‘Verb Projection Raising, Scope, and the Typology of Rules Affecting Verbs’

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bron

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Verb Projection Raising, Scope, and the Typology of Rules Affecting Verbs

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This article examines a particular type of clause union: Verb Projection Raising. Verb Projection Raising is a variant of the better-known Verb Raising construction of German and Dutch and occurs in several varieties of Belgian Dutch (Flemish) and Swiss German. Among the former we concentrate on West-Flemish (WF), among the latter on the dialect of the Zurich area, Züritüütsch (ZT).

Verb Projection Raising sheds light on three important and partly related theoretical issues: the treatment of reanalysis, the grammar of scope, and the typology of rules that affect verbs. After considering the analytical aspects of the Verb Projection Raising construction in some detail, we argue that (unlike some of the alternatives) the multiple representation approach successfully accounts for its main properties. We then show how certain unexpected scope facts can be accounted for within this approach by adopting a modified version of Haïk's (1984) nonmovement analysis of scope relations. Finally, we argue that the fact that Verb (Projection) Raising changes scope relations suggests a revision of the typology of rules affecting verbs proposed in Koopman (1984). More specifically, we argue that verb-second type rules should be taken not as part of the system of A-dependencies but as part of the system of Ā-dependencies. This revision in turn leads us to generalize the Case Filter to a principle that applies not only to case-receiving categories but also to case-assigning categories.

Verb Raising is a type of clause union that affects the verb of a nonfinite complement clause to the left of certain matrix verbs (German and Dutch being SOV). In essence, the verbs form a cluster; furthermore, the embedded verb usually ends up to the right of the matrix verb in Dutch, though generally not in German. Illustrations are given in (1) (German) and (2) (Dutch): 1

(1)
… dass er das Problem zu begreifen versucht
that he the problem to understand tries
‘that he tries to understand the problem’

1 The present article grew out of a talk we presented at the 1984 GLOW conference in Copenhagen. We would like to thank Hans den Besten, Riny Huybregts, Eric Reuland, and Anna Szabolcsi for useful comments and discussions. We are also grateful to two anonymous LI referees. The usual disclaimers apply.

Here and below, illustrations will often be given as embedded clauses only in order to avoid the distorting effect of the Verb Second rule, which moves the finite verb into second position in root clauses.
(2a) is the structure underlying (2b) and would be ungrammatical as a surface structure. A variety of criteria show that a process of clause union is at work in German, even though its effect is not immediately visible in the order of the verbs. To give just one example, object clitics of the embedded verb may move to the position preceding the matrix subject in verb-raising contexts, as in (3):

(3) dass es, der Hans e, zu begreifen versucht
that it (the) Hans to understand tries
‘that Hans tries to understand it’

We will return to several of these criteria below.

The standard analysis of Verb Raising (VR) is Evers (1975). In this analysis the embedded verb is extracted from the complement clause and Chomsky-adjoined to the matrix verb-to its left in German and to its right in Dutch:

(4)

Verb Raising
... V1S V2 ...

a. ... e1[V1 V2]V ... (German)
b. ... e1[V2 V1]V ... (Dutch)

One important consequence of this analysis, and a correct one, is that it predicts that when multiply embedded VR complements occur, the surface order of the verbs will be the mirror image of the underlying order in Dutch. Consider, for example, the following derivation with three verbs:

(5)

a. ... V1S1 V2S2 V3 ... S3 (underlying)
b. ... e1S1 [V2 V1]V1S2 V3 ... S3 (S2 cycle)
c. ... e1S1 e2S2 [V3 [V2 V1]V1V2] ... S3 (S3 cycle)

Below we will adopt a somewhat different analysis of VR, but first we must point out that the actual situation is far more complicated than (4) suggests. Complications arise in two major respects. First, within each language the rules that determine when inversion of the verbs can, must, or may not occur are more complex. Second, there is considerable variation among the many dialects of Dutch and German. In this article we will examine in detail one variety of the process: Verb Projection Raising.

In Verb Projection Raising (VPR) constructions the part of the embedded clause affected is not just the verb but some projection of it-that is, V’ or V” (= VP). As a consequence, NPs and other constituents that are part of the VP may be incorporated.

