

# N-Feature Checking in Germanic Verb Second Configurations

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## 0. INTRODUCTION

In the tradition of generative syntax, we are accustomed to thinking of morphosyntactic licensing as *specifier-head agreement*. The specifier-head relation has the well-known properties of *locality* and *uniqueness*. Thus, as (1) shows, no element may intervene between a head and a phrase which entertain a specifier-head agreement relation (assuming that *did* in (1) occupies the head of the functional projection of the wh-features, CP):<sup>1</sup>

(1) Who (\*yesterday) did Bill kiss?

Likewise, a given functional head cannot agree with two specifiers at the same time (cf. E. Hoekstra 1991):<sup>2</sup>

(2) \* When who did Bill kiss?

If Kayne (1994) is correct, the specifier-head relation also has the property of left-right *directionality*, the specifier universally preceding the head in linearized structure.

In this paper, I will address the question whether the specifier-head relation is a primitive of the grammar, or can be derived from the interaction of more basic grammatical relations.

## 1. SISTERHOOD AND MOTHERHOOD

Assuming that syntactic tree structure representations are binary branching, the properties of locality and uniqueness also apply to the thematic licensing relation between a *head* and its *complement*. In the framework of Chomsky (1993), this follows from the mechanism of *Generalized Transformation*, a bottom-up procedure for constructing syntactic tree representations in which no more than two phrases are combined at a time. Assuming that the tree building process is initially guided by thematic requirements, it follows that a head is first combined with one (and only one) complement. This derives the properties of locality and uniqueness. Again, if Kayne (1994) is correct, the head-complement relation also expresses a left-right directionality in linearized structure.

In Chomsky (1986), the locality of the head-complement relation may be derived from the mechanism of *theta-role assignment*, assuming that theta-roles are assigned under sisterhood.

<sup>1</sup> It is assumed here that non-adjacency indicates the absence of a local specifier-head relation. This applies to English subject-initial sentences, as in *I never would have believed that*.

<sup>2</sup> On multiple questions in Slavic languages, see Kraskow (1990).

Sisters are by nature local (adjacent), and the uniqueness of sisterhood follows on the binary branching hypothesis.<sup>3</sup>

Sisterhood and motherhood are the single two primitive relations in tree structure representations. In generative grammar, the motherhood relation has the function of passing on categorial information, by standard percolation mechanisms. Thus, the projection of a head  $\alpha$  has the same categorial features as  $\alpha$ . Similarly, other features can be percolated from a daughter node up to its mother node.

I would like to explore the hypothesis that the other primitive relation in tree structure representations, sisterhood, has the function of performing syntactic licensing operations. From this perspective, the sisterhood condition on theta-role assignment of Chomsky (1986) follows from the hypothesis that syntactic licensing can only take place in a sisterhood configuration.

## 2. THE SPECIFIER-HEAD RELATION

It is immediately clear that head movement creates the sisterhood configuration needed for syntactic licensing. In terms of Chomsky (1993),  $\beta$  adjoins to  $\alpha$  in order to check its features with the V-features represented in  $\alpha$ .

The N-features represented in  $\alpha$  must be checked with an XP. Assuming that phrases cannot adjoin to heads (Baltin 1982, Kayne 1994), the XP cannot move to the position of sister of  $\alpha$ . Instead, it appears to move to the closest appropriate landing site, the specifier position of  $\alpha$ . If we wish to maintain that all licensing relations are sisterhood relations, the sister of the specifier of  $\alpha$ , i.e. the mother of  $\alpha$ , must be actively involved in checking the N-features of  $\alpha$  with the features of the XP in the specifier position of  $\alpha$ .

This, then, leads us to propose that the N-features of  $\alpha$  may be present on the mother of  $\alpha$ . Spec-head agreement is thus decomposed into a motherhood relation, instantiating percolation of features, and a sisterhood relation, instantiating syntactic licensing by feature checking.

Assuming this much, we may propose (3):<sup>4</sup>

- (3)  $\alpha$  licenses  $\beta$  iff  $\alpha$  is a sister of  $\beta$

<sup>3</sup> I argued in Zwart (1992) that sisterhood is transitive. Given binary branching, this applies only when one of the sisters is part of a chain. In that case, the sister of the foot of the chain also counts as the sister of the sister of the head of the chain, assuming chains to be atomic, and adopting transitivity of sisterhood. I argued that this is the mechanism by which indirect licensing proceeds, for instance in locative inversion constructions as analyzed in Hoekstra & Mulder (1990).

<sup>4</sup> The sisterhood condition on licensing does not apply to the relation of dependency between elements *within a chain*, for instance in cases where an operator licenses a variable. Similarly, licensing in binding and control relations is exempted from the condition. Licensing in these cases is more properly described as *identification*, to be distinguished from the licensing in terms of phrase structure discussed in the text. Generally speaking, an element identified by its antecedent (e.g., a variable bound by an operator) also has to be licensed by some relation defined in terms of phrase structure (in this case, via Case-licensing in the specifier position of an agreement phrase). Thanks to a reviewer for pointing out the distinction between the two types of licensing.

### 3. X-BAR THEORY

If specifier-head agreement can be derived from sisterhood, the mother of the relevant head  $\alpha$  must have a special status distinguishing it from all other projections of  $\alpha$ .

