

# **Uncharted territory? Towards a non-cartographic account of Germanic syntax.**

Jan-Wouter Zwart

## **Abstract**

This article discusses the consequences of a strict derivational approach—where syntactic relations are construed dynamically as the derivation proceeds—to the analysis of key areas of Germanic syntax. It discusses the nature of syntactic positions from a non-cartographic point of view. Evidence supporting a non-cartographic approach is found in word order transitivity failures in various domains (the left periphery, the order of adverbs, the adjective-noun construction). The implications of a non-cartographic approach are discussed in four key areas of Germanic syntax (the fine structure of the left periphery, topicalization/focalization, subject placement and object placement).

## **1. Introduction**

In a common implementation of the Minimalist Program (Chomsky 1995), syntactic structure is built from the bottom up by a recursive operation Merge, which combines two elements in a constituent. On this view, the computational system of human language is inherently derivational, in the sense that a syntactic object is defined in terms of a sequence of operations Merge. As argued by Epstein et al. (1998), syntactic relations can likewise be defined in terms of the operation Merge; on the strictest implementation, such relations are restricted to pairs of sisters created by Merge.

This ‘derivational turn’ of the theory of grammar raises the question whether derivations are guided by (innate) global considerations of syntactic architecture, or whether they proceed on a strictly local basis, caring only about the syntactic and semantic relations between members of sisters pairs. Much current work still seems to assume that derivations work towards a fixed goal, a universal syntactic structure characterized by strict hierarchies among functional elements and by the rules of phrase structure (e.g. Cinque 2002 and following publications). However, from the derivational point of view, the question is justified whether such a universal structure guiding the derivation needs to be assumed. As long as the operation Merge and the syntactic objects it yields are clearly defined, a more economical implementation of the Minimalist Program might dispense with global considerations and adopt a more flexible, dynamic approach to syntactic structure.

In this article I would like to discuss the question of fixed vs. flexible structure in the context of Germanic syntax. The standard approach to Germanic generative syntax is firmly rooted within a strict cartographic tradition. For instance, the analysis of the verb second pattern of Continental West-Germanic, North-Germanic, and earlier stages of English, based on Den Besten (1977), assumes that all main clauses have the same expansion (CP, in the standard terminology since Chomsky 1986), and describes the verb second pattern as resulting from movements of heads and phrases to fixed positions within the clausal architecture. As we will see, one of the consequences of the non-cartographic approach is that reference to fixed positions becomes meaningless: positions are defined in terms of sisterhood relations (essentially, in terms of Merge), not in terms of a preinstalled map of the clause. What I set out to do in this article is chart the consequences of a non-cartographic approach to Germanic syntax (in particular,

Continental West-Germanic syntax) in a limited set of key domains.

The article has the following contents. In section 2, I discuss a central concept to the issue at hand, namely ‘syntactic position’ (cf. Nilsen 2003), opposing the rigid, cartographic approach and the flexible, non-cartographic approach. In section 3, I discuss evidence, some from the literature, some new, suggesting that even a weak cartographic approach is unable to account for certain word order patterns, namely those which cannot be derived from a hierarchical scale needed to account for other word order patterns (transitivity failure). Then in section 4, I briefly sketch an implementation of the non-cartographic approach in major areas of Germanic syntax.

## 2. Syntactic positions

I would like to begin by opposing two ways of defining syntactic positions, and then introduce some terminology needed in the discussion to follow.

### 2.1 *The cartographic vs. the dynamic approach to syntactic structure*

First, we might define a syntactic position in terms of a fixed map of the clause: the cartographic approach. The map itself is the outcome of the application of the rules of phrase structure (the X-bar theory, e.g. Chomsky 1986) to empirical observations. A strong version of the cartographic approach holds that observations regarding a construction X in language A allow us to draw conclusions regarding the structure of another construction Y in language A, or about the structure of X and Y in languages other than A. Likewise, we may on this approach use observations regarding constructions X and Y—even if they do not cooccur in any language—to piece together a general (universal) structure of the clause in which both X and Y find expression.

Second, we might define a syntactic position in terms of its local environment: the dynamic approach. On this approach, positions are emerging properties of derivations, created by the structure building procedure. The approach assumes that syntactic operations (essentially the single operation Merge which combines two elements into a constituent) are triggered by some local requirement, and take place without consideration of overall syntactic architecture.

It is possible that the two approaches represent two sides of a single coin. On their strongest formulations, this is certainly not the case. The strong cartographic approach, for instance, entails that underlying a simple sentence like *John left* is an entire structure containing the full array of functional projections identified in work by Rizzi (1997) and Cinque (1999); the map describing that structure is universal and possibly an integral part of the faculty of language; all clauses have the same expansion. This is incompatible with a dynamic approach, which on its strongest formulation denies the existence of universal phrase structure rules; what is universal is the way elements are merged, and what the operation yields; other than that, what you see is what you get, and there is no requirement stating that every clause needs to be expanded up to the CP-level, for instance.

Weak versions of the cartographic and dynamic approaches might be made compatible. A weak cartographic approach might accept that not all projections need to be realized in full; just that when they are realized, they are bound to appear in a certain hierarchical order. On a weak dynamic approach, we might say that the map of the clause is an abstraction of the structure of different clauses or clause types. However, there is reason to believe that such an abstraction is impossible, because of the existence of word order transitivity failures (see section 3 and references cited there). Such transitivity failures suggest an inherent flexibility to the way structure is created, which is impossible to capture even on a weak version of the cartographic

approach.

The next section discusses a number of transitivity failures relevant to the question at hand. Before we turn to those, I would like to sketch very briefly the outlines of a non-cartographic approach to phrase structure.

## 2.2 A non-cartographic approach to phrase structure

We start from the assumption that syntactic structure is the product of a single operation, Merge. We therefore aim to define syntactic positions in terms of the operation Merge.

We take Merge in its simplest form to be an assignment operation which takes an element from a certain resource (the Numeration of Chomsky 1995) and assigns it to a workspace (the current derivation under construction). As pointed out by Jaspers (1998), such an operation is inherently asymmetric, in the sense that its product contains a previously existing part (the current stage of the derivation) and a newly added element (the element merged). We will therefore say that an element  $\alpha$  is *merged to* a workspace  $\delta$  (instead of  $\alpha$  and  $\delta$  merging together).

