependent verbal projections. Finally, I have shown that the availability and the interpretational properties of VP-topicalization can be derived from the fine structure of the verb cluster (together with the assumption that the Aspect Phrase constitutes a strong phase).

Also, I have argued that the availability of the gerund is constrained by competition with the infinitive, explaining why certain structures only show up in VP-topicalization contexts, that is, in contexts where the infinitive does not provide a derivational source for topicalization.

This account of VP-topicalization supports and strengthens my general approach of deriving coherent infinitives from a sentential source structure. VP-topicalization in Dutch shows that coherent infinitives in this language—even though Dutch only allows for VR—do license their arguments in a separate domain from the one of the matrix verb. An alternative account that derives topicalization patterns and VR-patterns from different sources would also have to explain why the different source



patterns are restricted in the way they are in Dutch (differently from German and West Flemish). Besides comprising a double base (projection of arguments in the matrix clause and in the embedded clause), such an account must provide specific restrictions as to why the topicalization pattern (O  $V_{\text{infin}}$ ) does not show up as VPR in sentences without VP-preposing in Dutch.

#### 7.4 The status of the gerund

In the last three chapters, I have been talking about different occurrences of gerunds. I assumed that some occurrences of gerunds are selected and that sometimes they can be used as a means of last resort. The common assumption that I made about it is that the gerund is a phrasal affix that morphologically selects for an infinitive, which requirement is satisfied via adjacency. All the other properties of the gerund should follow from the place in the clause it is inserted and from the restrictions, including last resort, that govern its insertion. Let me now address in turn the different occurrences of the gerund.

##### 7.4.1 The selected gerund (the Doelfoarm)

I propose that a gerund that is selected by the matrix verb is inserted in the head of the Status Phrase. In this position, it probably serves to nominalize the complement of the matrix verb, very much like a complementizer does. Since the Status Phrase attracts the local Aspect Phrase, the morphological requirement of gerunds is fulfilled through the standard licensing movement of Aspect Phrases in this position. The direct object can be assigned structural Case in the usual manner in the local TP. Contrary to a complementizer, the gerund cannot license the TP in the local Mood Phrase and the clause undergoes restructuring with the TP moving into PredP and the Status Phrase (since the gerund affix cannot be separated from the infinitive within AspP) moves into the Aspect Phrase in the matrix clause via [Spec,CP] in order to license the clause with a [+N] feature. This is illustrated in (36).

(36) [CP C [MP M [StatP G [TP [AspP ]]]]]

##### 7.4.2 The gerund in to-infinitives

In chapter 5, I argued that in a coherent to-infinitive the gerund is selected by the infinitival marker *zu* in the Aspect-head of the infinitival clause. Thus, I assumed that the gerund is inserted directly below the Aspect Phrase and attracts its complement, that is, F2P, into its Specifier to fulfill its morphological requirement. This is illustrated in (37). The infinitival clause, containing a defective complementizer, then restructures in the usual manner.

(37) [CP [TP [AspP zu [GP G [F2P V-en [VP ]]]]]]

##### 7.4.3 The gerund as a means of last resort

In the case of topicalization of an extended verb-projection in Dutch, the gerund is not selected by the matrix verb but is inserted in the course of the derivation. For instance, the gerund can be inserted on top of Agr3P in order to allow for topicalization of infinitive and direct object, as is illustrated again in (38). Then restructuring applies to the constituents in the embedded clause and the gerund is moved in the known fashion into the left edge of the matrix Aspect Phrase, in which position it is free to be extracted for topicalization.

(38) [CP [TP [GP G [Agr3P een boek [AspP [F2P lezen [VP]]]]]]]

Let me now address the question of the special status of gerunds in the grammar. In particular, I would like to know what the restrictions are that govern the attachment of the gerund. Also, the question arises as to whether there are other elements in the grammar that can function in a similar way. There is an analysis of VPR that suggests that infinitives can have the same properties.

My standard description of VPR is one of a process in which movement of the Aspect Phrase of the infinitival clause *pied-pipes* additional structure, for instance, an AgrOP that contains the direct object of the infinitival verb. Note that this informal way of talking about the process is actually misleading. According to the standard notion, a head X or a Specifier of X can pied-pipe other material by inducing the entire XP to undergo movement. But an Aspect Phrase cannot pied-pipe in the technical sense the entire AgrOP. Rather, in the other way round, the direct object in AgrOP could pied-pipe the Aspect Phrase contained in it. However, in my account of restructuring, movement of the Aspect Phrase (the infinitival VP) serves to check a feature of the verb and not a feature of the direct object.

There are two ways in which the verb could induce pied-piping of the entire AgrOP in the technical sense. (1) If the infinitive undergoes head movement to AgrO but is spelled out in the Aspect-head, it can be taken to pied-pipe the entire AgrOP when it undergoes further licensing movement into the C-domain or into the Aspect Phrase of the higher verb. (2) If the infinitive can also function as a phrasal affix, it can be inserted on top of AgrOP and attract the latter into its Specifier. Further movement of the infinitive would then necessarily pied-pipe the entire ArgOP.

The first option can be excluded. Dutch does not allow for VPR. Given the first option, we have to assume that Dutch differs with respect to head movement of the verb in this way from both German and West Flemish. This is unlikely. Or, at least, I know of no argument or evidence in this direction. Thus, we are left with the second option, which could render the status of the gerund in the grammar less idiosyncratic. Dutch can be described as a language in which the infinitival ending cannot function as a phrasal affix, explaining why Dutch does not have VPR. Therefore, the gerund is used as a means of last resort in cases of topicalization of an extended verb-projection. More work on the nature of VPR is needed to evaluate this hypothesis.

## 7.4.4 The gerund as a clausal affix

Let me address now the first issue, namely, the question of what the restrictions are that govern the attachment of the gerund. The preceding discussion has shown that the relevant restriction seems to be that the gerund can attach to any extended projection of the verb that can satisfy its morphological selection. This is consistent with its analysis as a (nominal) phrasal affix. The question, though, arises of whether it is possible to have a unified analysis of the occurrences of the gerund illustrated in (36) to (38) earlier.

One possibility is to assume (1) that the gerund affix is always inserted in the head of the Status Phrase in the C-domain, as given in (36) earlier, and (2) that the gerund can *attract* any extended projection of an infinitive into its Specifier in order to fulfill its morphological requirement. This unifies the three occurrences of the gerund discussed earlier and has the following advantage: All three occurrences of gerunds can be taken to be nominalized clauses. If we assume that the gerund is in fact a nominal phrasal affix, this analysis can explain why in all three kinds of nominal infinitives adverbs and, with one restriction, Case are licensed. Since the nominal affix is introduced high in the structure, verbal properties (Case) and verbal modifiers are licensed within the infinitival TP.

This consequence is of special importance for the analysis of coherent to-infinitives. If the gerund is indeed a nominal affix, then it is hard to explain in the analysis of (37) how a coherent infinitive can license event-related adverbs, since the gerund affix is taken to attach very low in the structure. In the analysis of the gerund in (36), this property follows without ado. But (36) raises the question of how the selectional property of the infinitival marker can be satisfied in this account. In chapter 5, I proposed that an infinitival marker that is not temporally linked selects for a gerund and assumed that selection means syntactic selection. In the revised account this requirement must be treated as morphological selection. The gerund affix is inserted in a higher position in the structure but merges with the infinitival ending after a suitable extended projection has been moved into its Specifier. The relevant concept that we need, to provide a comprehensive treatment of the gerund in coherent to-infinitives, is one that comes from the framework of Distributed Morphology (DM). In this approach two morphemes can be merged in Morphological Form (MF), that is, after Spell-out, under the condition of adjacency (cf. Halle and Marantz [1993]). This operation is called fusion in DM. Therefore, the nominal affix can be inserted in the head of the Status Phrase fulfilling its morphological selection after a suitable infinitival projection has been moved into its Specifier, as is illustrated in (39).

(39) [CP [MP [S<sub>1stP</sub> [A<sub>gr3P</sub> ein Buch [A<sub>spP</sub> zu [F<sub>2P</sub> lesen ]]]] G [TP t<sub>Agr3P</sub>]]]  
 FUSION

After Spell-out, the sister of *zu* in the morphological word is a gerund (Infinitive + G). It is important to note that this analysis is not such an ad hoc solution as it may seem. This analysis of a coherent to-infinitive represents a special case of a classical bracketing paradox. Let us consider another typical example of the latter in (40). Contrary to the morphological bracketing structure indicated in (40b), which is called

for by the restriction that *-ier* can only attach to maximally bisyllabic adjectives, the scope of the degree morpheme must comprise prefix and adjectival stem, since *unhappier* means 'being more unhappy'. The paradox can be resolved if it is assumed that *-ier* is a phrasal affix that fuses with the adjectival stem after its syntactic complement has moved into its Specifier, as is illustrated in (40c, d).

- (40) a. unhappier  
 b. [un [happy + ier]]  
 c. [DegP -ier [ModP un [AdjP happy]]]  
 d. [DegP [ModP [un [AdjP happy]] -ier] t<sub>ModP</sub>]

How can we account for the fact that a coherent to-infinitive does not license structural Case? We have to assume that the culprit is the infinitival marker *zu*. I propose that the infinitival marker that is not temporally linked is a preposition-like element that has the categorial feature [-V]. This [-V] head blocks agreement between Agr3 and little *v*, which is necessary to assign Accusative Case, as I have argued in chapter 5. These revised assumptions about the syntax of coherent to-infinitives are given in (41).

- (41) The infinitival marker *zu* that is not temporally linked has the categorial feature [-V] and morphologically selects for a gerund.

With these modifications, we can derive all the properties of coherent to-infinitives. (1) They can license adverbs since the nominalizing phrasal affix attaches high in the structure. (2) They fail to license structural Accusative due to the presence of the infinitival marker with the categorial feature [-V]. (3) The selectional property of the infinitival marker is fulfilled after Spell-out in MF.

## 7.4.5 Conclusions

To summarize, we arrive at a uniform characterization of the different occurrences of gerunds as nominalized clauses. In each case the gerund is introduced in the C-domain, more precisely, in the head position of the Status Phrase. More research, especially empirical work on the syntax of nominalized infinitives, is needed to evaluate this hypothesis. Also, more diachronic research would be useful to throw light on the development of these infinitives. However, I have developed an account of nominalized infinitives that provides a coherent account of their essential properties.