In standard X'-theory (Chomsky 1970, 1986), the special status of the mother of  $\alpha$  may be expressed in terms of bar-level notation. This version of X'-theory distinguishes a head,  $X^\circ$ , a maximal projection of that head, XP, and an intermediate projection between  $X^\circ$  and XP,  $X'$ . The maximal projection may consist of a number of *segments*, resulting from adjunction operations as discussed in Chomsky (1986). In this system, the special status of the mother of a head  $\alpha$  can be related to the unique bar-level of the intermediate projection.

However, the unique status of the mother of  $\alpha$  is only guaranteed if there can be no more than one intermediate projection in XP. But in standard conceptions of X'-theory, the intermediate projection is assumed to be recursive.<sup>5</sup>

There are additional reasons to believe that the special status of the mother of a head  $\alpha$  must not be expressed in terms of bar-level notation.

First, it has been argued by several authors that the distinction between  $X'$  and XP is a superfluous artificiality of the notation. There is an abundance of linguistic evidence for the distinction between heads and maximal projections, but very little to support the existence of a third category (Stuurman 1985, Hellan 1991, Hoekstra 1991, Kayne 1994). Defining the mother of  $\alpha$  by its special bar-level status therefore appears to be *ad hoc*.

Second, adopting the intermediate bar-level leads to a far from attractive complication of the structure building process of Generalized Transformation (Chomsky 1993). This process consists in combining two phrase markers  $\alpha$  and  $\beta$  by expanding  $\alpha$  to make room for  $\beta$ . The expansion takes place by projecting a mother of  $\alpha$  and introducing an empty element as a sister of  $\alpha$  (and a daughter of the mother of  $\alpha$ ), to be replaced by  $\beta$ .

The relevant question here is, What is the bar-level status of the mother of  $\alpha$ ? In the standard X'-theory, the bar-level status of the mother of  $\alpha$  is dependent on various factors. If  $\alpha$  is a head and  $\beta$  is a complement of  $\alpha$ , the mother of  $\alpha$  will be an  $X'$ . If  $\beta$  is a head, the mother of  $\alpha$  is a head. And if  $\alpha$  is an XP, the mother of  $\alpha$  is also an XP. It is clear that this system can be simplified if  $X' = XP$ . In that case,  $\alpha$  projects an XP iff combined with a maximal projection, and a head iff combined with a head.

For these reasons, I assume that the special status of the mother of a head  $\alpha$  is independent of bar-level status. In the remainder of this paper, I will consider intermediate projections to be XPs.

### 4. PROJECTION AND SEGMENT

The Generalized Transformation mechanism yields a more promising criterion by which to distinguish the mother of a head  $\alpha$  from all other projections of  $\alpha$  (recall that this distinction is needed to ensure uniqueness and locality of 'specifier-head agreement').

A head must always be expanded in order for it to be integrated into a syntactic structure. Thus,  $V^\circ$  must project a VP (formerly:  $V'$ ) to make room for the syntactic realization of one of its arguments. In contrast, a non-head can be inserted in a syntactic structure without projecting

<sup>5</sup> In the X'-schema of Chomsky (1986:3), there is room for only one intermediate projection.

a mother node. Thus, VP can be combined with, say,  $T^\circ$  by expanding  $T^\circ$ .  $T^\circ$ , again, *cannot* be combined with anything without projecting a TP first.

In other words, heads never appear by themselves in syntactic structures. They always must have at least one projection. The other projections are there to make room for additional elements, but they are not indispensable from the point of view of the head. Let us assume that this is what sets the mother of a head  $\alpha$  apart from all other projections of  $\alpha$ . This yields the following definitions:

- (4) For  $\alpha, \beta$  where  $\alpha$  dominates  $\beta$ , and  $X^1 = XP$ :
- a. PROJECTION  
 $\alpha$  is a Projection of  $\beta$  iff
    - (i) for  $\alpha = X^1, \beta = X^\circ$ , and
    - (ii) there is no  $\gamma, \gamma = X^n$ , such that  $\alpha$  dominates  $\gamma$  and  $\gamma$  dominates  $\beta$
  - b. SEGMENT  
 $\alpha$  is a Segment of  $\beta$  iff
    - (i) for  $\alpha = X^n, \beta = X^n$ , and
    - (ii) there is no  $\gamma, \gamma \neq X^n$ , such that  $\gamma$  dominates  $\beta$  and  $\alpha$  dominates  $\gamma$
- (5) a. SPECIFIER  
 $\alpha$  is a Specifier of  $\gamma$  iff
  - (i)  $\alpha$  and  $\beta$  are sisters, and
  - (ii)  $\beta$  is the Projection of  $\gamma$
 b. ADJUNCT  
 $\alpha$  is an Adjunct of  $\beta$  iff
  - (i)  $\alpha$  and  $\beta$  are sisters, and
  - (ii)  $\beta$  is a Segment

Thus, by (4a) the mother of a head  $\alpha$  is defined as the Projection of  $\alpha$ , and by (5a), Specifier is defined as the sister of a Projection.