We can now define the position in which  $\alpha$  is merged to a workspace  $\delta$  as the *occurrence* of  $\delta$ , to use a term coined for this purpose by Chomsky (2000:115). Let  $P$  be a derivation (i.e. a syntactic object derived by Merge). Then before merger of  $\alpha$  to  $\delta$ ,  $P = \delta$ , and after merger of  $\alpha$  to  $\delta$ ,  $P = \langle \alpha, \delta \rangle$ . At that point, we define the occurrence (OCC) of  $\delta$  in  $P$  as  $P - \delta$ . Hence,

- (1) given a workspace  $\delta$  of a derivation  $P$ , and an element  $\alpha$  merged to  $\delta$ ,  
the position of  $\alpha = \text{OCC}(\delta)$  in  $P$ .

It follows that only elements merged to the workspace have a syntactic position. (Thus,  $P$  and  $\delta$  have no syntactic positions. The operation Merge creates them, but does not *position* them. It remains to be seen whether this is a desirable consequence.)

We now posit that positions are created (i.e., elements are merged) because the workspace needs them. This ‘need’ is standardly described in terms of (uninterpretable) features which must be eliminated to prevent a derivation from crashing (cf. Frampton and Gutmann 2002). I tentatively propose a slightly different take, where what the workspace needs is the resolution of an inner conflict. I believe the EPP of Chomsky (2001) to be essentially a requirement of this type. Examples of inner conflicts that might arise in this context are subjects contained within predicates, topic elements contained within a focus domain, operator elements contained within their scopal domain, etc.

The idea would be that the ‘movement’ triggered by this inner conflict is externalization of the offending element. To be precise, we do not assume that material is extracted from the workspace (i.e. there is no such operation as ‘internal merge’, cf. Chomsky 2004 and Koster 2004). Every operation Merge assigns an element from the resource to the workspace. Note that we have not stipulated that elements merged are eliminated from the resource, nor will we (in fact, the resource properly includes the workspace, given the possibility of merging a syntactic object created in the course of the derivation). Therefore, an element from the resource which causes an inner conflict within the workspace is still available in the resource to be assigned to the workspace a second time, and this element may then be stricken from the workspace in its original position, under a condition of identity (leaving a gap or trace).

The technicalities of the operation are not crucial at this point. What is crucial is the hypothesis that merger is triggered by properties of a workspace. It follows from this hypothesis that positions are not absolute, but relative to a given workspace. For example, the position of subject of a clause is defined as the occurrence of any workspace which may function as the clausal predicate. This is different from the traditional definition in which the subject position

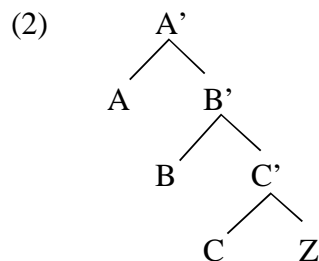
is the specifier position of a functional head T (tense)(see section 4.3).

If this approach to structure and ‘movement’ is on the right track, it implies that caution is advised when describing a syntactic process as targeting fixed positions, such as Spec,CP. It would have to be established in each particular case that the sister of Spec,CP is characterized by an inner conflict requiring externalization of an offending element. Beyond that, there are no particular requirements associated with either the moving category or the position it moves to which could force such an operation.

### 3. Transitivity failures

Empirical evidence against even the weak cartographic approach has accumulated in recent years, focusing on failures of word orders expected on the basis of reasoning by transitivity (Bobaljik 1999, Nilsen 2003, Van Craenenbroeck 2006).

Given a structure (2), where A, B, C are absolute positions, we may infer the reasoning in (3).



(3)

A > B	(> = ‘precedes’)
B > C	
-----	
A > C	i.e. * C > A

In other words, since A precedes B, and B precedes C, we may infer that A precedes C and not vice versa. Sections 3.1-3.4 discuss a range of cases where such word order transitivity fails to hold. Useful testing grounds for questions of this type are provided by Rizzi’s (1997) fine structure of the left periphery, Cinque’s (1999) adverb hierarchy, Vendler’s (1968) adjective scale, etc.

If positions are relative, the structure in (2) follows if Z needs C, C’ needs B, B’ needs A and A’ *does not* need B or C. But nothing a priori excludes a derivation like (2) in which A’ *does* need B or C. For example, the word order where C precedes A may occur when, after (2) has been derived, an inner conflict is caused by C within A’ (for example, when A creates a focus domain and C is a topic). As we will see, transitivity failures discussed in the literature are often of this type.

#### 3.1 Van Craenenbroeck (2006) on the left periphery

Based on studies of word order phenomena within the left periphery of (mostly) Northern Italian dialects, Rizzi (1997) concludes that functional projections within the left periphery are hierarchically ordered as in (4):

(4) Force > (Topic) > Focus > (Topic) > Finite

In this analysis, wh-elements appear in the specifier position of Focus, and clitic left dislocated elements in the specifier position of Topic. As Van Craenenbroeck (2006) observes in Venetian (data from Cecilia Poletto by p.c.), Topic precedes Focus (5a), and the complementizer *che* follows Focus (5b), but precedes Topic (5c):

- (5) a. Topic > Focus > *che*  
*Me domando el premio Nobel a chi che i ghe lo podarla dar*  
 I wonder the Nobel prize to who that they should give it to him  
 ‘I wonder who they should give the Nobel prize.’
- b. Focus > *che*  
*Me domando chi che Nane ga visto al marcà*  
 I wonder who that Nane saw at the market  
 ‘I wonder who Nane saw at the market.’
- c. *che* > Topic  
*Me dispiase che a Marco i ghe abia ditto cussi*  
 I’m sorry that to Marco they told him so  
 ‘I’m sorry that they told Marco so.’

It follows that there is no simple reasoning by transitivity which would derive the position of the complementizer in (5a).

Van Craenenbroeck (2006) proposes to understand the word order in the Venetian left periphery as follows. The key factor explaining the distribution of Topic elements in Venetian is their inability to remain inside a focus-marked domain. In our terms, a topic element inside a focus-marked domain creates an inner conflict within the focus-marked constituent, and must be merged anew (leading to erasure of the offending element). Van Craenenbroeck assumes that in unmarked clauses, IP constitutes a focus-marked domain, forcing externalization of any topic element contained inside it. As the externalization takes place as soon as the problem arises (i.e. as soon as IP is created), the topic element will be merged prior to introduction of the complementizer in the derivation, leading to the *che*-Topic order of (5c). The focus-marked wh-elements are merged in Spec,CP in Van Craenenbroeck’s analysis, yielding the order of (5b) on standard assumptions. However, introduction of a wh-element creates a new focus-marked domain, which forces the topic element to be merged again, this time *later* than the merger of the complementizer, yielding the order of (5a).

Van Craenenbroeck notes that this analysis implies that elements in the left periphery do not have a fixed landing site, and hence that the cartographic approach cannot be maintained. (I refer to Van Craenenbroeck’s paper for discussion of alternatives within a cartographic approach adopting (4).)