## 7.5 Conclusions

In this chapter I have addressed three issues that were left open by my account of restructuring. These were (1) the issue of how to deal with extraposition in a UBH approach, (2) the question of the proper account of VP-topicalization, and (3) the issue of the proper characterization of gerunds in restructuring contexts.

With respect to the first issue, many questions remain. With respect to the second and the third issue, I have succeeded in providing a comprehensive account that solves some long-standing problems: The description and treatment of the VP-topicalization facts that fall out from my account of restructuring infinitives go a long way in solving the hard problems discussed in section 7.2.

The analysis of coherent to-infinitives as gerunds (nominal infinitives) seems promising and accounts for both the similarities with other occurrences of this nominal affix in Doelfoarms, as is evidenced by the presence or absence of the IPP-effect, and the property that distinguishes coherent to-infinitives from the latter, namely, the ability of assigning structural Case.

The coherence of the overall picture that this account yields, for instance, the fact that the properties and restrictions of VP-topicalization follow from the fine structure of the different verb clusters in West Germanic, provides good evidence that the general approach to restructuring that I have taken in this book, namely, to derive the properties of the different types of coherent infinitives from a common sentential source structure through complex derivations, is on the right track.

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## Summary and Conclusions

**I**n this book, I have discussed three salient syntactic phenomena in West Germanic, namely, scrambling, remnant movement, and restructuring, and investigated in detail their interdependence. It was shown that the original account of remnant topicalization in (1a) in terms of prior VP-evacuation via scrambling, as has been proposed by Den Besten and Webelhuth (1989) and as is illustrated in (1b), is mistaken. Scrambling does not feed remnant movement, neither within the clause, as in (1), nor across clauses in cases of restructuring. What has been topicalized in (2a) is not the infinitival clause the direct object of which has been scrambled out, as is illustrated in (2b), but only the infinitival VP: a remnant category that is created by licensing movement and restructuring operations.

- (1) a. gelesen hat Hans das Buch  
read has Hans the book  
b. [<sub>CP</sub>[<sub>VP</sub> t<sub>SCR</sub> gelesen] hat [<sub>IP</sub> Hans' das Buch<sub>SCR</sub> t<sub>VP</sub>]]
- (2) a. zu kaufen hat er das Buch versucht  
to buy has he the book tried  
b. [[t<sub>SCR</sub> zu verkaufen] hat er das Buch versucht]

I have shown that within the clause it is licensing movement (emptying the VP up to the verb) that constitutes the basis for remnant movement of verbal projections, while in cases of restructuring it is remnant movement that feeds apparent scrambling across clauses.

Licensing movement out of the VP also provides the basis for the antisymmetric account to the syntax of the West Germanic OV languages that I have developed and argued for in this book. All syntactic phenomena are derived within a purely right-branching clause structure via leftward movement into dedicated Specifiers of functional heads, rendering superfluous the operations of rightward movement and adjunction as well as the assumption of multiple Specifiers.

It is argued that licensing movement not only affects the constituents of the VP but also applies to the major constituents of the clause, that is, to AspP and TP, which are taken to move into specific licensing positions in the C-domain. Furthermore, I have argued that restructuring involves movement of the infinitival AspP and TP into dedicated licensing positions in the matrix clause. In this approach, restructuring has the same rationale as subject movement has in cases of (subject) raising constructions: A constituent that fails to be licensed in the embedded clause undergoes further movement to be licensed in the matrix domain. Thus, restructuring falls out as a special case within a theory of generalized licensing that obtains when the licensing heads in the C-domain are defective.

Constituents are licensed by checking/validating their features in dedicated functional projections. Along these lines, I have tried to combine Kaynean assumptions about phrase structure with minimalist assumptions about movement and feature checking. In particular, I have adopted the assumption that movements are triggered and that derivations are phase based (Chomsky 2001).

The results of the empirical investigation of the three syntactic phenomena of West Germanic within this combined approach that have interesting implications for the construction of the theory are summarized as follows:

1. The restrictions on VP-topicalization follow from the Phase Impenetrability Condition if cyclic Spell-out is assumed (chapter 7).
2. Despite the massive use of remnant movement in this approach, interpretational effects in coherent to-infinitives show that head movement cannot be dispensed with and must be defined in terms of antisymmetric c-command (chapter 5).
3. The principle of Attract Closest can only handle a subset of movement operations and must be replaced with a principle that guarantees strict cyclicity in a derivation (chapter 4).
4. The phenomenon of scrambling implies that if we want to exclude optional movement within a derivational framework, not only a small set of formal features can be taken to underlie a syntactic derivation, as is assumed in narrow syntax, but interface features must be imported into the syntax and be taken to drive derivations as well (chapter 2).
5. The flexibility of adjunction operations can be replaced with a system that allows for feature assignment in the course of the derivation (chapter 2).

The most important empirical results are discussed and summarized in the individual subsections dedicated to the different chapters that follow.

## 8.1 Scrambling and optionality

Chapter 2 provides a comprehensive discussion of scrambling operations in West Germanic. I first argue that two types of scrambling operations must be distinguished. I conclude that the scrambling operation in which the scrambled element is stressed has clear properties of A'-movement: It is not clause-bound and may affect arguments and predicates alike. Then, I focus on the properties of the type of scrambling operation in which the scrambled element does not receive a special stress or is completely unstressed.

I argue that this type of scrambling operation, called scrambling proper, is clause-bound and needs to be captured as an A-movement operation. I identify two types of triggers for scrambling proper, namely, specificity, defined in pragmatic terms as being familiar to speaker and hearer in the discourse situation, and scope, defined in terms of relational features. I argue that both types of features are checked by A-movement into the Specifiers of functional heads. While specificity is proposed to be checked in the Specifier positions of heads that license weak pronouns, the checking of the relational scope features, in the absence of free adjunction, requires an extension of the minimalist framework that allows for the introduction of non-lexical features in the course of the derivation.

Finally, I address the claim by H&R that scrambling is essentially optional and therefore defies any account as triggered movement operation. I argue that a trigger account is indeed feasible in a copy theory of movement in which both LF- and PF-conditions determine which copy is to be spelled out.

## 8.2 A VO-based account of verb raising and verb projection raising

Chapter 3 and chapter 4 introduce Verb Raising and Verb Projection Raising constructions in Dutch and West Flemish. First, I provide an empirical argument for a VO-based approach to the syntax of the West Germanic OV languages. With the help of the infinitival marker it is shown that all VP-internal material is moved out of the VP into dedicated licensing positions in the middle field. Then, I address the question of how VR and VPR are to be accounted for in a VO-based approach.

### 8.2.1 Verb raising

As is illustrated in (3), a typical case of VR in Dutch, nominal arguments of the infinitive and adverbs and adverbials that modify it precede the selecting verb, while the infinitive itself and a sentential complement of the infinitive (3c) follow the selecting verb. In (3), constituents that belong to the embedded clause are given in brackets. Within a VO-based approach, we have to assume that (3a) and (3c) are derived from an underlying structure of the type given in (3b).

- (3) a. dat Jan [Marie het boek morgen] wilde [geven]  
 that Jan Marie-DAT the book tomorrow wanted give  
 'that Jan wanted to give Marie the book tomorrow'

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

I present two arguments that show that the simplest possibility of relating (3a, c) with (3b), namely, by scrambling embedded material into the matrix clause, is untenable. (1) Verb-particles, small clause predicates, and idiomatic expressions cannot scramble, as has been shown in chapter 2, but precede the matrix verb in VR constructions. (2) Adverbs cannot undergo long-distance scrambling.

Furthermore, I argue that an alternative approach in which it is assumed that constituents of the embedded clause undergo *licensing movement* into the matrix domain, rather than scrambling—as has been proposed by Zwart (1993) and then recast in a more advanced minimalist system by Wurmbrand (2001)—is untenable as well. There are two arguments against such an approach to VR-constructions. (1) It would forestall a unified account of VR- and VPR-constructions and (2) Coherent infinitives comprise more than one licensing domain for their arguments and modifiers, as I argued in chapter 5.

I then describe in detail my account of VR in terms of remnant movement of the main phases of the infinitival clause into dedicated licensing positions in the matrix clause that dispenses with rightward movement as well as with unmotivated scrambling operations. The approach is based on the generalizations about the basic clausal structure outlined in section 4.2 (cf. [19]) and on the assumption that coherent infinitives are CP-complements, rather than reduced clauses. In this approach, arguments and adjuncts are not moved individually into the matrix clause but are pied-piped by the movement of a larger constituent. This larger constituent is argued to be the infinitival TP, which is moved to a position below all adverbs in the matrix clause. The basic tenets of restructuring are given in the following section.

### 8.2.2 Restructuring

1. movement of the embedded Aspect Phrase into [Spec,StatP] of the embedded clause
2. movement of the remaining TP of the embedded clause into [Spec,PredP] of the matrix verb via [Spec,MoodP] in the embedded clause
3. movement of the infinitival Tense-head to the functional head that licenses the controller of PRO to ensure the identification of the infinitival subject (as is discussed in detail in chapter 5)
4. additional XP-movement of AspP into a Specifier of the selecting verb to account for the formation of verb clusters and the appearance of the IPP-effect (see later discussion and chapter 6 for details)

The complex derivation of a VR-construction in Dutch is illustrated in (4). Given my assumptions, (4a) is derived from the source structure in (4b). In the first step, the arguments leave the VP to be licensed in the embedded clause, as is illustrated in (4c).

In the next step, AspP that has been emptied up to the verb is moved into [Spec,StatP] of the infinitival (and then moved on into a position that precedes the matrix verb but is spelled out in the infinitival clause. The result of this operation is shown in (4d).

In the following step, the remaining TP of the infinitival is moved via [Spec,MoodP] of the embedded clause to [Spec,PredP] of the matrix verb. The resulting structure is given in (4e). The reason for these licensing movements into the matrix domain is a deficient complementizer that cannot fully value the licensing projections of AspP and TP in the infinitival C-domain. In particular, it is assumed that StatP fails to check the subcategorization of the matrix verb; thus the infinitival AspP moves into a checking position in the V-domain of the selecting verb, giving rise to the formation of verb clusters. The MoodP is unable to temporally link the infinitival TP, which, not denoting an event-token, fails to qualify as an argument of matrix verb and thus "restructures" as a predicate by moving into the PredP of the matrix verb.