The role of the Projection in the feature checking process can now be made explicit if we assume that the N-feature of  $\alpha$  may percolate to the Projection of  $\alpha$ :

- (6) FEATURE SHARING  
 $\alpha$  and  $\beta$  share morphological features only if  $\alpha$  is the Projection of  $\beta$

By (6), the XP Projection of a head  $X^\circ$  may have access to the N-features of  $X^\circ$ , and may hence play its crucial role in licensing the specifier of  $X^\circ$  under the required condition of sisterhood.<sup>6</sup>

<sup>6</sup> The definitions of Projection and Segment in this section have an interesting consequence for the range of structures allowed by the *Linear Correspondence Axiom* (LCA) of Kayne (1994). By the LCA, adjunction to what we have defined as a Segment XP is not allowed, because it would yield a situation in which the adjunct asymmetrically c-commands the daughter of the specifier, and the specifier asymmetrically c-commands the daughter of the adjunct (yielding a situation in which the terminal nodes dominated by the adjunct and the specifier are in a prohibited symmetric relation to one another). However, on our definitions the specifier does not c-command the daughter of the adjunct, because the specifier is dominated by all Segments of XP (and the daughter of the adjunct is not). Thus, on these definitions a single adjunction operation, in addition to adjunction of a specifier, is allowed. This potentially decreases the number of functional projections that has to be assumed for purely configurational reasons, as defined in the LCA.

## 5. ACCESSIBILITY

At this point, it is possible to define the checking domain of a functional head  $\alpha$  as a set consisting of those nodes that are sister of a node carrying a morphological feature of  $\alpha$ :

- (7) CHECKING DOMAIN  
 $\alpha$  is in the Checking Domain of  $\beta$  iff (i)  $\alpha$  is a sister of  $\gamma$ , and  
(ii)  $\gamma$  carries a feature of  $\beta$

For independent reasons, having to do with restrictions on adjunction,  $\alpha$  adjoins to  $\beta$  if  $\alpha$  is a head, and to  $\gamma$ , the Projection of  $\beta$ , if  $\alpha$  is a non-head.

Consider now the possibility that  $\gamma$ , the Projection of  $\beta$ , for some reason has no access to the N-feature represented in  $\beta$ . In that case, the sister of  $\gamma$  (i.e., the Specifier of  $\alpha$ ) will fall outside the Checking Domain of  $\alpha$ . As a result, the N-feature of  $\alpha$  cannot be checked, and the derivation will not converge.

If Feature Sharing between a head and its Projection is an automatic process, this will never occur. There are reasons to believe, however, that Feature Sharing between a head and its Projection is not always an automatic process. This has to do with the fact that sometimes XP-movement (for checking N-features) and head movement (for checking V-features) work in tandem, yielding for instance verb second effects in Germanic languages:

- (8) a. **Jan kust Marie** Dutch  
John kisses Mary  
b. **..dat Jan Marie kust**  
that John Mary kisses  
‘..that John kisses Mary.’  
c. **Steeds kust Jan Marie**  
all the time kisses John Mary  
‘John kisses Mary all the time.’

In (8a) and (8c), the finite verb *kust* ‘kisses’ appears to the immediate right of the fronted constituent. Den Besten (1977) has argued that the verb in (8c) is in the same position as the complementizer *dat* in (8b). Assuming this to be correct, we are led to conclude that the subject *Jan* is in the specifier position of AgrSP in both (8b) and (8c), considered to be the designated licensing position for the subject. I assume, following Travis (1984) and Zwart (1993a), that the subject in (8a) likewise occupies the specifier position of AgrSP, with the verb appearing in AgrS in this construction. In (8b), however, the verb does not appear in AgrS, but further to the right (possibly in V).

The latter observation makes it impossible to assume that the placement of the verb in (8a) and (8c) is due to the presence of a strong V-feature in AgrS and C, respectively.<sup>7</sup> If that were the case, the strong V-feature of AgrS and C in (8b) would remain unchecked in overt syntax,

<sup>7</sup> I assume, with Chomsky (1993), that movement can take place both overtly and covertly (i.e., at a point in the derivation after the Spell Out-point, where the instructions to the articulatory-acoustic component have been issued). Overt movement is triggered when the features that must be checked are ‘strong’, an arbitrary parametrization. ‘Weak’ features are only triggers for movement after the Spell-Out point.

yielding a non-converging derivation. But the derivation of (8b), a grammatical sentence, converges. Hence, the V-feature in AgrS and C cannot be strong.

If the V-feature in AgrS and C is not strong, the verb second effect in (8a) and (8c) must be due to something else. Apparently, verb movement and XP-movement work in tandem in non-embedded clauses. This suggests that the verb moves to *assist* in the checking of the N-features of AgrS and C, and that some other factor makes this assistance redundant in (8b). This suggests that the feature sharing in (6) is not an automatic process (in all languages), and that verb movement is one way of making the N-features of AgrS accessible to the AgrSP Projection.

Let us therefore make the assumption that the N-features represented in a functional head  $\alpha$  may be [ $\pm$ accessible] to the Projection of  $\alpha$ :

(9) Functional heads are [ $\pm$ accessible]

(10) FEATURE SHARING  
 $\alpha$  shares the morphological features of  $\beta$  iff (i)  $\alpha$  is the Projection of  $\beta$ , and  
(ii)  $\beta$  is [+accessible]

We may now stipulate that verb movement is a way of making a [-accessible] functional head [+accessible]. An obvious execution of this idea would be to say that [-accessible] functional heads become [+accessible] when their V-features are eliminated by feature checking with the verb:

(11)  $\alpha$  [-accessible]  $\rightarrow$   $\alpha$  [+accessible]  
if the V-features of  $\alpha$  have been eliminated

If (11) is correct, it is the independent [accessibility] feature which accounts for the possibility of overt verb movement with weak V-features.<sup>8</sup>

This phenomenon is unexplained in other approaches to verb movement, which do not incorporate the sisterhood condition on feature checking. Only by assuming this condition, and by restricting the accessibility of the sister of the specifier to the relevant functional head can the conditional verb movement become understandable. It is important to see that this conclusion is independent of the question whether the verb moves to C in all independent clauses (i.e. in both (8a) and (8c)), or in inversion constructions only (i.e. in (8c)). Even if we assume that the verb moves to C in all cases we must dissociate overt verb movement in Germanic from the presence of strong V-features. If strong V-features trigger verb movement, the absence of verb movement in embedded clauses (8b) ought to make the derivation crash, contrary to fact.