### 3.2 Nilsen (2003) on adverb ordering

In the extended adverb hierarchy of Cinque (1999), a modal adverb like *possibly* precedes an aspectual adverb like *always*. As Nilsen (2003:10f) notes, this ordering is attested in Norwegian as well, where *possibly* precedes negation (6a), and *always* follows it (6b). However, the inverse order (*always possibly*) is also found (6c):

- (6) a. *possibly* > NEG  
 Ståle har **muligens ikke** spist hvetekakene sine  
 Ståle has possibly not eaten his weaties
- b. NEG > *always*  
 Ståle hadde **ikke alltid** spist hvetekakene sine  
 Ståle had not always eaten his weaties
- c. *always* > *possibly*  
 ..*hvor spillerne alltid muligens er et klikk fra å vinne \$1000*  
 where players always possibly are one click away from winning \$1000

The crucial observation here is that the order of *possibly* and *always* is fixed only relative to negation, but not relative to each other. In Nilsen's (2003) analysis, the order in (6a) is explained by the circumstance that *possibly* is a positive polarity item, which—to use our terminology—creates an inner conflict when *possibly* is contained within a negative-marked domain. The order in (6b) Nilsen derives from the general inability of universal quantifiers to outscope negation; as we would say, negation inside a universal quantifier-marked domain creates an inner conflict. But no inner conflict is created by merging *possibly* and *always* in either order, and hence both orders occur. Again, this is not predicted on any cartographic approach, while the more flexible derivation contemplated here makes it possible.

### 3.3 Bobaljik (1999) on the argument-adjunct interaction

The adverb hierarchy of Cinque (1999), collapsed somewhat coarsely in (7a), contains no information regarding the distribution of the grammatical functions; yet these are also strictly ordered according to the scale in (7b):

- (7) a. *adverb hierarchy*  
 speech act > evaluative > temporal > aspectual > manner
- b. *grammatical function hierarchy*  
 subject > indirect object > direct object

As Bobaljik (1999) observes, there appears to be no fixed combination of the two hierarchies, across languages, or even within a single language. In (8a), a low grammatical function is seen to precede a high adverb, whereas the situation is inversed in (8b):

- (8) a. direct object > speech act adverb  
 ..*dat Jan Marie het boek eerlijk gezegd niet gegeven heeft* (Dutch)  
 that John Mary the book frankly not given has  
 ‘..that frankly John didn't give Mary the book.’
- b. manner adverb > indirect object  
 ..*dat Jan snel Marie het boek gegeven heeft*  
 that John quickly Mary the book given has  
 ‘..that John gave Mary the book quickly.’

This suggests that both hierarchies play in different dimensions, frustrating attempts to reach a

unified cartographic representation of the clause.

### 3.4 Adjective order

It is well-known that adjectives appear in certain orders, summarized in the scale in (9) from Vendler (1968):

- (9) quality > size > shape > color > origin

This hierarchy is observed in (10a), but not in (10b):

- (10) a. *color > origin*  
a red Hungarian car
- b. *origin > color*  
a Hungarian red wine

These examples, which may be multiplied, illustrate that adjectives (from any semantic class) may be construed in two ways, which have been called direct vs. indirect modification (Bolinger 1967, Sproat & Shih 1988, Cinque 2003). There are various aspects to the direct-indirect opposition, but a quick grasp of it is provided by thinking of indirect modification as being predicational, and direct modification as being non-predicational. Thus, we may say that a red wine is actually a deep purple, but not so with a red car; hence *red* is indirect modifying in (10a) and direct modifying in (10b).

As observed by Sproat & Shih (1990), the adjective hierarchy in (9) is observed only with direct modification adjectives, indirect modification adjectives showing more syntactic freedom. In Mandarin Chinese, indirect modification adjectives are construed with the noun via a linker, whereas direct modification adjectives are bare; only the latter show the fixed ordering:

- (11) a. size > shape  
*xiao de lü de huaping* (Mandarin)  
small LINK green LINK vase
- b. shape > size  
*lü de xiao de huaping*  
green LINK small LINK vase
- c. size > shape  
*xiao lü huaping*  
small green vase
- d. \*shape > size  
*lü xiao huaping*  
green small vase

Moreover, when direct and indirect modification adjectives are combined, the former invariably appears nearer to the head noun. In languages with prenominal adjectives, this means that the scale in (12) applies, regardless the semantic class to which the adjectives belong.

(12) indirect modifying > direct modifying

This accounts for the order in (10b), where the direct modifying adjective *red* occupies a position unexplained by the adjective hierarchy in (9). Another example is provided in (13), where *visible* has the two readings in (14):

(13) the visible visible stars

- (14) a. indirect modification: not blocked from sight  
b. direct modification: sufficiently luminous, not too distant, etc.

Direct vs. indirect modification here has to do with permanent (direct) vs. contingent (indirect) properties. The only sensible interpretation of (13) is one in which the left occurrence of *visible* has the indirect modifying interpretation of (14a) and the right occurrence has the direct modifying interpretation of (14b). (See Cinque 2003 and Larson and Marušić 2004 for further discussion of the direct/indirect modification contrast.)

Various observations suggest that indirect modifying adjectives are construed with the head noun in a different, more loose way than direct modifying adjectives. Some of these observations suggest that direct modifying adjectives are heads and indirect modifying adjectives phrases. For instance, direct modifying adjectives resist premodification (15), while discontinuous construal of adjectives appears to be restricted to the indirect modifying type (16):

- (15) a. a ridiculously red Hungarian car  
b. # a Hungarian ridiculously red wine

(16) *dan-da kunya-a walbu-wa nga-ku-l-da kurrka-n !*  
this-NOM small-NOM raft-NOM 1-INC-PL-NOM take-NEGIMP

*jungarra kurrka-tha walbu* (Kayardild; Evans 1995:249-250)  
big:NOM take-IMP raft:NOM

‘Let’s not take this small raft! Take the *big* raft.’

In (15b), *red* loses the interpretation of (10b) (‘type of wine’), and has the strict color reading. In (16), the discontinuous construction of the boldfaced adjective and head noun yields a predicative (indirect modifying) interpretation. (I have not found any languages where a discontinuous adjective has a direct modification reading.)