In the final step, both the matrix subject and the embedded direct object scramble to positions above the sentential adverb *vaak*. This last step is optional. Hence both *dat vaak Jan het boek lang wil lezen* and *dat Jan vaak het boek lang wil lezen* are fine sentences in Dutch. If we replace the adverb *often* with sentence negation in (4), then scrambling of both arguments becomes obligatory (in the absence of any contrastive focus) as we expect (cf. the discussion of scrambling in chapter 2). Scrambling of embedded arguments is enabled by extraction of the TP out of the embedded CP. Here we see one effect of the differentiation between licensing movement and scrambling. The arguments of the coherent infinitive are licensed in the embedded clause but can undergo scrambling according to their referential or quantificational properties in the domain of the matrix clause.

- (4) a. dat Jan het boek vaak lang wil lezen  
that Jan the book often long wants read  
'that Jan often wants to read the book for a long time'
- b. [dat vaak [<sub>VP</sub> Jan wil [<sub>CP</sub> ... [lang [<sub>AspP</sub>  $\emptyset$  [<sub>VP</sub> PRO lezen het boek]]]]]]
- Step 1: licensing movement in the embedded clause
- c. [dat vaak Jan [<sub>VP</sub> wil [<sub>CP</sub> [<sub>TP</sub> PRO het boek lang [<sub>AspP</sub> [<sub>VP</sub> lezen]]]]]]
- Step 2: AspP moves into [Spec,StatP] in the embedded clause
- d. [dat vaak Jan wil [<sub>CP</sub> [<sub>AspP</sub> lezen] [<sub>TP</sub> PRO het boek lang t<sub>AspP</sub>]]]
- Step 3: TP moves into [Spec,PredP] in the matrix clause
- e. [dat vaak Jan [<sub>PredP</sub> [<sub>TP</sub> PRO het boek lang t<sub>AspP</sub>] wil [<sub>CP</sub> lezen t<sub>TP</sub>]]]
- Step 4: scrambling of the matrix subject and the embedded object
- f. [dat Jan<sub>i</sub> het boek<sub>j</sub> vaak t<sub>i</sub> [<sub>PredP</sub> [<sub>TP</sub> PRO t<sub>j</sub> lang] wil lezen]]

### 8.2.3 Verb projection raising

In cases of VPR, the verb cluster may contain arguments and adverbs that belong to the embedded infinitival, as is illustrated in (5). What is peculiar about this partition of arguments is the following observation: A scopal element that is outside of the verb cluster can take its scope inside or outside of the verb cluster, but an element

that is part of the verb cluster may take its scope only inside of the verb cluster. It is important to note that an element outside of the verb cluster in its narrow scope reading always takes wide scope with respect to material that has undergone "VPR." So, for instance, (6a) cannot mean that Jan made Valere three times read two books (possibly different ones at each occasion).

- (5) a. da Marie Jan nen boek t<sub>R</sub> wilt [geven]<sub>R</sub>  
that Maria Jan a book wants give
- b. da Marie Jan t<sub>R</sub> wilt [nen boek geven]<sub>R</sub>  
that Marie Jan wants a book give
- c. da Marie t<sub>R</sub> wilt [Jan nen boek geven]<sub>R</sub>  
that Marie wants Jan a book give  
'that Marie wants to give Jan a book'

In my approach, the VPR-structure in (6a) differs from a typical VR-structure only in the amount of structure that is moved by the Aspect Phrase into the C-domain of the infinitival. The interpretational effect described in (6a) then simply follows from the mechanics of the system. In the infinitival clause, arguments cannot only undergo licensing movement but can also undergo scrambling, for instance, in order to take scope over an adjunct. In chapter 2, we have seen that a DP that is scrambled across an adverb has necessarily wide scope with respect to such an adverb but has necessarily narrow scope with respect to such an adverb if it fails to scramble. If we assume that it is possible to pied-pipe the phrase that corresponds to the domain that contains these adverbs with AspP-movement into the C-domain, then it follows without stipulation that the DP in (6a) necessarily has wide scope over the adverb in the VPR-complement: In more simple terms, in order for an element to move into the domain of the selecting verb via TP-movement, it has to take scope over the elements that stay behind and are pied-piped by movement of AspP, as is illustrated in (6b). In (6b), PPD stands for pied-piped domain, that is, the domain that has been pied-piped by movement of AspP.

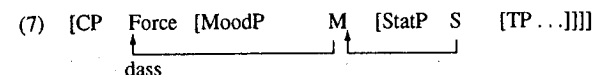
- (6) a. da Jan Valere twee boeken deeg drie keers lezen  
that Jan Valere two books made three times read
- b. da Jan Valere [<sub>PreDP</sub> [<sub>VP</sub> deeg [<sub>CP</sub> [<sub>TP</sub> [twee boeken]<sub>i</sub> [<sub>PPD</sub> drie keers t<sub>i</sub> lezen]]]]]]

8.2.4 An account of sentential complementation

Finally, I propose an account of sentential complementation that allows us to derive the movement operations argued for earlier. The basic idea is that the local C-domain is responsible for licensing the AspP and TP in the clause, with the complementizer acting as a placeholder for the selectional requirements of the selecting verb. In this approach, movement of AspP and TP, which we argued to make up restructuring, occur in every clause.

Following recent work on the split C-domain (cf. Rizzi [1997]), I assume that the C-domain is made up of various functional projections. I assume that the com-

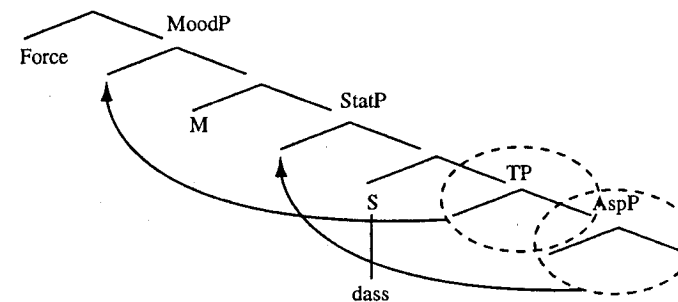
plementizer is inserted in StatP, where it licenses the finiteness of the clause and moves through MoodP, where the tense of the clause is linked to the speaking time with matrix clauses and to the matrix event time with embedded clauses, to Force, constituting the highest head in the C-domain. This is illustrated in (7), where it is assumed that the traditional CP corresponds to ForceP (CP = ForceP).



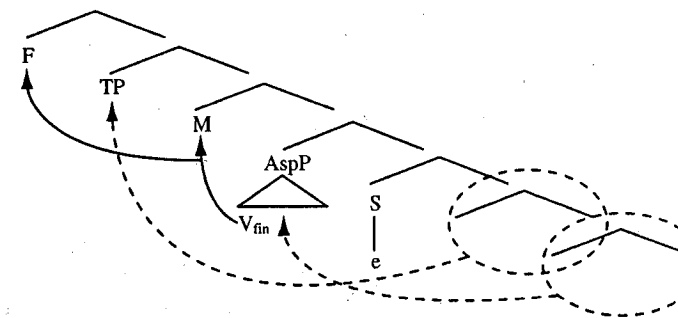
In an embedded clause with a non-deficient complementizer, the complementizer will value the heads Stat<sup>0</sup> and Mood<sup>0</sup> such that the embedded AspP and TP can be licensed in the respective Specifier, as is illustrated in (8). In this approach, the finite verb in matrix clauses only undergoes local movement within the C-domain: After the Aspect Phrase that contains the finite verb has been moved into [Spec,StatP], the latter extracts and moves via the head of MoodP to the highest head in the C-domain, as is illustrated in (9).

In the case of a restructuring verb, the complementizer is deficient and fails to license the embedded AspP and TP, which move on into dedicated licensing positions in the matrix clause, as is illustrated in (10).

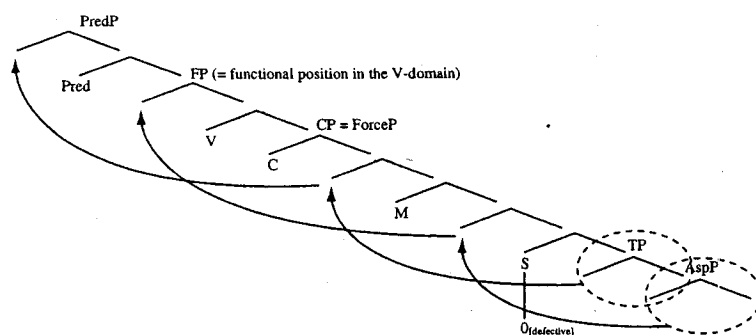
(8) licensing movements in an embedded clause



(9) licensing movements in a main clause



## (10) licensing movements in a coherent infinitive



Assuming that a biclausal analysis is appropriate, let me take up at this point the question of whether the embedded clause should be a full CP, as is proposed earlier, or something smaller. In other words, the question arises of how we can distinguish between an analysis of coherent infinitives with a defective C-layer or a missing C-layer. If we assume that coherent infinitives are TPs in the latter approach, the same kind of licensing movements into the matrix clause without the intermediate steps in the C-domain in the embedded clause could be assumed.

I would like to discuss this point again in order to render some assumptions that I make in different parts of this book more explicit. On the empirical side, I argue for the presence of MoodP and StatP in restructuring infinitives in order to be able to handle extraposition. In the absence of rightward movement, TP- and AspP-movement must be taken to apply in every clause in coherent infinitives (cf. the discussion of the data in [8] in chapter 7).

In chapter 4, I argue that the C-domain, though defective, is not completely inert. The complementizer in coherent constructions is not fully valued or underspecified. I argue that it selects for a nonfinite complement, thereby excluding finite clauses from restructuring in German, and for a subjunctive complement, thereby excluding factive complements from restructuring contexts.

On more conceptual grounds the rationale of this approach is that these verbs simply s-select for propositions and that the canonical syntactic representation of a proposition is uniformly taken to be a CP. In other words, the difference between restructuring and non-restructuring verbs is not that the latter take propositions and the former something smaller, say, event-descriptions or something, but that they differ solely in the way they license their propositional complements.

The basic question about coherent infinitives has always been the issue of whether these infinitives are full or reduced clauses. I have no new insight to offer that could decide this question. My analysis solely provides a technical solution that allows us to treat coherent infinitives as full CPs, provided that we accept the notion of deficiency as it is understood earlier.