## 6. CONDITIONAL VERB MOVEMENT

How does the present approach account for the absence of verb movement in embedded clauses like (8b)? Apparently, verb movement is not needed in these cases for making the N-features of

<sup>8</sup> In this analysis, overt verb movement is *triggered* by the need to make AgrS [+accessible] (hence, ultimately, by the strong N-features of AgrS). It is *allowed* (i.e., compatible with the principle of Greed of Chomsky 1993) by the very presence of V-features in AgrS, which have to be checked at some point in the derivation to begin with.

AgrS accessible to the AgrSP Projection. It then follows from economy of derivation that embedded verb movement does not take place, as (12) shows:

- (12) \* ..dat Jan kust Marie cf. (8b)  
 that John kisses Mary

I have argued elsewhere (Zwart 1993a) that in embedded clauses in Germanic verb second languages the functional head AgrS moves to C. I assumed that the familiar complementizer agreement phenomenon of several Continental West Germanic languages and dialects is a reflex of this AgrS-to-C movement:

- (13) ..datte me toffe jonges zijn South Hollandic  
 that-1PL 1PL good guys are  
 ‘..that we are good guys’

I have also argued (Zwart 1993b) that this AgrS-to-C movement must be assumed to take place in all Germanic languages that show the verb movement pattern in (8).<sup>9</sup> Thus, the functional head movement evidenced in (13) is assumed to also take place in (8b).

We are led to surmise that AgrS-to-C movement has the same effect as V-to-AgrS movement: it turns a [-accessible] AgrS into a [+accessible] AgrS. This follows if AgrS-to-C movement, like V-to-AgrS movement, has the effect that the V-feature of AgrS is eliminated.

AgrS-to-C movement cannot truly eliminate the V-feature of AgrS. If that were the case, the verb could no longer check its features with the V-features of AgrS, and the derivation would not converge. However, we may assume that AgrS, when moving to C, takes its V-feature along. In other words, AgrS-to-C movement yields a chain, only the head of which carries the V-feature:

- (14)  $[_{CP} \text{AgrS}_i\text{-C} \quad [_{AgrSP} \quad t_i \quad [ \dots ]]]$   
 +V-feature - V-feature

If so, AgrS-to-C movement effectively *removes* the V-feature from the AgrS position, which yields the same result as V-feature checking in case of V-to-AgrS movement. Thus, we may replace (11) by (15):

- (15)  $\alpha$  [-accessible]  $\rightarrow$   $\alpha$  [+accessible]  
 iff the V-features of  $\alpha$  have been removed

The idea underlying both (11) and (15) is that the presence of V-features blocks the possibility of N-feature checking. For that reason, the V-feature must be removed, either by checking it or by taking it along to a higher head.

There is both conceptual and empirical support for the idea that V-features are only present on the head of the chain that results from independent functional head movement (i.e. movement

<sup>9</sup> These are Dutch, German, Frisian, and the Mainland Scandinavian languages Danish, Norwegian, Swedish. The fact (noted by Kayne 1994:52) that of these six languages, the ones showing *overt* complementizer agreement morphology are all SOV languages, I take to be of no statistical significance. Cf. Zwart (1993:211-212) for discussion.

independently of movement of lexical categories). Conceptually, the distribution of V-features as proposed here follows from economy of representation:

- (16) ECONOMY OF REPRESENTATION  
Use as few symbols as possible

If functional head movement were to leave behind a copy of the V-feature, the number of symbols would increase unnecessarily.<sup>10</sup> Empirically, the absence of V-features from the foot of a head movement chain helps to account for the generally held conviction that adjunction to a trace is impossible. If the trace of a functional head were to retain a V-feature, we would expect verb movement to target this trace instead of the more remote head of the chain. On the other hand, if the trace of the head movement is without V-features, the absence of verb adjunction to the trace follows from economy of derivation.<sup>11</sup>

It seems, then, that the assumption that head movement takes the V-features along is a desirable one. If so, AgrS-to-C movement and V-to-AgrS movement have the same effect: the V-features are removed from the AgrS position, and the N-features may move up from AgrS to the AgrSP Projection.<sup>12</sup> Consequently, checking of the strong N-features of AgrS may proceed under the required sisterhood condition.

## 7. NON-LOCAL HEAD MOVEMENT

We can now conclude that head movement changes the configuration for V-feature checking. When AgrS moves to C, the verb can no longer check its features with the V-features of AgrS by moving to the AgrS position. This position is occupied by the trace of AgrS-to-C movement, which lacks V-features. Therefore, the verb must now check its V-features in the domain of C, by adjoining to AgrS in C.<sup>13</sup>

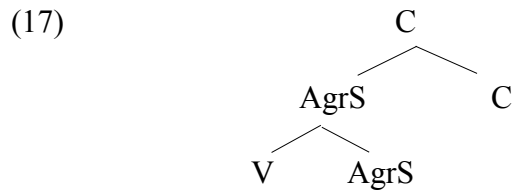
<sup>10</sup> Note that economy of representation as formulated in the text goes a long way towards deriving economy of derivation, including its principles of Greed and Procrastination (cf. Chomsky 1993). Since N-features and V-features potentially violate visibility at the interfaces, they must be considered as symbols of economy of representation. If so, movement for feature checking purposes reduces the number of symbols and follows from economy of representation. Procrastination (the preference for covert movement) also follows on the assumption that weak features do not count as symbols at the PF interface. Overt movement, then, would not reduce the number of symbols at the relevant point in the derivation. At the same time, overt movement with weak features ('early altruism', to use the term of Wilder and Ćavar 1993) is not excluded altogether, because it does reduce the number of symbols for the LF interface. From this point of view, it would be impossible for functional head movement to double the number of features by leaving a copy of the V-features behind. (Note that if AgrS-to-C movement takes the V-feature along, the movement does result in a reduction of the number of symbols, because this step makes it possible for the N-feature of AgrS to be eliminated.)