Other observations suggesting a different syntactic construal between direct and indirect modifying adjectives are illustrated in (17)-(18): direct modifying adjectives tend to display morphological reduction (cf. also the absence of a linker in Chinese languages, (11)) and certain adjective positions allow only a direct modifying interpretation:

- (17) a. *een vlot-te spreker* (Dutch)  
a wellpaced-AGR speaker  
‘a fluent speaker’ (manner reading = direct modification)  
‘a speaker who moves with ease, is well-dressed, etc.’ (characteristic of the person = indirect modification)



- b. *een vlot spreker*  
 a wellpaced speaker  
 ‘a fluent speaker’ (direct)  
 \*‘a speaker who moves with ease, is well-dressed, etc.’ (indirect)
- (18) a. *un homme grand* (French)  
 a man great  
 ‘a great (significance) man’ (direct modification)  
 ‘a great (size) man’ (indirect modification)
- b. *un grand homme*  
 a great man  
 ‘a great (significance) man’ (direct modification)  
 \*‘a great (size) man’ (indirect modification)

These observations suggest that adjectives may be construed with nouns in two syntactically different ways, perhaps as heads in direct modification constructions, and as phrases in indirect modification constructions.

Consider how these observations bear on the issue at hand, the (non-)cartographic structure of the clause. Since adjectives can be construed in two different ways, transitivity failures abound: given (12), a low adjective on the Vendler scale (9) with an indirect modification reading will always precede any direct modifying adjective, regardless its position on the adjective scale. (10b) is just one example. It follows that placement of the adjectives is not explained by the layout of a clausal map, but by local requirements forcing merger of nouns and adjectives (adjective phrases) in particular ways, depending on the intended interpretation.

### 3.5 Conclusion

The data described in this section all point to the conclusion that the process of syntactic construction allows significant flexibility, thwarting efforts to design a uniform clausal cartography guiding the placement of syntactic objects in particular positions and orders.

In the remainder of this article, we briefly consider some consequences of a more flexible approach to sentence construction for Germanic syntax.

## 4. Some consequences for Germanic syntax

I propose to discuss four areas here: the CP-domain (section 4.1), the position of topics and wh-elements (section 4.2), the subject position (section 4.3), and the object position (4.4).

### 4.1 The CP-domain

The fine structure of the left periphery in Germanic syntax has been charted in much work predating Rizzi (1997), including Müller and Sternefeld (1993), and Hoekstra and Zwart (1994). An early illustration of a typical cartographic approach is Zwart (2000) (from 1996), where CP is taken to contain the three layers in (19), where  $C_1$  is occupied in Dutch by the demonstrative complementizer *dat* ‘that’ (associated with topics),  $C_2$  by the interrogative complementizer *of* ‘if/whether’, and  $C_3$  by the conditional complementizer *als* ‘if/when’):

- (19) [CP<sub>3</sub> spec *als* [CP<sub>2</sub> spec *of* [CP<sub>1</sub> spec *dat* [TP (...) ]]]]  
COND WH TOP

The approach is typically cartographic in that the order of the CPs is based on the attested pairs of complementizers in (20a), and on the absence of the pairs in (20b).

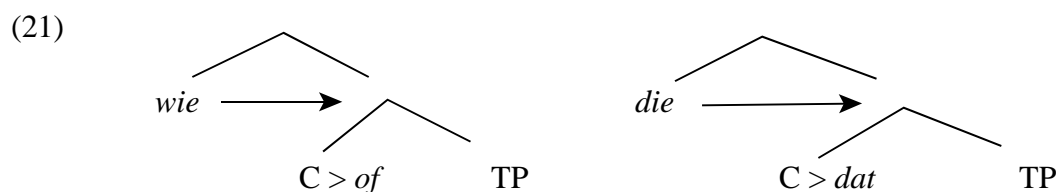
- (20) a. als-of                      b. \* of-als  
als-dat                        \* dat-als  
of-dat                         \* dat-of

This allows us by inference to draw a complete map, even if the triple *\*als-of-dat* is not found in any order.

As shown in Zwart (2000), the structure in (19) makes correct predications regarding the order of relative pronouns and complementizers in (dialects of) Dutch: a demonstrative relative pronoun precedes *dat* but follows *of*, an interrogative demonstrative pronoun precedes *of* and *dat*, etc. This is explained on the reasonable assumption that the relative pronouns occupy designated specifier positions in the structure in (19).

At this point we may wonder whether these results are lost under a more flexible approach. Quite the contrary, I believe. On a non-cartographic approach, we may assume that the derivation at a certain point (say, when a full subject-predicate combination [‘TP’] has been created), merges a complementizer to the current stage of the derivation (the workspace). We do not know anything about the feature make-up of this complementizer, so let us assume that it has only the categorial features (C). Following the analysis of agreement via sisterhood of Zwart (2006), we may assume that the complementizer’s morphological realization is the function of a sisterhood relation between a newly merged element (in this case, the relative pronoun) and the workspace in which the complementizer is contained. Concretely, when a relative pronoun is merged to the workspace, it shares certain features with its sister, which may then be realized on the sister’s head, C.

The structures in (21) now illustrate how this might work with particular relative pronouns (where *wie* is an interrogative relative pronoun, and *die* a demonstrative relative pronoun, and the arrow indicates feature sharing/agreement):



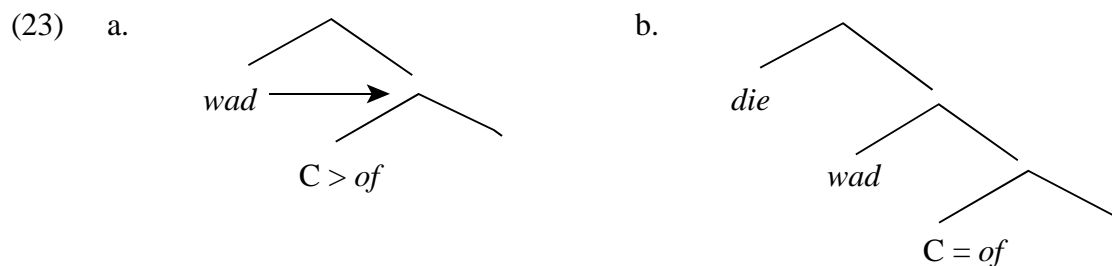
Dialect variation regarding the morphology of the complementizer (e.g. some dialects have *wie dat* rather than *wie of*) may be ascribed to the particular feature-to-form conversion of each dialect (adopting a morphology after syntax approach, as is common within minimalism; cf. Halle and Marantz 1993).

With the exception of the rare *of die* order reported by Hoekstra (1994:316) for the Amsterdam dialect, this suggests that the cartographic and dynamic approaches are equally well equipped to deal with the range of variation attested in the left periphery of relative clauses in Dutch (dialects). There is however a not uncommon order type which is puzzling from the cartographic perspective, but finds a natural analysis in the flexible approach. This is the order where two relative pronouns precede a single complementizer, as in (22) from Maastrichts.