## 8.3 Coherent infinitives in German and the issue of monoclausality

In chapter 5, I provide empirical arguments to show that coherent bare infinitives in German are biclausal. The empirical arguments come from two different domains, the order of adjuncts and the binding properties in coherent infinitives, but point into the same direction, namely, that more than one licensing domain is present in coherent infinitives.

## 8.3.1 The order of adjuncts

Adjuncts in coherent infinitives with a selecting modal verb can appear in an order that is impossible in monoclausal structures. As is illustrated in (11), an aspectual adverb that modifies the matrix verb precedes a temporal adverb that modifies the infinitive in a coherent infinitival construction. Since temporal adjuncts occur in a structurally higher position than aspectual adjuncts (cf. Cinque [1999]), this order is ungrammatical in a single clause. These data speak against Cinque's (2001) analysis of modal verbs as functional restructuring verbs as well as Wurmbrand's (2001) monoclausal analysis of modal verbs as lexical restructuring verbs. In my approach these data are unproblematic, since coherent infinitives are taken to comprise a separate licensing domain for each verb and adjuncts that modify the infinitive are moved, via TP-movement to PredP, into a position below all adjuncts that modify the matrix verb.

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

## 8.3.2 The binding properties of ECM-infinitives

The binding properties of coherent infinitives embedded under ECM-verbs reveal that these infinitivals comprise two (distinct) binding domains. Assuming that the binding domain within the clause is constituted by the TP by default, I take these data as indicating that coherent infinitives must be at least as big as TPs. As is indicated in (12), while in a single clause both objects must be disjoint from the subject, the embedded object in a coherent infinitive can be coreferent with the matrix subject. Since the negation in (12) can have matrix scope (the most natural reading), the embedded subject and object must have moved into the matrix TP, after restructuring has moved the embedded TP into [Spec, PredP] of the matrix verb, as is illustrated in (12d).

- (12) a. weil er<sub>i</sub> ihn<sub>vj</sub> sie nicht waschen liess  
since he him her not wash let-Past
- b. weil er<sub>i</sub> sie ihn<sub>vj</sub> nicht waschen liess  
since he her him not wash let-Past
- c. weil der Hans<sub>i</sub> ihn<sub>vj</sub> ihm<sub>vk</sub> vorstellte  
since the Hans him-ACC him-Dat introduced
- d. [<sub>CP</sub> weil [<sub>TP1</sub> er sie<sub>i</sub> ihn<sub>j</sub> [nicht [<sub>PredP</sub> [<sub>TP2</sub> t<sub>i</sub> t<sub>j</sub>] waschen liess/sah]]]]

Assuming that the embedded subject is Case-licensed in the matrix clause and the embedded object is Case-licensed in the embedded clause, the binding properties of ECM-infinitives follow from the principle in (13). These data therefore also provide evidence against the accounts of Wurmbrand (2001) and Zwart (1993), who assume that in VR-constructions the arguments of the infinitive must be licensed in the domain of the matrix verb.

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

### 8.3.3 Coherent to-infinitives

Coherent to-infinitives in German have figured prominently in the debate of whether coherent infinitives are to be analyzed as monoclausal or biclausal structures. Coherent to-infinitives allow for the so-called long passive and both Haider (1991) and Wurmbrand (2001) take this fact as conclusive evidence for the monoclausality of these infinitives. As is illustrated in (14), in a long passive what would be the object in the embedded clause is realized as the Nominative subject of the matrix verb.

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

According to Haider (1991), this indicates that the object of the infinitive is Case-licensed by the matrix verb (with the object receiving Nominative Case if the matrix verb is passivized). That an embedded argument is Case-licensed by the matrix verb is familiar to us from ECM-verbs. In an ECM-construction, the subject as the highest argument can undergo Case-licensing movement into the matrix domain. But the same analysis cannot be applied to coherent to-infinitives, since the embedded object cannot be taken to undergo Case-licensing movement into the matrix domain *across the embedded subject*, that is, PRO. Therefore, a biclausal analysis of coherent to-infinitives seems to be impossible.

However, such an analysis is possible in my account of restructuring that is based on remnant movement of parts of the infinitival clause. The derivation proceeds in

the following way: The embedded object pronoun contained within the Agreement Phrase is pied-piped by movement of the AspP via the C-domain of the infinitival into [Spec,AspP] of the matrix verb, while PRO contained within the embedded TP is moved into [Spec,PredP] of the matrix verb. Note that in this first step the embedded object does not move across PRO. In the second step, the embedded object moves out of AspP to its Case-licensing position in the matrix clause. Movement of the embedded object is again unhampered by PRO, since PRO in the matrix clause is contained in a larger phrase, namely, the embedded TP. The derivation for a typical case like *weil Hans ihr ihn zu waschen empfahl* ('since Hans recommended to her to wash him') is given in (15).

- (15) [<sub>CP</sub> Hans ihr empfahl [<sub>CP</sub> [<sub>TP</sub> PRO [<sub>AgrP</sub> ihn zu waschen]]]]  
Hans her recommended him/self to wash
- Step 1: AgrP (the extended AspP) moves via [Spec,StatP] into [Spec,CP]  
a) [<sub>CP</sub> Hans ihr empfahl [<sub>CP</sub> [<sub>AgrP</sub> ihn zu waschen] [<sub>TP</sub> PRO t<sub>AgrP</sub>]]]
- Step 2: AgrP moves to [Spec,AspP] in the matrix clause  
b) [<sub>CP</sub> Hans ihr [<sub>AspP</sub> [<sub>AgrP</sub> ihn zu waschen] empfahl [<sub>CP</sub> t<sub>AgrP</sub> [<sub>TP</sub> PRO t<sub>AgrP</sub>]]]]
- Step 3: TP moves to [Spec,PredP] in the matrix clause  
c) [<sub>CP</sub> Hans ihr [<sub>PredP</sub> [<sub>TP</sub> PRO t<sub>AgrP</sub>] [<sub>AspP</sub> [<sub>AgrP</sub> ihn zu waschen] empfahl [<sub>CP</sub> t<sub>AgrP</sub>]]]]]
- Step 4: The embedded direct object moves into its Case-position without crossing PRO  
d) [<sub>CP</sub> Hans ihr [<sub>AgrO</sub> ihn<sub>k</sub> [<sub>PredP</sub> [<sub>TP</sub> PRO t<sub>AgrP</sub>][<sub>AspP</sub> [<sub>AgrP</sub> t<sub>k</sub> zu waschen] empfahl]]]]]

This shows that a biclausal analysis of coherent to-infinitives is possible, if an independent explanation for why the embedded object cannot be Case-licensed within the infinitival clause is provided. I argue that coherent to-infinitives are nominalized infinitives (also called gerunds in this book), in which the categorial status of the infinitival marker is responsible for blocking assignment of structural Case to the object. Then I provide two arguments that indicate that a biclausal analysis of coherent to-infinitives is not only possible but also necessary. First, I show that the binding properties of anaphors in coherent to-infinitives, illustrated in (15e) later, are problematic for a monoclausal approach, while they follow naturally from the tenets of my biclausal approach. Second, I take Haider's (1991) tests and criteria for monoclausal infinitives (derived from the properties of coherent to-infinitives) and show that these properties also hold of the other coherent infinitives, including those that clearly have biclausal properties. Since a monoclausal analysis of coherent ECM-infinitives and of coherent modal infinitives is impossible, the monoclausal analysis of coherent to-infinitives is to be discarded on grounds of parsimony.

- (15) e. \*weil sich<sub>ij</sub> ihr<sub>i</sub> der Hans<sub>i</sub> zu waschen empfahl  
since herself/himself her the Hans to wash recommended  
'since Hans recommended to her to wash herself/himself'



#### 8.4 The IPP-effect and the unified account of verb clusters in West Germanic

In chapter 6, I propose an account of the IPP-effect and provide a uniform format for the analysis of left- and right-branching verb clusters in German, Dutch, and West Flemish.

In chapter 4, I argue that the infinitival TP and AspP cannot be licensed in the embedded C-domain and move into dedicated licensing positions in the matrix clause. While the infinitival TP is licensed in [Spec,PredP] of the matrix clause, the infinitival AspP that contains the dependent verb moves into a licensing position below PredP that needs to be identified. The purpose of the final step in the licensing movement of the dependent verb is twofold: (1) the subcategorization of the selecting verb needs to be checked. Following Bech (1955/1985), I assume that a verb selects for the status of its nonfinite complement. That is, it determines whether the dependent nonfinite verb is a participle, a bare infinitive, or a to-infinitive. (2) Following recent work on Tense that requires verbs to be temporally anchored, I propose that dependent verbs must be linked to the matrix event time. Nominal categories, including nominalized infinitives, are exempted from this formal licensing requirement.

Chapter 6 discusses various types of evidence for determining which functional positions in the V-domain serve which licensing function. Example (16) illustrates the functional positions in the V-domain that are argued for in this book.

- (16) Skeleton of functional positions in the V-domain  
 [<sub>AspP</sub> (zu) [<sub>F2P</sub>                    [<sub>F3P</sub>                    [<sub>VP</sub> ... ]]]]

##### 8.4.1 Accounting for the IPP-effect

In section 6.2, I argue that IPP-infinitives are hidden participles and that the IPP-effect reduces to a structural incompatibility between the participial prefix and the infinitive dependent on the restructuring verb, on account of the fact that the languages and dialects in which the participle is formed without a prefix, namely, Frisian and Low German, do not display an IPP-effect.

In the West Germanic languages that display the IPP-effect, the participle is formed by affixation of the prefix *ge* and the suffix *-t*. I follow Halle and Marantz (1993) in assuming that inflected forms are (partially) derived in the syntax. More specifically, I propose that the participial prefix *ge* is inserted in [Spec,F2P] of the participial phrase. The verb in the participial phrase will first move to F2, to check its prefix, and then up to the Aspect-head to merge with the suffix that contains the temporal interpretation. In the final step the prefix left-adjoins to the complex of verb and suffix, to form the participle before Spell-out. This is illustrated in (17).