<sup>11</sup> Importantly, adjunction to a trace cannot be excluded by appealing to the condition of Strict Cyclicity (the 'extension requirement'), since head movement generally does not violate the Strict Cycle Condition (see Chomsky 1993:24).

<sup>12</sup> The percolation of the N-features of AgrS to AgrSP is now referred to as 'movement' in view of the generalization that features must be present in as few positions as possible (i.e., economy of representation).

<sup>13</sup> See note 11 for the issue of Strict Cyclicity regarding the adjunction of V to AgrS in C.





Thus, functional head movement creates a derived checking position for V-feature checking.<sup>14</sup>

We may furthermore conclude that this derivation involves non-local verb movement, suggesting that the Head Movement Constraint is too strict (as also argued in Ouhalla 1989):

- (18) HEAD MOVEMENT CONSTRAINT (Travis 1984)  
 An X<sup>o</sup> may only move to a Y<sup>o</sup> which properly governs it

The consequences of dropping the Head Movement Constraint altogether are discussed throughout Zwart (1993c). Its main effects are derived from the general feature checking requirements of the minimalist program: no head may be skipped by a verb, if that head contains V-features. On the other hand, there are clear cases in Dutch where the Head Movement Constraint would make the wrong prediction.

One of these involves the position of object clitics in inversion constructions. I have argued elsewhere (Zwart 1993d) that object clitics in Dutch adjoin to AgrS, explaining their adjacency to the subject in the specifier of AgrSP, and to the verb in subject initial main clauses.<sup>15</sup>

- (19) a. **..dat Jan (\*gisteren) 't gedaan heeft** Dutch  
 that John yesterday it done has  
 ‘..that John did it yesterday’  
 b. **Jan heeft (\*gisteren) 't gedaan**  
 John has yesterday it done  
 ‘John did it yesterday.’

However, in inversion constructions the object pronoun cannot be enclitic to the verb in C. Instead, it still appears to be adjoined to AgrS:

- (20) **Waarschijnlijk heeft (\*'t) Jan (\*gisteren) 't gedaan**  
 probably has it John yesterday it done  
 ‘John probably did it yesterday.’

Inversion constructions, then, can only be derived if the finite verb skips AgrS on its way to C. This is accounted for if inversion constructions also involve AgrS-to-C, triggered by the need to remove the V-feature from the AgrS position, in order to make N-feature checking with the

<sup>14</sup> In Zwart (1993c, section III.5.3.2), verb movement to C in inversion constructions is analyzed in the same way as verb movement to AgrS in subject-initial main clauses. That is, verb movement to C is needed to make C [+accessible], so that the N-features of C can move up to the Projection of C, and licensing of the element in Spec,CP can proceed under sisterhood.

<sup>15</sup> I assume that adjunction of a clitic to the trace of AgrS is allowed. Adjunction of a verb to the trace of AgrS is disallowed, not by some general ban on adjunction to a trace, but because the trace of AgrS does not carry the V-features triggering verb movement, as discussed above.

subject possible. As this yields a chain (AgrS,t) with the V-features represented in the head of the chain, no verb movement to the AgrS position is necessary or even allowed.

Another Head Movement Constraint violation that appears to be inevitable is instantiated in those dialects of Dutch which show a different agreement depending on whether the verb is in AgrS (21a) or in C (21b) (Zwart 1993a):

- (21) a. **Wie speult/\*speule** East Netherlandic  
           we play-T/-E  
       b. **Speule/\*speult wie?**  
           play-E/-T we

Assuming that verbs are inserted in fully inflected form (as is customary in the minimalist approach), the verb in (21b) must have been inserted with the *schwa*-form. If so, it cannot have moved through the AgrS position, in which the *t*-form is apparently checked. Again, the assumption of AgrS-to-C movement is instrumental in making verb movement to the AgrS-position in inversion constructions unnecessary, and hence impossible.

## 8. THE CHECKING DOMAIN OF A CHAIN

The next question is whether head movement affects the checking domain for N-feature checking. Chomsky (1993) argues that it does, as part of an analysis of multi-argument verb constructions in the spirit of Larson (1988):

- (22) John put the book on the table

- (23)  $[_{VP} put_i [_{VP} the\ book\ t_i [_{PP} on\ the\ table ]]]$

In this analysis, both the theme *the book* and the location *on the table* are taken to be arguments of the verb *put*. Accepting binary branching, *put* can have only one argument at a time. In the initial stage of the representation, this argument is the sister of *put*, *on the table*. At this point in the derivation, *the book* lies outside the internal domain (the domain where complements are generated) of *put*. Chomsky then argues that head movement of *put* to a higher VP-shell creates a new object, the chain (*put*,*t*), the internal domain of which includes the specifier position of the foot of the chain (i.e., the position occupied by *the book*).