- (22) *de vrouw die wad of iech gezeen had* (Maastricht Dutch)  
 the woman REL REL if I seen had  
 ‘the woman I saw’

(The order *die wad* is reminiscent of Bavarian *der wo*.) Here interrogative *wad* appears to occupy the specifier position of the interrogative complementizer *of*, but the position of demonstrative *die* is unexpected. Based on (19), we would expect the order \**wad of die*.

On a more flexible approach, we expect a derivation like (23) to be possible, where *wad* is merged first, triggering agreement on C (23a), and further merger of *die* has no observable effect (23b):



On this approach, agreement is a function of Merge, i.e. of the operation itself, and not a matter of valuation of preinstalled uninterpretable features (as in Chomsky 2001).

The example of relative clauses in Dutch dialects illustrates that the observations which earlier gave rise to a cartographic analysis can easily be captured in a non-cartographic approach. In addition, certain facts which are puzzling from a cartographic point of view receive a straightforward analysis in the more flexible approach contemplated here.

#### 4.2 The topic/wh-position

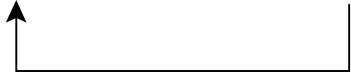
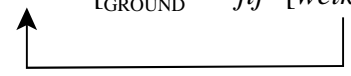
The cartographic structure in (19) specifies designated landing sites for topics (spec,CP<sub>1</sub>) and wh-phrases (Spec,CP<sub>2</sub>). In Dutch and other continental West-Germanic languages, topics and wh-phrases are indeed fronted, i.e. externalized from TP, as illustrated in (24), and in the partial structure (25):

- (24) a. topic *Dat boek ken jij niet* (Dutch)  
 that book know:2SG.INV you not  
 ‘I don’t know that book.’
- b. wh-phrase *Welk boek ken jij niet*  
 which book know:2SG.INV you not  
 ‘Which book don’t you know?’

- (25) [<sub>CP2</sub> *welk boek* C<sub>2</sub> [<sub>CP1</sub> *dat boek* C<sub>1</sub> [<sub>TP</sub> *jij niet* (...)]]]

Depending on the type of clause, the verb *ken* occupies the C<sub>1</sub> or C<sub>2</sub> position in (25), yielding the verb second effect typical of Continental West-Germanic main clauses.

On a more flexible approach, we would have to describe the fronting of topics and wh-phrases following Van Craenenbroeck’s (2006) lead. Hence, a topic wants to be externalized from a domain which we may mark as ‘comment’ (26a), and a wh-phrase (a focus-marked category) from a ‘ground’ domain (26b).

- (26) a. [ [COMMENT *jij* [*dat boek*] *niet kent* ] ]  

  
 b. [ [GROUND *jij* [*welk boek*] *niet kent* ] ]  


(Note that the arrows represent a more complicated process, where no movement takes place, but *dat/welk boek* is erased after another token of the same item is merged to the comment/ground domain.)

On this approach, we may follow Zwart (2005) and describe verb second as the positional dependency marking of the comment/ground domain after merger of the topic/wh-phrase (i.e. the verb in the verb second position functions as a linker between the newly merged topic/wh-phrase and the dependent comment/ground domain). In connection with this, the terms ‘comment’ and ‘ground’ strictly speaking apply only after merger of the topic/wh-phrase, creating a dependency where the dependent category, essentially TP, is a proposition which comes to function as comment/ground to the newly merged topic/focus element. The ‘inner conflict’ underlying topicalization and wh-movement, then resides in the circumstance that unmarked propositions in the relevant languages do not tolerate internal topic or focus elements.

Verb second also occurs in subject-initial main clauses (hence SIMC) in Continental West-Germanic languages, which suggested to Den Besten (1977) that the subject in SIMCs occupies a position in what was later defined as the CP-domain. It is clear that this is not a necessary conclusion, even within a cartographic approach (see Travis 1984, Zwart 1993). However, within the non-cartographic approach contemplated here, the issue does not arise, as a statement of the type ‘The verb always moves to C’ or ‘Some category always moves to Spec,CP’ crucially refers to positions in terms which the non-cartographic approach does not recognize. If Zwart (2005) correctly identifies verb second as a mechanism marking part of the clause as dependent of a newly merged category, the possibility cannot be excluded that verb second applies after merger of a subject in the structural subject position (see section 4.3).

Arguments in the literature addressing the question of whether SIMCs are CP or TP are typically couched within a rigid cartographic approach (e.g. Schrijnemakers 1999). Just one example illustrates. Schrijnemakers (1999:47-48) observes that adverbs in Dutch may be adjoined to TP in embedded clauses (27a). She then argues that if SIMCs are TPs, (27b), where the adverb is adjoined to TP, should be grammatical. However, as (27c) shows, in such cases the adverb is moved to Spec,CP and verb second applies.

- (27) a. ... *dat gisteren Jan het boek gelezen heeft* (Dutch)  
           that yesterday John the book read:PART have:3SG  
           ‘... that John read the book yesterday.’
- b. \* *Gisteren Jan heeft het boek gelezen*  
       yesterday John have:3SG the book read:PART
- c. *Gisteren heeft Jan het boek gelezen*  
       yesterday have:3SG John the book read:PART  
       ‘Yesterday John read the book.’

In a non-cartographic approach, however, it is not clear that *gisteren* ‘yesterday’ occupies

different positions in (27a) and (27c). The argument presupposes that *gisteren* is a topic, so let us assume that. We then assume, as in (26a), that topics are removed from unmarked propositions ('TP') in Continental West-Germanic, i.e. merged anew, followed by erasure of the topic from its position inside the proposition. This, then, applies in both main and embedded clauses, so that on a local, derivational definition of 'position', *yesterday* occupies the same position in (27a) and (27c). The differences between main and embedded clauses are caused by the trivial fact that a complementizer is merged to the derivation in embedded clauses but not in main clauses, and by the circumstance that the verb is used to mark dependency by position in main clauses but not in embedded clauses (explaining (27b)). The complementizer is merged only after the topic has been externalized, as in the Venetian examples discussed by Van Craenenbroeck (2006), cf. (5c). Also as in Venetian, the complementizer defines a topic domain from which (focus) wh-elements need to be removed, yielding the order in (28):

- (28) ... *welk boek of / dat / of-dat Jan gelezen heeft* (Dutch)  
 which book if / that / if-that John read:PART have:3SG  
 '... which book John read.'

As is well-known, topics do not appear in the pre-complementizer position in Continental West-Germanic embedded clauses, a mystery under the cartographic analysis which puts topics in Spec,CP in main clauses (cf. (27c)). On the non-cartographic approach, topics are invariably merged outside the propositional domain (as in (26a)), which may or may not be followed by merger of a complementizer, depending on whether topicalization takes place in an embedded clause or in a main clause.