- (17) [<sub>AspP</sub> -t [<sub>F2P</sub> [*ge*] [F2 [<sub>VP</sub> V]]]]

If the verb in the participle phrase is a restructuring verb, then the dependent infinitive will move into [Spec,F2P] for licensing purposes. It follows that a verb in

participial form and a bare infinitive selected by such a verb rule each other out. In this case the participial prefix is blocked by the dependent infinitive, that is to say, it cannot be inserted. Since the prefix is selected by the participial suffix, the latter is dropped and the verb remains in F2 and is spelled out with the default morphology of a bare infinitive. Instead a zero-morpheme is inserted in the head of AspP that contains the formal feature [+ participle] and a semantic feature [+ past] to guarantee the correct interpretation of the hidden participle phrase. This is illustrated in (18). IPP-infinitives in German are obligatorily right-branching, since movement of the zero-morpheme into the Aspect Phrase of the selecting auxiliary strands the IPP-infinitive in [F2P] below.

- (18) [<sub>AspP</sub> 0 [<sub>F2P</sub> [dependent infinitive] IPP-infinitive<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> ]]]

##### 8.4.2 A unified analysis of verb clusters in West Germanic

While the surface data (in German) suggest that dependent verbs in restructuring contexts are licensed in [Spec,AspP] of the selecting verb, I provide evidence from the syntax of IPP-complements in West Flemish and Afrikaans that participles and verbal infinitives move through the Specifier of F2P below AspP (and sometimes remain there). With the help of Frisian data, I establish that the West Germanic dialects have two types of infinitives, one being directly licensed in AspP, the other, like participles, moving through [Spec,F2P] below AspP, thereby giving rise to the IPP-effect. Linking this observation with the fact that coherent to-infinitives, which I proposed to analyze as nominal infinitives in chapter 5, never give rise to an IPP-effect, I propose that F2 is responsible for temporal linking of dependent verbs, while the subcategorization of the matrix verb can be checked either in [Spec,AspP] or in [Spec,F2P]. The latter choice seems to depend on the amount of head movement of the verb in the V-domain in a language. While German nonfinite verbs always move into the highest head in the V-domain, that is, AspP, nonfinite verbs in Dutch and West Flemish only move as far as F2. This has important consequences for the analysis of verb clusters in the three languages. A dependent nonfinite verb in a left-branching verb cluster in German must be analyzed as occupying [Spec,AspP] preceding the selecting verb in Asp<sup>0</sup>. A dependent nonfinite verb in a right-branching verb cluster in Dutch or West Flemish must be analyzed as occupying [Spec,F3P] following the selecting verb in F2.

- (19) a. Right-branching verb clusters in Dutch and Westflemish:  
 temporal linking and subcategorization checking in [Spec,F2P], the selecting verb remains in F2  
 Spell-out in [Spec,F3P], the left edge of the V-domain remains empty  
 [<sub>AspP</sub> (te) [<sub>F2P</sub> [V2] V1    [<sub>F3P</sub>    [V2] [<sub>VP</sub> ... ]]]]
- b. Left-branching verb clusters in German:  
 temporal linking in [Spec,F2P], subcategorization checking in [Spec,AspP]  
 Spell-out in [Spec,AspP], the selecting verb moves to the highest V-position  
 [<sub>AspP</sub> [V2] V1 [<sub>F2P</sub> [V2]    [<sub>F3P</sub>    [<sub>VP</sub> ... ]]]]

- c. Right-branching verb clusters in German  
 same as above but the dependent infinitive is spelled out in [Spec,F2P]  
 the left edge of the V-domain is occupied  
 [AspP [V2] V1 [F2P [V2] [F3P [VP ... ]]]]
- d. Right-branching verb cluster projected by an IPP-infinitive in German  
 [AspP AUX [F2P [V3 V2] [F3P [VP ... ]]]]  
 the zero-morpheme adjoins to the auxiliary in the highest head position in the  
 V-domain; thus [Spec,AspP] remains an available escape hatch

#### 8.4.3 Extraction from the V-domain and the Phase Impenetrability Condition

Based on the preceding analysis of verb clusters in West Germanic, I show that the different status of topicalized right-branching verb clusters in German and Dutch/West Flemish follows from the prosodic condition in (21) and the Phase Impenetrability Condition (PIC). While right-branching verb clusters in Dutch can be topicalized, topicalization of right-branching verb clusters, with the exception of clusters that comprise IPP-infinitives, leads to ungrammaticality in German, as is illustrated in (20).

- (20) a. ?\*[müssen lesen können] wird er den Text  
 must read can will he the text
- b. ?[haben lesen wollen] wird er den Text  
 have read want-IPP will he the text  
 'he will have wanted to read the text'
- c. [moeten kunnen lezen] zal hij het boek  
 must can read will he the book  
 'he will have to be able to read the book'

- (21) A right-headed phonological phrase in a verb cluster must sit on a right branch with respect to the non-head.

Extraction out of a verb cluster must proceed via the left edge of the V-domain, that is, [Spec,AspP]. Extraction of a right-branching verb cluster will thus lead to a violation of the prosodic constraint in (21). Violation of this constraint will lead to ungrammaticality if there is another Spell-out option as is the case in (20a), which could have been spelled out as *lesen können müssen*, but only to a marked grammatical result if there is no other Spell-out option, as is the case in (20b), since IPP-infinitives are obligatorily right-branching.

This account presupposes that Spell-out options in the V-domain are fixed before the derivation reaches the C-domain, since no such prosodic condition is at work in the C-domain in German. To sum up, the account of the rather subtle differences in (20) is based on three assumptions: (1) The Aspect Phrase (not the VP) constitutes a phase, (2) Spell-out is cyclic (rather than ensuing at the end of the entire derivation), and (3) there are interface constraints (like the mapping rule between syntactic

structure and prosodic structure in [21]), whose violation leads to ungrammaticality under certain conditions.

#### 8.5 Extraposition, VP-topicalization, and the status of gerunds

Chapter 7 addresses a number of open questions. The first issue pertains to extraposition, a notoriously difficult topic within antisymmetric approaches. Without trying to devise a comprehensive account of extraposition, section 7.1 addresses a technical problem that is brought about by the account of sentential complementation developed in chapter 4. Because of their licensing requirements, CP-complements become part of the verb cluster (they are licensed in [Spec,F3P] of the selecting verb and due to the PIC become inaccessible for further computation. Clearly, this result is unwanted since CP-complements (1) can be topicalized and (2) must be "extraposed" from left-branching verb clusters.

##### 8.5.1 Extraposition from verb clusters

I provide a technical solution to this problem, which treats extraposition as leftward movement into a high Specifier in the clause that follows from the condition in (22), which is a rendition of Büring and Hartmann's (1997) account, and makes use of the proposal that both TP and AspP undergo licensing movement into the C-domain. A case of extraposition is illustrated in (23). At the end of the derivation neither Tense nor Aspect c-command the Tense within the "extraposed" CP, as demanded in (22). From its "scope" position in (23) the CP-complement, being outside of the verb cluster, can be topicalized on its own as well as be stranded or pied-piped by topicalization of the verb cluster, that is, by movement of the AspP into [Spec,CP].

- (22) A Tense-head may be neither in the checking domain nor in the scope (defined by C-command) of an Aspect- or Tense-head.
- (23) a. [CP C [MoodP M [StatP S [TP [AspP V CP]]]]]  
 b. [CP C [MoodP M [StatP S [CP [TP T [AspP V t]]]]]] extraposition  
 c. [CP C [MoodP M [StatP [AspP V t] S [CP [TP T]]]] licensing of the AspP  
 d. [CP C [MoodP [TP T] M [StatP [AspP V t] S [CP]]]] licensing of the TP

Another issue concerns the topicalization of verb-projections in coherent infinitives. As we have seen in chapter 5, topicalization of the verb cluster or the dependent infinitive alone is one criterion for detecting a coherent construction. However, the test of topicalization also shows that large parts of the embedded clause can also be topicalized, even with verbs that restructure obligatorily. This is a hard problem, which to my knowledge has not been given a satisfactory explanation so far. In section 7.2, I outline an account that takes advantage of the availability of the two kinds

of infinitives in West Germanic. I argue that the two forms are in partial competition with each other, with the gerund functioning as a means of last resort. Though some questions of a mostly technical nature remain, this account paves the way to a general solution to this problem.

### 8.5.2 VP-topicalization

VP-topicalization data raise two kinds of problems for the account that I have developed in this book. First, VP-topicalization leads to a bleeding of the IPP-effect in Dutch and West Flemish, while in German the IPP-effect is only voided with perception verbs. Second, the dependent infinitive can be topicalized together with one of its arguments to the exclusion of the VR-verb. This is unexpected since verb and argument do not form a constituent anymore in my account after restructuring has applied.

The solution that I provide makes use of the different fine structure of verb clusters in German and Dutch/West Flemish, as it is outlined in chapter 6, the PIC, and the availability of the nominalized infinitive (the gerund) as a means of last resort.

In German, allowing for VPR, dependent infinitive plus argument embedded within an IPP-infinitive can be extracted out of the verb cluster due to last-resort movement to the left edge of the V-domain. Thus, VP-topicalization generally does not lead to a bleeding of the IPP-effect in German. Only in the case of perception verbs, movement of last resort of the infinitive that invokes the IPP-effect is blocked by a more economic derivation that involves the gerund, which generally fails to induce an IPP-effect, since it is licensed directly in the left edge of the V-domain.

In Dutch and West Flemish, however, movement of the dependent infinitive to the left edge of the V-domain from [Spec,F3P] is blocked by its own copy in [Spec,F2P]. Therefore, the gerund, which as a phrasal affix can attach to any extended projection of an infinitive, is inserted in the course of the derivation as a means of last resort. This gerund, on the one hand, will not induce an IPP-effect in cases of VP-topicalization, since it is licensed directly in the left edge of the V-domain. On the other hand, it is blocked by the more economic derivation that involves the (verbal) infinitive in restructuring constructions without VP-topicalization in Dutch (and West Flemish), since it is not selected by the restructuring verb, explaining why Dutch verb clusters may only contain verbs (and verb particles) when untropicalized but may contain arguments and adjuncts when topicalized.

Summing up, the differences in VP-topicalization between German, on the one hand and Dutch and West Flemish, on the other hand, follow from the fine structure of the verb clusters in these languages and the Phase Impenetrability Condition.