Chomsky defines the checking domain of a head  $\alpha$  as the set of positions that are in the minimal domain of  $\alpha$ , but not in the internal domain of  $\alpha$ . In this analysis, then, head movement removes the specifier position of the foot of the chain from the checking domain of the moved head. Concretely, moving AgrS-to-C would make it impossible for the N-features of AgrS to be checked in the specifier position of AgrS.

However, the definition of checking domain of a chain of Chomsky (1993) is not motivated independently of this particular analysis of multi-argument verb constructions. Let us therefore approach the question from the assumptions and hypotheses entertained here.

If theta-role assignment requires a sisterhood configuration, the specifier of the lower VP in (23) can never be assigned a theta-role by the moved verb *put*. Assuming the structure and derivation in (23), we are forced to conclude that only the PP *on the table* can be an argument of *put*. As this leaves *the book* without a theta-role, such an analysis must be rejected. Hence,

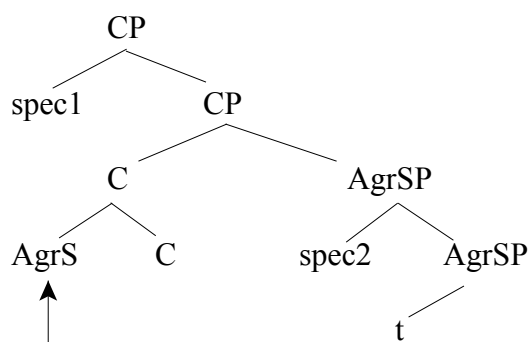
accepting the sisterhood condition on syntactic licensing relations, the derivation in (23) must be incorrect.

Note that this problem does not occur when *put* is generated in the position of the head of the higher VP-shell in (22). In that case, *the book on the table* must be analyzed as a propositional argument of *put*, i.e. not as a VP but as a Small Clause. In a Small Clause analysis, *the book* is not an internal argument of *put*, but an external argument of the predicate *on the table*. Let us assume this to be correct, space limitations preventing more detailed discussion of the many problems involved.

Now we have to take a fresh look at the question how head movement affects the definition of checking domain for N-features. Assuming the previous discussion to be basically correct, N-features are not checked in a specifier-head configuration with a head  $\alpha$ , but in a sisterhood configuration with the Projection of  $\alpha$ . This only works if the Projection of  $\alpha$  has access to the N-features represented in  $\alpha$ . For this,  $\alpha$  has to be [+accessible] or has to be made [+accessible] by having its V-features removed.

Importantly, only the Projection of  $\alpha$  can check the N-features of  $\alpha$ . Consider now the adjunction structure resulting from AgrS-to-C movement:

(24)



In (24), the CP Projection of C is not a Projection of AgrS. It therefore has no access to the N-features of AgrS, and is unable to check the N-features of AgrS with the features of the element in *spec1*.

It follows that if Chomsky (1993) is correct in arguing that head movement in (24) disqualifies *spec2* as a checking position for the features of AgrS, the N-features of AgrS can never be checked when functional head movement occurs. Accepting the possibility of functional head movement, then, Chomsky's definition of checking domain cannot be made compatible with the restrictive analysis developed here.

On our assumptions, *spec2* is the only position in which the N-features of AgrS can be checked, because *spec2* is the only sister of the Projection of AgrS. Let us make this more precise by introducing the notion *Projection of a chain*:

(25)

PROJECTION OF A CHAIN

$\alpha$  is the Projection of a chain  $\gamma$  iff  $\alpha$  is the Projection of a member of  $\gamma$

In (24), the AgrSP Projection is the only node that qualifies as the Projection of a member of the chain  $(AgrS, t)$ .

Where are the N-features in the chain  $(AgrS, t)$ ? Accepting economy of representation, the N-features must be represented in as few positions as possible. Taking the N-features along in head

movement is pointless, because this would make it impossible for the N-features to be passed on to a Projection, as the mother of the head of a chain is not its Projection. Therefore, the N-features have to remain in the position of the foot of the chain. Then, if the foot of the chain is (made) [+accessible], the N-features will move up to the AgrSP Projection, and feature checking under sisterhood may proceed.

Hence, it follows from the assumptions made here that head movement does not affect the checking domain for N-feature checking. N-features are checked in a fixed position throughout the derivation, whereas V-features are checked wherever the relevant functional head happens to be adjoined.

## 9. SUBJECT-INITIAL MAIN CLAUSES

We can now conclude that the specifier position of AgrSP is the designated position for licensing the subject and that the specifier position of CP is the designated position for licensing ‘topics’, wh-elements, and potential other elements that move to an operator-like position. This severely restricts the number of possible analyses for any given syntactic string.

In particular, short of collapsing AgrSP and CP, there is no possibility of analyzing neutral subject initial main clauses in Germanic as involving movement of the subject to the specifier position of CP. As this position is not a sister of the Projection of AgrS, the features of the subject cannot be checked with the N-features of AgrS in the specifier position of CP, regardless of the presence of movement of AgrS (or of the verb) to C.

In standard Government and Binding approaches to the syntax of verb second constructions, it is assumed that subject placement is a case of topicalization (Koster 1975, Den Besten 1977, Koopman 1984). But this assumption is unattractive for several independent reasons.