To conclude, the non-cartographic approach does not describe fronting as movement to a particular landing site (say, Spec,CP), but as externalization of particular elements out of a certain stage of the derivation (essentially TP). On this approach, there is no 'strong feature' residing in C which forces Spec,CP to be filled. Hence, nothing is gained by describing the syntax of Continental West-Germanic main clauses as involving movement of the subject to Spec,CP. In non-cartographic terms, such a movement would be forced only if some inner conflict in TP were to force the newly merged subject to be externalized from TP again.

#### 4.3 *The subject position*

In the tradition of generative grammar it is standardly assumed that clauses have a structural subject position, which in recent years has been identified as the specifier position of TP (Chomsky 1981, 2001). Movement of the subject to this position is triggered by a mysterious EPP-feature residing in T, which attracts elements with particular categorial features (Chomsky 2001).

The EPP (extended projection principle) simply states that clauses must have a subject (which seems right; cf. Chomsky 1982:10). The operation of subject placement, therefore, comes close to the kind of mechanism we have been assuming is involved in the placement of topics and focus/wh-elements: a given stage of the derivation needs a certain element to be merged outside of it.

If there is substance to the claim that Spec,TP is the structural subject position across languages, it would have to be the case that Tense (the head of TP) brings something to the derivation which is in need of a subject. At the same time, Tense must be adding something to the constituent it is merged to (say, VP or vP), or else it would not have been included in the derivation. I will tentatively assume the following:

- (29) a. VP/vP represents a lexical domain (a structure of a verb with its arguments)  
 b. Tense adds tense/aspect features, turning the derivation into an event  
 c. the Subject adds a center to the event

A lexical domain as intended in (29a) (cf. Travis 2000) lacks anchoring in time, and hence is insufficient for reference to a state of affairs. This is why VP/vP needs to be supplemented with Tense features, yielding an event. But an event is incomplete without expression of a subject: the element to which the event applies. I propose to call the subject the ‘center’ of the event, and a derivation to which Tense and subject have been merged a ‘centered event’.

The EPP may now be formulated as in (30), and ‘proposition’ may be defined as in (31):

- (30) *EPP*  
 An event must be centered

- (31) *Proposition*  
 A proposition is the expression of a centered event

If the proposals in (29) are on the right track, it may be possible to derive the fact that Spec,TP is the universal subject position. This has nothing to do with features residing in T which attract the subject. Instead, it is an inherent characteristic of Tense features that they add a property to the derivation which creates the need for a subject. The relation between Tense and the subject therefore is indirect (there is no direct Tense-subject relation), but nonetheless very real.

Returning to the status of the subject-initial main clause (SIMC) in Continental West-Germanic now, there appears to be no reason to believe that SIMCs are more than just TPs (i.e. derivations to which Tense and Subject have been merged). In this sense there is a symmetry between SIMCs and embedded clauses, where (in cartographic terms) the subject invariably occupies the Spec,TP position. It is therefore somewhat confusing that the analysis of Travis (1984) and Zwart (1993), where the subject is in Spec,TP in both main and embedded clauses, has been termed ‘asymmetric’ in the critical literature (e.g. Schwartz & Vikner 1996).

A further question that may be raised concerns the ‘Force’ of a clause. In cartographic approaches, Force (i.e. declarative, interrogative, imperative) is a feature associated with a functional head in the CP-domain (see (4)). This may be taken over in a non-cartographic approach, albeit that it is going to be difficult to argue that the Force elements are functional heads rather than operators. However, for declarative force it is unclear that such an analysis is required. A viable alternative would appear to be that [declarative] is the unmarked interpretation of an unmodified proposition as defined in (31).

#### 4.4 *The object position*

Objects in Continental West-Germanic languages occupy a position in the ‘middle field’, i.e. between verbal elements on either end of the clause (more precisely, between the verb second position and the verb-final position). Within the cartographic tradition, it has proved difficult to define the object position. Chomsky (1989) proposed designated functional projections for hosting objects (AgrOP), but withdrew the proposal in later work (Chomsky 1995), on the grounds that the features relevant to these projections were included in the derivation only to help the derivation along. Since then, the standardly accepted position appears to have been that objects are licensed by ‘little v’, the element of agentive/causative semantics associated with transitive verbs (Chomsky 1995:315). This requires that multiple specifiers are associated with ‘little v’, as its projection also hosts the external argument of the verb.

On a non-cartographic approach, multiple specifiers are unobjectionable: Merge can be reiterated without considerations of overall syntactic architecture. However, the association of objects with ‘little v’ proposed by Chomsky is problematic in light of facts discussed in Zwart (2001), where objects appear in the functional domain associated with unaccusative and passive verbs (which lack a ‘little v’ of the type that could license an object):

- (32) ..*dat* *ze* *hem* *niet* *schijn-t* *te* *ken-nen* (Dutch)  
 that 3SG.FEM:NOM 3SG.MASC:ACC not seem-3SG to know-INF  
 ‘..that she doesn’t seem to know him.’

In (32), *hem* ‘him’ is an argument of the embedded verb *kennen* ‘know’, but it has been shifted to the left to a position in the matrix clause (i.e. to the left of the matrix negation *niet* ‘not’), where it finds itself in the functional domain associated with the unaccusative verb *schijnen* ‘seem’.

I take from these and similar observations that languages know a process of object placement similar to subject placement, and therefore to be accounted for in similar terms, i.e. through some ‘EPP for objects’. For that we would have to know what is the nature of the object position, or better put, what are the properties of the workspace to which objects must be added.

Work conducted in this area from a cartographic point of view suggests that the object position varies with the object’s discourse status (De Hoop 1992, Diesing 1992). For example, the object *de telefoon* ‘the telephone’ is interpreted as given in (33a), where it appears to the left of the discourse particle *even* (lit. ‘a little while’), and as new in (33b), where it appears to the right of it:

- (33) a. *Wil* *je* *de telefoon* *even* *pakken* ? (Dutch)  
 want:2SG.INV you the phone PRT take:INF  
 ‘Please get the phone.’
- b. *Wil* *je* *even* *de telefoon* *pakken* ?  
 want:2SG.INV you PRT the phone take:INF  
 ‘Please get the phone.’

Example (33a) is most felicitous when both speaker and hearer are aware of the telephone (because it is ringing, for instance), while (33b) may be uttered when the telephone is new to the hearer (for instance when she is assisting the speaker who is packing to move).

We know from Krivonosov (1977) that discourse particles of the type of *even* mark the watershed between old and new information. In the terminology applied above, we may say that a discourse particle defines a focus domain. In the situation which makes (33a) felicitous, *de telefoon* represents old information, which would cause an inner conflict when contained within the focus domain defined by *even*. Hence, object shift in this situation is an instance of the type of externalization seen above, where a topic element is merged to a comment constituent.