### 8.5.3 A unified analysis of the gerund

In chapters 6 and 7, I discuss different occurrences of nominalized infinitives. I assume that some occurrences of gerunds are selected (cf. the so-called Doelfoarms) and that sometimes they can be used as a means of last resort. Furthermore, I propose that coherent to-infinitives involve a nominalized infinitive as well. The common assumption that I made about these different occurrences is that the gerund is a

phrasal affix of nominal nature that morphologically selects for an infinitive and that this requirement is satisfied via adjacency. Section 7.4 proposes a unified account of the different occurrences of the gerund. The gerund is treated as a phrasal affix that always nominalizes full clauses. I propose that parallel to complementizers, this nominal affix is inserted in the head position of the Status Phrase above TP. In this analysis, gerunds can be taken to be nominalized clauses that license adverbs and Case. This is especially important for the analysis of coherent to-infinitives in German. Remember that the latter can license adverbs but fail to license structural Case. Now, the licensing of adverbs follows since the nominal affix attaches above the infinitival TP while the failure to license structural Case is relegated to the categorial nature of the infinitival marker in coherent to-infinitives.

This analysis of coherent to-infinitives highlights the importance of the role of the Status Phrase for sentential complementation. The Status Phrase is not only responsible for checking the finiteness of the verb but also the place where the complementizer and nominalizing affixes are inserted. These elements are essential for qualifying an embedded proposition as an argument of the selecting verb by nominalizing the embedded clause.

## 8.6 The connection between scrambling, remnant movement, and restructuring

In this section, I would like to discuss how the analysis of VP-topicalization and the connection between scrambling, remnant movement, and restructuring that I sketched in chapter 1 are accounted for in the approach that is developed in this book.

### 8.6.1 The analysis of remnant topicalization

A typical case of VP-topicalization (also simply called remnant topicalization) is given in (24a). Its analysis in the standard account following Den Besten and Webelhuth (1987) is illustrated in (24b). In this account, arguments and adjuncts are scrambled into the matrix clause, while the infinitival clause—however big it is supposed to be—that contains the remnant infinitive is moved into [Spec,CP] of the matrix clause. In this account, (long-distance) scrambling permitted by the specific properties of a restructuring infinitive feeds remnant topicalization.

In my account, only the infinitival AspP, a remnant category created by the clausal split triggered by restructuring, is topicalized. The topicalized AspP is a remnant category that only contains traces of licensing movement. Arguments and adjuncts of the infinitival are not scrambled into the matrix clause but arrive there via remnant movement of the containing infinitival TP, as is illustrated in (24c). Additional scrambling of a constituent can then obtain according to its referential and quantificational properties, either within the infinitival TP, as is illustrated in (24c), or into the matrix TP.

In this account, scrambling does not feed remnant topicalization. Remnant categories are solely created by standard licensing movements and licensing movements induced by restructuring.

- (24) a. besuchen will Hans die Maria morgen  
visit wants Hans-NOM the Maria-ACC tomorrow  
'Hans wants to visit Maria tomorrow'
- b. [<sub>Scr</sub> t<sub>Scr</sub> besuchen] will Hans die Maria<sub>Scr</sub> morgen<sub>Scr</sub>
- c. [<sub>AspP</sub> besuchen [<sub>VP</sub> t<sub>Case</sub>]] will [<sub>TP1</sub> Hans [<sub>TP2</sub> die Maria<sub>Scr</sub> morgen t<sub>Scr</sub>]]

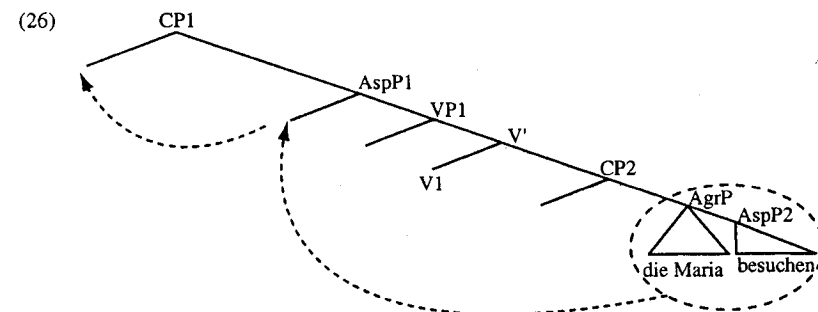
As I have noted in chapter 6, bare infinitives can be topicalized together with their direct object, while to-infinitives fail to do so. This difference follows from the different licensing status of direct objects in bare infinitives and to-infinitives.

### 8.6.2 Differences between bare infinitives and to-infinitives

For the sake of illustration, let us compare the derivations of the minimal pairlike sentences in (25).

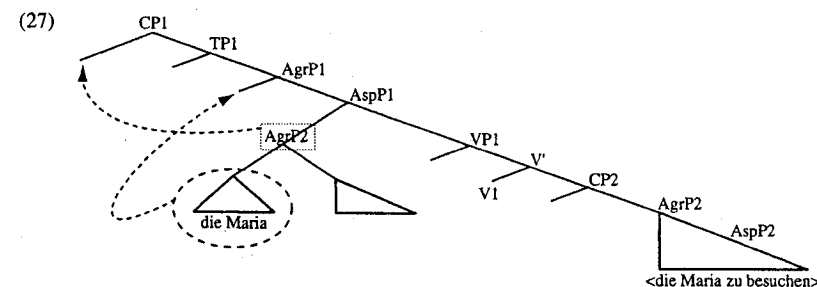
- (25) a. die Maria besuchen wollte Hans morgen  
the Maria-ACC visit wanted Hans-NOM tomorrow  
'as for visiting Mary John wanted to do it tomorrow'
- b. ??die Maria zu besuchen wünschte Hans morgen  
the Maria-ACC to visit wished Hans-NOM tomorrow

With the bare infinitive in (25a), the direct object is Case-licensed by the infinitive and both VR and VPR can apply to the infinitival complement. If VPR applies, the direct object is pied-piped by movement of the Aspect Phrase into the matrix clause and can thus be topicalized with the dependent infinitive by extracting out of the verb cluster created by restructuring. The essential movements of the derivation of (25a) are given in (26).



In (25b), however, the direct object, due to the presence of the infinitival marker and its categorial nature in restructuring contexts, cannot be licensed in the embedded clause. The direct object is pied-piped by movement of the infinitival AspP into the matrix clause but has to undergo Case-licensing movement into the matrix TP

after verb cluster formation. Thus, "VP-topicalization," that is, movement of the infinitival Aspect Phrase into the matrix [Spec,CP], cannot affect the direct object, deriving that only verbs can be topicalized with coherent to-infinitives. The essential movements of the derivation of (25b) are given in (27).



### 8.6.3 Conclusions

The complex interplay between restructuring, remnant movement, and scrambling that is evidenced in cases of remnant topicalization is the result of licensing movements of various types that occur in coherent as well as in non-coherent clauses. What is special about restructuring infinitives is that the main constituents of the infinitival that are otherwise licensed in the embedded C-domain are licensed in the matrix clause. The movements that ensue from these licensing requirements lead to the formation of verb clusters and are responsible for the general transparency of coherent infinitives. Verb cluster formation in turn is the basis of remnant topicalization, as we have seen earlier. Scrambling, however, while not playing any role in restructuring and verb cluster formation itself, is the operation that is responsible for the so-called "matrix clause-interpretation" of arguments that belong to the infinitive and applies after the licensing movements of the infinitival TP and AspP have "restructured" the clause. Moreover, I have shown that the facts of remnant topicalization provide convincing evidence for the unified biclausal analysis that I have proposed for coherent bare infinitives and to-infinitives.

Finally, I have argued in this book that all movement operations involved in the complex derivations that lead up to remnant topicalization can be given a coherent account within a phase-based minimalist framework that only employs leftward movement into unique Specifiers of dedicated functional positions that are motivated by feature-checking requirements of the main constituents of the clause.

## NOTES

### Chapter 1

1. In (14), I assume that adjunction is to the VP. Whether this is correct or whether adjunction has to apply to the local IP is immaterial to my purposes here.

2. The term *kohärenter Infinitiv* ('coherent infinitive') was introduced by Bech (1955), who, to my knowledge, was the first to describe in a fairly sophisticated and formal way the properties of this type of infinitivals. To honor Bech's pioneering work, the term *coherent* is standardly used within the German linguistic literature on the subject. Within the Romance tradition of work on the subject (cf. Burzio [1986], Rizzi [1978, 1982]) *restructuring* infinitives became the standard term of reference. I will use both terms interchangeably in this book.

3. An anonymous reviewer points out that the relevant restriction on remnant movement, namely that the remnant creating and the remnant moving operations cannot be of the same type, falls out as a special case of a general restriction derivable from Williams's (2003) recent work on representation theory and that *Attract Closest* seems insufficient to characterize all cases of illicit remnant movement not filtered out by strict cyclicity. The reviewer is correct in this position, and I show in chapter 4 that certain cases of illicit remnant scrambling are independently ruled out as cases of illicit scrambling of predicates. The point of (38) is to show that Müller's restrictions on remnant movement can be interpreted as cases of an A-over-A effect, which can be cast in the MP as a violation of *Attract Closest*. The reviewer is also correct in his point that the application of *Attract Closest* must be limited in a way as to allow, for instance, for the parallel movement of subject and object out of the VP into licensing positions in the IP. This issue will be dealt with in chapter 4.

4. Note, however, that Haegeman (2003) claims that parallel cases are marginally possible in West Flemish (cf. [ij]).

- (i) a. ?Nen boek no Gent stiert Valere niet  
a book to Gent sends Valere not  
b. ?Nen boek uit leest Valere nooit  
a book out reads Valere never

5. Pearson (2000) assumes that if the head of an XP is extracted, even non-agreeing features of the Specifier of XP may percolate up to XP. Under these assumptions, remnant movement of the entire XP is possible again. Pearson argues that the trace of the head is featureless and may therefore not give rise to the projection of features up to the maximum XP. While this seems plausible in an approach where traces are left behind by movement, it seems counterintuitive in a copy theory of movement, where the antecedent and its "trace" are copies of each other. Note that if such an approach is adopted as in Haegeman's (2001, 2002b) account of the SOV order in embedded clauses in German and Dutch, another explanation has to be given for the data in (41).