First, there are dialects of Dutch which show a different agreement morphology depending on whether the subject precedes or follows the verb. This is illustrated in (21), but the pattern also occurs in the second person singular in Standard Dutch:

- (26) a. **Jij komt/\*kom** Standard Dutch  
           you come-T/- $\emptyset$   
       b. **Kom/\*komt jij?**  
           come- $\emptyset$ /-T you

In the East Netherlandic dialect illustrated in (21), the agreement on the verb in inversion constructions is identical to the agreement on the complementizer (Van Haeringen 1958):

- (27) a. **..datte wie speult** East Netherlandic  
           that-E we play-T  
       b. **Speule wie?**  
           play-E we  
           ‘Are we playing?’

This suggests that one type of agreement is checked in AgrS, and another type in C. If so, the finite verb cannot be in C in (21a) and (26a), i.e. in subject initial main clauses.

Second, object clitics in Dutch are right adjacent to the verb in subject initial main clauses, but not in inversion constructions:

- (28) a. **Jan kent (\*nog altijd) 't niet**  
 John knows still always it not  
 'John (still) doesn't know it.'
- b. **Toch kent (nog altijd) Jan (\*nog altijd) 't niet**  
 Yet knows still always John still always it not  
 'Yet John still doesn't know it.'

This follows if the verb is in different positions in each case, but not if the verb is always in C. If in (28b) AgrS is occupied by a trace of AgrS-to-C movement, both examples display an adjacency effect of the object clitic and AgrS, assuming the verb to be in AgrS in (28a).

Third, it is obvious from embedded clauses (8b) and inversion constructions (8c) that there *is* a licensing position for the subject to the right of C. Thus, subject placement and topicalization definitely cannot always be collapsed. The idea that they must be collapsed in subject initial main clauses, then, requires independent motivation.<sup>16</sup>

Fourth, as discussed in Zwart (1991), in clausal coordination constructions in Dutch, a clause initial subject in the second clause can be deleted under identity with an inverted subject in the first clause, but a clause initial topic in the second clause cannot be deleted under identity with an inverted subject in the first clause:

- (29) a. **Deze trein rijdt verder als intercity naar Groningen**  
 this train goes on as intercity to Groningen
- en - zal alleen stoppen te Assen**  
 and will only stop at Assen
- 'This train continues as intercity service to Groningen and will only stop in Assen.'
- b. ? **Na Zwolle rijdt deze trein verder naar Groningen**  
 after Zwolle goes this train on to Groningen
- en - zal alleen stoppen te Assen**  
 and will only stop at Assen
- 'After Zwolle this train continues to Groningen, and will only stop in Assen.'

<sup>16</sup> It is clear from the near impossibility of having topicalization in embedded clauses in Dutch that topicalization is a different process from subject placement.

- (30) \* **Na Zwolle zal deze trein alleen stoppen te Assen**  
 after Zwolle will this train only stop at Assen
- en - kun je dus beter niet nemen**  
 and can you therefore better not take

‘After Zwolle this train will only stop at Assen, so you’d better not take it.’

The position of the hyphen in the examples indicates the deletion site.<sup>17</sup>

Assuming that deletion under identity is only possible when the trigger and the delendum occupy the same structural position, the contrast between (29b) and (30) can be explained. Crucial for the explanation would be that the deleted subject in the second clause in (29b) occupies a different position from the deleted topic in the second clause in (30). In particular, the deleted subject in the second clause must be in the specifier position of AgrSP, just like the trigger for the deletion in the first clause (an inversion construction).

Finally, the well-known asymmetry between subject pronouns and object pronouns illustrated in (31) suggests that subject placement and topicalization target different positions (Koster 1978, Travis 1984):

- (31) a. **Jij/je kent me niet** Dutch  
 you<sub>NOM</sub>-strong/weak know me<sub>OBJ</sub> not  
 ‘You don’t know me.’
- b. **Jou/\*je ken ik niet**  
 you<sub>OBJ</sub>-strong/weak know I<sub>NOM</sub> not  
 ‘You, I don’t know.’

This asymmetry between subjects and objects is explained if verb second involves verb movement to AgrS in (31a) and to C in (31b), on the assumption that only strong elements can move to the specifier position of CP.

All these arguments indicate that not all verb second phenomena involve movement into the domain of C, and that the ‘verb second requirement’ refers to the need to create overt specifier-Projection sisterhood configurations in a particular language, not to the categorial label of the movement sites.<sup>18</sup>

<sup>17</sup> For arguments that these hyphens are placed correctly, see Zwart (1991), also De Vries (1910-1911:170). The fact that the grammatical relations of *deze trein* in the two conjoined clauses in (30) are not the same is irrelevant, given the grammaticality of *Deze trein zal na Zwolle alleen stoppen te Assen en - moet je dus niet nemen* ‘This train will after Zwolle only stop in Assen, so you don’t want to take (it).’

<sup>18</sup> On the analysis presented here of verb second in languages like Dutch, German, Frisian, and Mainland Scandinavian (the so-called ‘asymmetric verb second’ languages), it is not entirely unexpected that there should be languages in which verb movement to AgrS takes place in both main and embedded clauses (‘symmetric verb second’). Such languages are Yiddish and Icelandic. From the present point of view, these languages either have strong V-features in AgrS, or have weak V-features and a [-accessible] AgrS, but lack AgrS-to-C movement. In both cases, overt verb movement to AgrS would have to take place in both main and embedded clauses.