We may conclude from this example that objects may be merged at various time points in a derivation, depending on the nature of the current state of the derivation, and the intended semantic contribution of the object. This suffices to account for the placement of indefinite noun phrases, discussed by Diesing (1992) in strict cartographic terms. Diesing observes that indefinites receive different interpretations, depending on whether they precede or follow discourse particles. In (34a), *feuerwehrleute* ‘firemen’ is interpreted generic (firemen are always available), while in (34b) *feuerwehrleute* receives an existential interpretation (there are firemen available):

- (34) a. ... *weil* ***feuerwehrleute*** *ja doch* *verfügbar sind* (German)  
           since firemen PRT available be:3PL  
           ‘... since firemen are available.’
- b. ... *weil* *ja doch* ***feuerwehrleute*** *verfügbar sind*  
           since PRT firemen available be:3PL  
           ‘... since there are firemen available.’

Diesing (1992) proposes that existentially interpreted indefinites are inside VP, while those indefinites which receive a non-existential (e.g. generic) interpretation are outside VP. This assumes that discourse particles like *ja doch* ‘as we know’ mark the VP-boundary. However, this assumption is questionable, given the fact that the discourse particles may be realized further to the left; in that case, the two interpretations both are still available, if the prosodic cues present in (34) remain the same (Krifka 1991, Zwart 1995):

- (35) a. ... *weil* *ja doch* *feuerwehrleute* *verFÜGbar* *sind*  
           since PRT firemen available be:3PL  
           ‘...since firemen are available’ (generic)
- b. ... *weil* *ja doch* *FEUerwehrleute* *verfügbar* *sind*  
           since PRT firemen available be:3PL  
           ‘since there are firemen available’ (existential) (= (34b))

In (35), small caps indicate the syllables carrying primary pitch accent. These and similar observations (*ja doch* may also follow the indefinite and the prosody may still trigger an existential interpretation) suggest that the assumption that discourse particles mark the VP-boundary is too strong. If generic indefinites must be outside VP, *ja doch* must be higher than VP in (35a). Hence it is difficult to map a structure of the clause on examples like (34)-(35).

Underlying Diesing’s (1992) analysis of noun phrase placement is the idea that certain portions of the clause map onto certain portions of semantic representations, so that noun phrases in one position will receive a different interpretation from noun phrases in another position. This idea (phrased in cartographic terms by Diesing) is fully compatible with the non-cartographic approach. The assumption from Diesing’s work that appears to be untenable is that the relevant portions of the clause are defined with fixed phrase structure labels like VP, TP (see also Ter Beek 2006). What seems to be the case is that various factors (prosody, positioning of particles) contribute to the definition of certain sub-domains of a proposition, and that these subdomains are relevant to semantic interpretation. It is precisely their relevance to semantic interpretation which may force leftward shift of objects of certain types (essentially externalization from the relevant subdomain, via remerge and erasure, as discussed above).

While much remains unclear about the distribution of objects, the logic of the idea of an EPP for objects dictates that objects, like subjects, do not remain in their VP-internal argument position but are remerged to a certain stage of the derivation, deriving their position in the middle field. In this connection, it is important to note that even indefinite objects need not be adjacent to the verb in Continental West-Germanic languages (Zwart 1994, Ter Beek 2006). For example, adjunct clauses containing parasitic gaps may appear between a shifted indefinite object and the verb:



- (36) ... *dat er iemand een boek [zonder uit te lezen]*  
 that there someone a book without out to read:INF  
*terug gebracht heeft* (Dutch)  
 back bring:PART have:3SG

‘... that someone returned a book without finishing it.’

This suggests that objects of any kind can be seen to shift to the left, vacating their original argument position inside the VP.

The observations discussed in this subsection, then, suggest that the point in the derivation where the object is merged is not fixed. Hence it is impossible to identify any designated object positions. It does, however, leave the possibility that OV-languages with object shift are underlyingly head-initial (cf. Kayne 1994, Zwart 1994) wide open.

## 5. Conclusion

This article has made the following points. In a strict derivational approach, syntactic positions can be defined in terms of their local environment, i.e. as a function of the sisterhood relation created by the operation Merge. It follows that word order generalizations can be (and, from the point of view of theoretical economy, should be) defined in terms of local environments, not by reference to absolute, cartographically defined positions. On this approach, syntactic structure is inherently dynamic: each time a new element is merged to the current derivation, new features are imported, potentially creating ‘inner conflicts’ necessitating externalization of offending elements (i.e. new operations Merge followed by erasure of the offending element in its original position). The order of operations, then, is not determined by global considerations of syntactic architecture, but locally, on the basis of emerging properties of the derivation. If so, there is no way of guaranteeing fixed word orders, creating a flexibility which I believe is needed to describe language internal and crosslinguistic variation.

We have shown how this non-cartographic approach is supported by a range of phenomena where word orders cannot be derived via reasoning by transitivity based on a fixed hierarchy of syntactic heads and projections. Finally, we have discussed a number of consequences of the approach for the analysis of Germanic syntax. Briefly, it appears unnecessary to maintain the full fine structure of the left periphery of Rizzi (1997) and others. Fronting of topics and focus elements can be described as forms of externalization, forcing relevant elements to appear outside the core proposition (‘TP’). Subjects, on the other hand, are by definition internal to the core proposition, leading to an analysis of subject-initial main clauses as being less developed than inversion constructions (in line with Travis 1984 and Zwart 1993). I have proposed that the EPP be understood as an externalization requirement, where a syntactic object representing an event needs to be combined with a noun phrase providing the event’s ‘center’. Finally, I have suggested that a similar requirement should hold of objects at an earlier stage in the derivation, explaining object shift as the result of a similar externalization requirement applying to objects of all kinds, but differently depending on the object’s intended discourse function.

Within the confines of this contribution, it was regrettably not possible to proceed very far beyond the programmatic stage. Hopefully, this paper serves its modest aim to raise a number of issues which might be addressed in future applications of the Minimalist Program to Germanic syntax.