## Chapter 2

1. The careful reader will have noticed that this assumption is in conflict with the observation I made earlier in (3), namely, that *w*-words resist scrambling. To avoid this conflict, we have to assume that scrambling of *w*-words is grammatical but subject to the following PF condition: A *w*-word must be spelled out in a stressed position (in a multiple question in German, the *w*-word must be stressed; otherwise it is interpreted as an indefinite pronoun). Since scrambling moves a constituent into an unstressed position, scrambling of a *w*-word will only be licit if the *w*-word is not spelled out in the scrambling position.

2. A DP is specific if it denotes a member of a set of individuals introduced in the previous discourse. It has been pointed out that names and generic expressions can scramble even in the absence of a discourse antecedent. Thus, the feature [Familiarity] has been proposed that encompasses discourse-antecedence and membership in the common ground (cf. Corver and Delfitto [1997]). I will leave the empirical question open of whether one type of trigger of scrambling is to be characterized with the notion [Familiarity] rather than [Specificity].

3. That there are two licensing positions for object clitics (one below and one above the subject) is a relatively conservative assumption. Instead, one could assume that there is only one position for licensing object clitics, which is above the subject, and that the subject itself has moved into a higher position in (18a). Since this alternative proposal is neutral with respect to the main argument defended in this section, I will not pursue this issue any further.

4. Whether all scrambling orders, including those with several adverbs present, can be derived in this manner is subject to empirical investigation. More specifically, it remains to be seen whether these clitic-licensing heads occupy fixed positions in the tree or whether they can be introduced at various points in the course of the derivation. For how this latter idea can be implemented—albeit for the purposes of checking scopal properties—see section 2.6.

5. Example (38b) is perfect if the negative marker is interpreted as constituent negation (see [39] later).

6. The determiner *kein* has been analyzed as created by fusing a determiner with existential force with negation (see Kratzer [1995]).

7. An anonymous reviewer points out that these scopal features make no semantic contribution of their own and that it is rather questionable whether they solve the syntactic problem that led to their introduction, arguing that the assignment of scopal features in the course of the derivation is also an optional syntactic operation in the sense that any of [w], [n], or [i] can be assigned to any DP at any point of the derivation as long as the interface conditions end up being respected.

## Chapter 3

1. It should be noted that weak pronouns and anaphors in Dutch always cliticize to a position below the subject. In German, as we have seen earlier, they can also move to a position above the subject. It is interesting to note that this difference in pronoun placement between Dutch and German coincides with a difference in scrambling. Dutch does not allow scrambling across the subject. Unlike in German, a direct or indirect object cannot be scrambled across the subject (see chapter 2 for more discussion). However, the correlation breaks down in West Flemish. West Flemish does not allow scrambling across the subject, while weak pronouns and anaphors may appear in front of the subject.

2. Rutten does not list here *helpen* ('to help') and *leren* ('to learn/teach'), which Broekhuis, Den Besten, and Rutten (1995) explicitly mention as verbs that select bare infinitives. Instead, Rutten (1991) enlists them as verbs that select *te*-infinitivals and may enter into a VR-structure or into the *Third Construction*, which I will discuss later. Hans Bennis (p.c.) informs me that the presence of the infinitival marker is optional with these verbs.

3. Hans Bennis (p.c.) informs me that the aspectual verbs *liggen*, *staan*, and *zitten* as well as the semi-modals *durven* and *hoeven* require the infinitival marker in present tense but obligatorily drop it in perfect tense.

4. Rutten (1991) actually assumes that VR is always obligatory, but that structures that result from VR are subject to a late inversion rule that applies after VR (possibly in the phonological component, since it has no LF-effect) and inverts structures of the form [a b] just in case "a" is a finite modal verb. Such a PF-rule may then be assumed to be sensitive to the internal (morphological) structure of "b." This PF-rule must then be taken to be triggered only by modal verbs, since the causative *laten* never triggers inversion.

5. It should be noted that there is also an alternative analysis of the alternation in (28) that assumes that PI is obligatory. Under this assumption, we may assume that either the complex head undergoes VR, yielding (28c), or only the verbal head undergoes VR by exorporating out of the complex head, yielding (28b).

6. The account that I will provide eventually is one where *ge*-prefix and infinitives, on the one hand, and particles and their complements, namely gerunds (nominalized infinitives), on the other hand, compete for the same licensing positions in the extended projections of the selecting verb (see chapter 4 and chapter 6 for the details).

7. The argument holds independently of whether we assume that Dutch is basically an OV or a VO language. What is important is the hierarchical order between particle, dependent infinitive, and selecting verb.

8. I am grateful to the anonymous reviewer who pointed out to me that the ungrammaticality of (37b–c) can be derived by the long head movement account, but that (37d) cannot be ruled out without further stipulations.

9. The same reviewer also points out that (37d) would also seem to be a problem for the account that I am going to develop. I will come back to this example in the following chapter and show that it and similar cases cannot be derived in the XP-movement account to be given.

10. In Haegeman's (1992) account, contrary to Den Besten and Rutten's (1989) assumptions, scrambling has to apply before extraposition. Haegeman assumes that extraposition as right-adjunction makes the extraposed infinitival complement a *barrier* for extraction.

11. In this respect WF clitics behave like German clitics rather than clitics in standard Dutch. Remember that clitics in Dutch move to a position *below* the subject.

12. Obviously, reconstructing the extraposed infinitival into its base position and checking the ECP after reconstruction would solve this problem. However, it is then not clear why QR cannot affect a scopal element within a reconstructed infinitival complement.

13. One might argue that the CP could be extraposed, that is, right-adjoined to the XP, probably IP, headed by *zeggen*, before the infinitival is extraposed to the clause headed by *moeten*. Then the CP, since it is not included in the extraposed infinitival, could move on further and right-adjoin to the temporal auxiliary. However, there is a problem with this account as well. Note that the infinitival headed by *zeggen* is an argument and that adjunction to arguments is impossible within the barriers framework. Furthermore, note that if this type of adjunction were allowed exceptionally, any QP contained in a VPR-complement that has been extraposed could move out of the extraposed clause at LF without crossing a single barrier.

14. Note that the pendant of (48b) in standard Dutch is grammatical (i).

- (i) dat Jan dat boek heeft gelezen  
that Jan that book has read

15. Here the question arises of why an infinitival clause does not have to move as well in order to check the subcategorization of its selecting verb. One might argue that checking in this case is necessary since a given verb may select a bare or a to-infinitive. For the time being and for reasons of simplicity I will assume that infinitives, as opposed to participial clauses, host a complementizer that can check the subcategorization of the selecting verb by undergoing head movement that adjoins the complementizer to the selecting verb at LF.

16. Presumably the participle, like IPP-complements, first undergoes XP-movement into [Spec,VP] of the auxiliary and then undergoes additional head movement that must be caused by the inflectional properties of participles (maybe its aspectual morpheme needs to be linked with the local tense head).

17. I use the word *reveal* in this context because, as we will see later, adopting a VO-based approach will force me to assume a lot of movements, movements that need to be justified within the Minimalist Program by defining the properties that motivate them. Finding the properties that motivate movement is tantamount, if I interpret the spirit behind the minimalist framework correctly, to finding the properties that define these constructions.

18. In the original example—Haegeman (1994; [28a]), our (57a)—Haegeman did not indicate that *is* is actually strongly disfavored with respect to *eet*.

#### Chapter 4

1. For an analysis of verb clusters in Afrikaans see Robbers (1997).

2. The only thing left to the traditional SOV approach is assuming that in (4) the entire VP has been right-adjoined to IP, which hosts the infinitival marker. However, remember that I concluded in the last section of chapter 3 that the distribution of infinitives, participles, and IPP-complements in West Flemish cannot be properly explained by a single rule of extraposition. We saw that several conditions on extraposition would be needed. Accounting for (4a) in terms of extraposition would only increase the stipulative character of extraposition in West Flemish.

3. An anonymous reviewer tells me that the data in (5) are surprising, pointing out that in WF one would get sentences like (i). Note, however, that both *nicely* and *quickly* also allow for a higher subject-oriented or aspectual reading. Example (ib) in German has the interpretation that 'I reacted quickly in putting on my other clothes (I was fast in starting to put on the other clothes).' See also note 4 and Cinque (1999) for additional discussion.

- (i) a. da-tje schuone zen soepe eet  
that he nicely his soup eats  
b. dan-k zeere men andere kleren andegen  
that I quickly my other clothes on put

4. Often, as in (5b), the order manner adverb < nominal argument yields a perfect sentence. This is always then the case when the manner adverb is eligible for an alternative interpretation. So, for instance, (5b) is perfect under the interpretation 'it was careful of Hans to read the book', where the adverb is interpreted as subject oriented rather than as pure manner adverb. Also, (6b) is perfect under the interpretation that 'Hans executed exactly one/this plan', where the adverb is construed as modifying the determiner.

5. An anonymous reviewer correctly points out that the postulated Agreement heads that attract DPs out of the VP do not have inherent Case properties of their own: Which case is licensed in a given position in this approach is largely determined by VP-internal properties and a fairly complex set of conditions that relate Case-heads to each other. According to this reviewer, this makes the Case-licensing Agr-heads look like an ad hoc device, especially given that arguments must move into Case-licensing positions preserving their hierarchical order, while it is not clear which mechanism within a minimalist grammar would enforce this parallel movement.

6. The same argument against Particle Incorporation is made in Den Besten and Broekhuis (1992), who reach the same conclusion as here, namely, that VR may not be analyzed as only involving head movement. That particles cannot be taken to incorporate into the verb and that verb clusters that contain particles can therefore not be analyzed as head-adjunction structures is also shown by the behavior of particles in multi-member verb clusters, as is discussed in chapter 3 (section 3.1.3). Recall that particles in Dutch can occupy various positions in the verb cluster (cf. Bennis [1992]). For instance, in (ii) the particle must have reached its surface position via XP-movement (head movement would violate the HMC), entailing that the containing structure cannot be a head-adjunction structure.

- (ii) dat hij mij zou kunnen [weg] horen t<sub>i</sub> rijden  
that he me would can away hear ride  
'that he would be able to hear me drive away'

7. Of course, we could assume that reconstruction targets an intermediate position. Such an intermediate position that is dominated by the matrix verb but itself c-commands all the material in the embedded clause and that is also typically targeted by A' moved elements would be [Spec,CP]. Note, however, that as soon as we make the CP-layer available, we lose the ability to distinguish between coherent and non-coherent infinitival complements within the standard approach.