## 10. IS SPEC,CP EVER AN A-POSITION?

Many of the arguments listed above have been discussed in the literature in recent years. In general, it is always possible to alter existing assumptions in such a way that the generalized V-to-C analysis of verb second constructions can be maintained. It is important to note, however, that such a strategy does not suffice, unless independent positive evidence for generalized V-to-C movement is presented. Given the rapid changes of theoretical perspectives in the past few decades, it is not *a priori* correct to maintain traditional analyses. This is especially inadvisable when it happens at the cost of further complicating a theory which is generally moving towards greater simplicity.

I will conclude this paper by discussing one such piece of counterargumentation, which addresses the subject-object asymmetry illustrated in (31).

Rizzi (1991) argues that the paradigm in (31) supports the traditional analysis of verb second in Germanic as involving movement to the domain of C. Rizzi proposes that the status of the specifier position of CP is dependent on the type of spec-head agreement that is instantiated in CP. In (31a) the subject moves to Spec,CP and shows person/number agreement with the verb in C, turning Spec,CP into a derived A-position. In (31b), there is no person/number agreement between the pronoun in Spec,CP and the verb in C, turning Spec,CP into an A'-position. Assuming that an A'-Spec,CP shows focus-agreement with C, only focus elements may show up, which excludes the weak pronoun in (31b).

In other words, the specifier-head agreement relation between the subject and the verb in AgrSP is reinstated in CP, turning the specifier position of CP into an A-position. However, the idea of recreating a particular agreement relation in a higher cycle is not compatible with the minimalist approach of Chomsky (1993). In this approach, the specifier of AgrSP is the designated position for licensing the subject. This holds for Germanic verb second languages as well, considering the position of the subject in inversion constructions (8c). If subject initial main clauses are CPs, the subject must move from its designated licensing position (Spec,AgrSP) to Spec,CP. The trigger for this additional movement, however, cannot be the requirement to check the features of the subject, since these are already checked in Spec,AgrSP. In general, elements that are licensed are not allowed to move on, unless additional features are present. [Topic] or [focus] could be an additional feature triggering movement of the subject to Spec,CP. However, this cannot explain the contrast between (31a) and (31b), assuming that all weak pronouns lack [topic] or [focus] features. In other words, the minimalist approach makes it impossible to *recreate* a particular licensing relation which has already been established in a lower cycle.<sup>19</sup>

If subjects cannot move from Spec,AgrSP to Spec,CP (unless they have the required additional features), (31a) can only involve movement to the CP-domain if the subject moves to Spec,CP in one swoop. This analysis would imply a) that there is obligatory verb movement to C, b) that verb movement from AgrS to C disqualifies Spec,AgrSP as a licensing position for the subject, and c) that verb movement from AgrS to C turns Spec,CP into a derived licensing position for the subject.

<sup>19</sup> See also Heycock and Kroch (1993). Movement of the subject as a topic to Spec,CP and subsequent verb movement to C raises the question whether the verb in C will show verb agreement or complementizer agreement in the dialects that distinguish the two types of agreement. The facts are that in that case the verb always shows verbal agreement. This indicates that in precisely this case, the verb does move to AgrS before moving on to C. For discussion, see Zwart (1994).

We may leave a) a moot point.<sup>20</sup> But it follows from the approach advocated here that b) and c) are untenable. If all licensing relations are sisterhood relations, and if we were correct in defining the special status of the mother of a head  $\alpha$  as the Projection of  $\alpha$ , performing N-feature checking under sisterhood, the specifier position of CP can never be a checking position for the N-features of AgrS, and verb movement from AgrS to C does not disqualify the specifier position of AgrSP as such a position.

## 11. CONCLUSION

I have argued that the relation relevant for N-feature checking, specifier-head agreement, must be decomposed into two more primitive relations: the motherhood relation between a head and its immediate projection (called *Projection* here), and the sisterhood relation between the Projection and the specifier.

I argued that the N-features of a functional head  $\alpha$  may be present on the Projection of  $\alpha$ . N-feature checking then takes place as a function of the sisterhood relation between the specifier of  $\alpha$  and the Projection of  $\alpha$ . This supports the maximally restrictive assumption entertained here, namely that licensing relations are invariably sisterhood relations.

The assumption of movement of the N-features from  $\alpha$  to the Projection of  $\alpha$  furthermore makes it possible to account for the phenomenon that verb movement in certain languages appears to take place for no other reason than to assist in N-feature checking. This is explained if elimination of a V-feature may be considered as a precondition for percolation of the N-feature. The pattern of verb movement in Continental West Germanic languages follows on these assumptions.

Finally, I argued that the reduction of specifier-head agreement to specifier-Projection sisterhood makes it impossible to maintain that head movement from  $\alpha$  to  $\beta$  turns the specifier of  $\beta$  into a derived checking position for the N-features of  $\alpha$ . This is because the N-features of  $\alpha$  may only percolate to the Projection of  $\alpha$ , not to the Projection of  $\beta$ . As a result, the specifier-Projection relation can never be recreated in the domain of a higher functional head. This result casts doubt on Rizzi's (1991) generalization that the specifier of CP becomes an A-position when the specifier-head relation between subject and verb is recreated in CP. If we are correct, such derived A-positions do not present a possibility that the grammar allows. It follows that the specifier of AgrSP is the designated checking position of the N-features of AgrS, and that subject initial main clauses in Continental West Germanic are AgrSPs.

Groningen, December 24, 1993  
[final version February 28, 1995]

<sup>20</sup> The answer to the question whether CP is always present depends on one's assumptions regarding the presence or absence of V-features in C, and on the question whether the verb moves to C at LF universally (cf. Law 1991).



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