## References

- Bobaljik, J.D. 1999. Adverbs: the hierarchy paradox. *Glott International* 4: 27-28.
- Bolinger, D. 1967. Adjectives in English: attribution and predication. *Lingua* 18: 1-34.
- Chomsky, N. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- Chomsky, N. 1982. *Some concepts and consequences of the theory of government and binding*. Cambridge: MIT Press.
- Chomsky, N. 1986. *Barriers*. Cambridge: MIT Press.
- Chomsky, N. 1989. Some notes on economy of representation and derivation. *MIT Working Papers in Linguistics* 10: 43-74.
- Chomsky, N. 1995. Categories and transformations. In *The minimalist program* (pp. 219-394). Cambridge: MIT Press.
- Chomsky, N. 2000. Minimalist inquiries: the framework. In *Step by step: essays on minimalist syntax in honor of Howard Lasnik*, R. Martin, D. Michaels and J. Uriagereka (eds), 89-155. Cambridge: MIT Press.
- Chomsky, N. 2001. Derivation by phase. In *Ken Hale: a life in language*, M. Kenstowicz (ed.), 1-52. Cambridge: MIT Press.
- Chomsky, N. 2004. Beyond explanatory adequacy. In *Structures and beyond*, A. Belletti (ed.), 104-131. New York: Oxford University Press.
- Cinque, G. 1999. *Adverbs and functional heads*. New York: Oxford University Press.
- Cinque, G. (ed.) . 2002. *Functional structure in DP and IP: The cartography of syntactic structures, Volume 1*. New York: Oxford University Press.
- Cinque, G. 2003. The dual source of adjectives and XP- vs. N-raising in the Romance DP. Paper presented at NELS 34, Stony Brook, November 9.
- De Hoop, H. 1992. *Case configuration and noun phrase interpretation*. PhD dissertation, University of Groningen.
- Den Besten, H. 1977. On the interaction of root transformations and lexical deletive rules. Ms., MIT and University of Amsterdam. [Published in H. den Besten, 1989, *Studies in West-Germanic syntax*, PhD dissertation Tilburg University.]
- Diesing, M. 1992. Bare plural subjects and the derivation of logical relations. *Linguistic Inquiry* 23: 353-380.
- Epstein, S.D., E.M. Groat, R. Kawashima and H. Kitahara. 1998. *A derivational approach to syntactic relations*. New York: Oxford University Press.
- Evans, N. 1995. *A grammar of Kayardild*. Berlin: Mouton de Gruyter.
- Frampton, J. and Gutmann, S. 2002. Crash-proof syntax. In *Derivation and explanation in the Minimalist Program*, S.D. Epstein and T.D. Seely (eds.), 90-105. Malden: Blackwell.
- Halle, M. and Marantz, A. 1993. Distributed morphology and the pieces of inflection. In *The view from Building 20: essays in linguistics in honor of Sylvain Bromberger*, K. Hale and S.J. Keyser (eds.), 111-176. Cambridge: MIT Press.
- Hoekstra, E. 1994. Overtollige voegwoorden en de volgorde of + interrogativum/relativum. *De Nieuwe Taalgids* 87: 314-321.
- Hoekstra, E. and Zwart, C.J.W. 1994. De structuur van de CP: functionele projecties voor topics and vraagwoorden in het Nederlands. *Spektator* 23: 191-212.
- Jaspers, D. 1998. Categories and recursion. *Interface* 12: 81-112.
- Kayne, R.S. 1994. *The antisymmetry of syntax*. Cambridge: MIT Press.
- Koster, J. 2004. Structure-preservingness, internal merge, and the strict locality of triads. Ms., University of Groningen.
- Krifka, M. 1991. Focus, semantic partition, and dynamic interpretation. Paper presented at the 8th Amsterdam Colloquium, December 17-20.

- Krivonosov, A. 1977. Deutsche Modalpartikeln im System der unflektierten Wortklassen. In *Aspekte der Modalpartikeln*, H. Weydt (ed.), 176-216. Tübingen: Niemeyer.
- Larson, R. and Marušić, F. 2004. Indefinite pronoun structures with APs. *Linguistic Inquiry* 35, 268-287.
- Müller, G. and Sternefeld, W. 1993. Improper movement and unambiguous binding. *Linguistic Inquiry* 24: 461-507.
- Nilsen, Ø. 2003. *Eliminating positions: syntax and semantics of sentential modification*. PhD dissertation, Utrecht University.
- Rizzi, L. 1997. The fine structure of the left periphery. In *Elements of grammar*, L. Haegeman (ed.), 281-337. Dordrecht: Kluwer.
- Schrijnemakers, P. 1999. To C or not to C, that is the question: over de structuur van subject-initiële zinnen. MA-thesis, Utrecht University.
- Schwartz, B. and Vikner, S. 1996. The verb always leaves IP in V2 clauses. In *Parameters and functional heads*, A. Belletti and L. Rizzi (eds.), 11-62. New York: Oxford University Press.
- Sproat, R. and Shih, C. 1988. Prenominal adjective ordering in English and Mandarin. *Proceedings of NELS* 18: 465-489.
- Sproat, R. and Shih, C. 1990. The cross-linguistic distribution of adjective ordering restrictions. In *Interdisciplinary approaches to languages: essays in honor of S.-Y. Kuroda*, C. Georgopoulos and R. Ishihara (eds.), 565-593. Dordrecht: Kluwer.
- Ter Beek, J. 2006. Dutch indefinites, word order and the Mapping Hypothesis. Ms., MIT and University of Groningen.
- Travis, L. 1984. *Parameters and effects of word order variation*. PhD dissertation, MIT.
- Travis, L. 2000. Event structure in syntax. In Carol Tenny and James Pustejovsky (eds.), *Events as grammatical objects: the converging perspectives of lexical semantics and syntax*, C. Tenny and J. Pustejovsky (eds.), 145-185. Stanford: CSLI Publications.
- Van Craenenbroeck, J. 2006. Transitivity failures in the left periphery and foot-driven movement operations. To appear in *Linguistics in The Netherlands*.
- Vendler, Z. 1968. *Adjectives and nominalizations*. The Hague: Mouton.
- Zwart, C.J.W. 1993. *Dutch syntax: a minimalist approach*. PhD dissertation, University of Groningen.
- Zwart, C.J.W. 1994. Dutch is head-initial. *The Linguistic Review* 11: 377-406.
- Zwart, C.J.W. 1995. Word order, intonation, and noun phrase interpretation in Dutch. *Proceedings of WECOL* 7: 279-289.
- Zwart, C.J.W. 2000. A head raising analysis for relative clauses in Dutch. In *The syntax of relative clauses*, A. Alexiadou, A. Meinunger, P. Law and C. Wilder (eds.), 349-385. Amsterdam: John Benjamins.
- Zwart, C.J.W. 2001. Object shift with raising verbs. *Linguistic Inquiry* 32: 547-554.
- Zwart, C.J.W. 2005. Verb second as a function of Merge. In *The function of function words and functional categories*, M. den Dikken and C.M. Tortora (eds.), 11-40. Amsterdam: John Benjamins.
- Zwart, C.J.W. 2006. Local agreement. In *Agreement systems*, C. Boeckx (ed.), 317-339. Amsterdam: John Benjamins.