8. Dutch also has some aspectual verbs that select bare infinitives that require a projective interpretation on part of the infinitive.

9. It is interesting to note that the gerunds that can be used instead of the infinitive with *remember* and *try* do have the same temporal readings as the infinitives in (52) (cf. [iii] later). I thank an anonymous reviewer for pointing this out to me. See chapter 6 for more discussion on the relation between infinitives and gerunds.

- (iii) a. John remembered doing his work/having done his work  
b. John tried using a key to cut the paper

10. Because of similar transparency effects in restructuring infinitives and finite subjunctive clauses, I would like to propose that restructuring infinitives are analyzed as [+subjunctive], [-finite] clauses.

#### Chapter 5

1. This preference may be just significant for a strategy of keeping the two adverbials apart: In (1a), there is an intonational break between the two adjacent adverbials.

2. Two time references in a single clause are only possible if one can be taken to further specify the other as exemplified in (ia) (cf. Brugger [1998] for a discussion of these issues).

That this is a more general property that holds of adverbs that can set up the "frame" for an assertion is suggested by (ib).

- (i) a. Yesterday he met her at two o'clock  
b. In the park, she was sitting on a bench

3. The ambiguity of (6a), probably, results from the fact that the participle morphology can be interpreted as a temporal or as an aspectual morpheme. In the former case, the participle will denote an event that occurs prior to a point of time specified by the matrix TP. In the latter case, the participle denotes a state that results from the completion of the event denoted by the verb and that is located in time by the matrix TP.

4. The principle in (13) is intended to translate the standard definition of the binding domain in the theory of Government and Binding (cf. Chomsky [1981]) into a system that lacks the notion of government. The standard definition had it that the binding domain of  $x$  is the minimal TP/DP that contains  $x$ , the governor of  $x$ , and (for anaphors) a SUBJECT accessible to  $x$ . Here we define the binding domain of  $x$  as the minimal TP/DP in which  $x$  is Case-licensed and (for anaphors) which contains a SUBJECT accessible to  $x$ .

5. An anonymous reviewer argues that because of this difference there is, strictly speaking, no argument that long passives (in coherent-to-infinitives) should be derived from biclausal structures. However, in section 5.5.1, I show that the availability of a long passive depends on the availability of an impersonal passive with a sentential infinitival complement.

6. Certain tests like the attachment of intentional adverbs and availability of control into a final clause imply that both little  $v$  and the Agent argument are present in passive sentences in German. As an illustration, consider the well-known examples in (ii).

- (ii) a. Das Schiff wurde absichtlich versenkt  
the boat was sunk deliberately  
b. \*Das Schiff sank absichtlich  
the boat sank deliberately  
c. Das Schiff wurde versenkt um die Versicherungssumme zu kassieren  
the boat was sunk to collect the insurance fee  
d. \*Das Schiff sank um die Versicherungssumme zu kassieren  
the boat sank to collect the insurance fee

7. I cannot address here the important question of how Nominative assignment is sanctioned in this case. Note that Nominative Case assignment is normally only possible in tensed clauses. However, there is ample evidence that passive subjects are licensed in a low position, corresponding to the position of the direct object. This is indicated in particular by word order facts and topicalization data. Example (iia), in which the Dative object precedes the Nominative subject, displays unmarked word order vis-à-vis (iib). Example (iic), in which the passive subject is topicalized with the selecting participle, is okay, while (iid), in which the agentive subject is topicalized with the selecting participle, is completely ungrammatical.

- (iii) a. weil dem Mann das Fahrrad gestohlen wurde  
since the man-Dat the bike-NOM stolen was  
b. ?weil das Fahrrad dem Mann gestohlen wurde  
since a bike:NOM the man-DAT stolen was  
c. ein Fahrrad gestohlen wurde ihm noch nie  
a bike-NOM stolen was him yet never  
d. \*ein Mann gestohlen hat das Fahrrad noch nie  
a man-NOM stolen has the bike-AKK yet never

8. The German terms are in fact borrowed from Latin grammarians who also distinguished between the *Gerundium* and the infinitive (cf [iv]). Thus, when I use the English term "gerund" as a shorthand expression for nominalized infinitives I refer to the German tradition, rather than to the English/Romance tradition, where the same term is used to designate a nominalized participle.

- (iv) Cetero censeo Carthaginem delendam esse  
moreover I-believe Carthago-AKK destroy-GER be-INF  
'Moreover I believe that Carthago must be destroyed'

9. The use of the term *gerund* to signify a nominalized infinitive, though corresponding to the German tradition, may seem unfortunate, since *gerund* in the English tradition signifies a category that is derived from the participle. However, these terms have in common that they stand for a nominalized category that is derived from a verbal form via phrasal affixation.

## Chapter 6

1. Remnant Extraposition and the (standard) VR-construction differ with respect to whether they allow for the so-called *long* passive (cf. chapter 5 for a discussion of the long passive in to-infinitives in German). Example (ia) is a long passive in a VR-construction. Example (ib-c) show that a long passive is not possible with cases of Remnant Extraposition.

- (i) a. weil sein neuester Roman zu lesen beschlossen wurde  
since his newest novel-NOM to read decided became  
'since it was decided to read his newest novel'  
b. ??weil sein neuester Roman beschlossen wurde zu lesen  
since his newest novel-NOM decided became to read  
c. \*weil sein neuester Roman beschlossen wurde nicht zu lesen  
since his newest novel-NOM decided became not to read

2. Note that in German even nonfinite auxiliaries have to invert with IPP-complements (ii), while the opposite holds in West Flemish (iii). This difference between West Flemish and German follows, if we assume, as I have argued in chapter 3, that in West Flemish only finite verbs can move to the head of AspP.

- (ii) a. Else wird ihm einen Brief haben schreiben wollen  
Else will him a letter have write want-IPP  
b. \*Else wird ihm einen Brief schreiben wollen haben  
Else will him a letter write want-IPP have  
'Else will have wanted to write him a letter'  
(iii) a. dan-ze kosten willen dienen boek kuopen een  
that they could want-IPP that book buy have  
b. \*dan-ze kosten een willen dienen boek kuopen  
that they could have want-IPP that book buy  
'that they could have wanted to buy that book'

3. Thus, it stands to reason whether we are dealing with two types of infinitives here or the Nammefoarm should be analyzed as an infinitive and the Doelfoarm as a gerund. Since gerunds have both verbal and nominal properties this category would fit quite well with Tiersma's description. Tiersma himself calls the Doelfoarm gerundive, a label that does not seem appropriate since it is traditionally used to denote verbal adjectives with modal force.



4. In a similar fashion to ECM-verbs in English that can combine with an infinitive or a gerund.

- (iv) a. He saw her dance  
b. He saw her dancing

5. Speakers of IF also produce, modulo the morphological marking, the Standard Frisian order in which the dependent infinitive precedes the selecting verb.

6. If nominals like verbs needed to be bound by Tense, then sentences like (v) should be contradictory, since someone who is fleeing cannot be at the same time in prison.

- (v) The fugitive will be set in prison again

7. The source of this variation described by Ebert may have been the availability of two types of infinitives, the Doelform and the Nammeform (or due to the availability of the gerund and the infinitive). If we assume that they originally had a different distribution in the verb cluster, with the Nammeform being licensed in [Spec,F2P] and the Doelform being licensed in [Spec,AspP], different orders would arise according to the selectional properties of the higher verb. Doelforms would yield the order V2 V1, whereas Nammeforms would yield the order V1 V2. When the morphological distinction between the two forms was lost, alternating patterns probably were reanalyzed as free variants subject only to prosodic conditions. More research on the diachronic development is necessary to evaluate this scenario.

## Chapter 7

1. It should be noted, though, that for some German speakers, especially speakers of originally Franconian dialects, the participle is preferred over the infinitive even in constructions like (11b).

2. However, a closer investigation of verb phrase preposing may reveal that this construction has different properties in Dutch and German. For instance, for Zwart (1993 and p.c.) split topicalizations with to-infinitives are fully acceptable.

3. That it is necessary to assume that a Case feature of the preposed verb is copied onto the d-word and reconstructed with it and so made available within the IP to license a remaining argument of this verb is not so straightforward, since, for instance, Zwart (1993) assumes that arguments of the dependent infinitive are licensed in Agr-projections of the selecting verb. These Agr-projections are freely available with auxiliaries and VR-verbs. (cf. also the discussion on thematic restrictions later).

4. An anonymous reviewer points out that Cinque (1990) shows that fronting of predicates is significantly facilitated by negation. I do not think that negation per se is at issue here. Rather, what seems to facilitate VP-fronting is stressing the polarity of the clause (cf. [1] later). The sentences in (ia-b) seem to be cases of *verum focus* that stress the truth value of the clause with respect to a presupposed constituent represented by the topicalized phrase. However, the questions of whether this is the correct analysis of (i) and whether there are other discourse conditions that motivate or facilitate VP-topicalization are not issues here.

- (i) a. das Buch gelesen hat er nicht  
the book read has he not  
b. das Buch gelesen hat er wohl/doch  
the book read has he indeed

5. This movement of last resort into the left edge of VP can be seen as parallel to movement into the local [Spec,CP] in long-distance wh-movement. Assuming that only the matrix CP has a wh-feature to check, successive cyclic movement into intervening [Spec,CP] posi-

tions cannot be due to feature checking and must thus be analyzed as a last-resort operation allowed to escape the PIC.

6. Alternatively, we may assume that gerunds always attach to the entire TP. To allow for split topicalization we would have to assume that gerunds are transparent for the extraction of arguments. Here I cannot decide between the two analyses and will leave the issue for further research. However, there is one piece of evidence that favors the account that a gerund head can attach to any verbal projection. In Dutch, not only arguments can be split off from the selecting verb but also adverbs. In (ii), due to the past tense of the matrix verb, the adverb *tomorrow* must be taken to modify the topicalized (extended) VP. Since adverbs cannot scramble, this is good evidence for a clausal split that is typical of coherent constructions. Therefore, in what follows I will go with the first option, which is spelled out in more detail later. A special thanks goes to Hans Broekhuis for help with topicalization data in Dutch.

- (ii) een boek lezen dat wou hij morgen  
a book read that wanted he tomorrow

7. I am grateful to the audience of my presentation at the ZAS in February 2005 for pointing this out to me. These speakers essentially have Dutch-like judgments.

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