2 For a good overview, see Den Besten and Edmondson (1981).
into the verb cluster. Furthermore, since the dialects considered here (WF and ZT) exhibit inversion in the relevant cases, these constituents of the VP may end up inter-
spersed with the verbs inside the verb cluster. As an illustration, compare the following examples from Standard Dutch (6) with WF (7) and ZT (8): ³:

(6)

a. dat Jan [PRO [een huis kopen]_{VP}]_{S} wil (D-Str.)
   that Jan a house buy wants
   'that Jan wants to buy a house'

b. dat Jan [PRO [een huis e]_{VP}]_{S} wil kopen (VR)

c. *dat Jan [PRO [e]_{VP}]_{S} wil een huis kopen (VPR)

(7)

a. da Jan [PRO [een huis kopen]_{VP}]_{S} wilt (D-Str.)

b. da Jan [PRO [een huis e]_{VP}]_{S} wilt kopen (VR)

c. da Jan [PRO [e]_{VP}]_{S} wilt een huis kopen (VPR)

(8)

a. das de Hans [PRO [es huus chaufe]_{VP}]_{S} wil (D-Str.)

b. das de Hans [PRO [es huus e]_{VP}]_{S} wil chaufe (VR)

c. das de Hans [PRO [e]_{VP}]_{S} wil es huus chaufe (VPR)

An insightful description of the VPR facts of ZT can be found in Lötcher (1978). We will return to the reasons why the (c)-sentences in (7) and (8) are best analyzed in terms of an extension of VR to the VP rather than, say, by extrapolating the whole embedded clause.

Our program in this article is as follows. In section 1 we will outline a different conception of V(PR), present a rough typology of V(PR) patterns in a number of Germanic dialects, and discuss some consequences of this analysis. In particular, we will present an argument from WF and ZT in favor of the analysis of V(PR) that we adopt, and we will discuss the consequences of our analysis for the proposal to analyze German as a nonconfigurational language. In section 2 we will focus on a number of systematic semantic effects that occur in VPR structures. In particular, we will show that scope-bearing constituents, which typically have wide scope in VR structures, must be interpreted with narrow scope when they are incorporated into a verb cluster by VPR. In section 3 we will sketch a theory of scope that correctly predicts those facts. Finally, in section 4 we will discuss the relevance of our analyses of VPR and scope for the typology of verb movement rules in Universal Grammar.

1. An Analysis of VPR

1.1. Huybregts’s Analysis for V(PR)

³ Neither WF nor ZT is a written language. Here we will adopt somewhat impressionistic orthographies that constitute a compromise between phonetics and the spelling of the corresponding Standard language.
In unpublished work Huybregts proposes an alternative to Evers's adjunction analysis.  

The central idea is that, as far as the syntax is concerned, only reanalysis of the verbs

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4 Huybregts has presented this alternative in various talks beginning in 1980. For a brief allusion, see Huybregts (1984). In addition to the adjunction and reanalysis approaches to Verb Raising, various proposals have been made to combine adjunction with some form of reanalysis or restructuring. See, for example, Reuland (1982a) and Evers (1981). To the extent that our argument against adjunction is valid, it will affect these proposals as well.
in question takes place. The inversion process is assumed to apply later-say, in the phonology (the left-hand side of Chomsky and Lasnik's (1977) T-model).

There are various conceptions of reanalysis that one might adopt. One variety, for example, relies on cosuperscripting of the reanalyzed items. The cosuperscripts serve to indicate a special bond among these items. But since the items affected are very often subject to the additional requirement that they be adjacent, such a bond is perhaps more adequately-and possibly equivalently-expressed by means of an additional pair of brackets, a proposal made in Chomsky (1974). Adoption of such a device leads inexorably to a conception of syntactic representation that is beyond the expressive power of trees. To the extent that the literature is full of indications that reanalysis is indeed required, the real problem is not how this increase in expressive power can be avoided but how it can be contained. Lasnik and Kupin (1977) propose a formalization of syntactic representation that on the one hand is much more constrained than the formalization proposed in Chomsky (1975) but on the other hand permits the types of structures required for reanalysis. Specific proposals concerning how to execute reanalysis along these or similar lines can be found in Williams (1980), Vergnaud and Zubizarreta (1982), Zubizarreta (1982; 1985), Manzini (1983), and Goodall (1984), as well as in Huybregts's work. In these works various additional restrictions on the ensuing syntactic representations are proposed. We do not aim here to choose among these approaches, but we adopt what we understand to be Huybregts's system since it was specifically developed with the VR construction in mind. We feel that the results obtained within the chosen framework would probably carry over to (most of) the others but that no purpose would be served by our undertaking such an exercise. What we do claim, however, is that the type of approach we adopt is superior to the adjunction analysis of V(P)R.

Reanalysis is a general syntactic rule schema:

\[(9)\]

\textit{Reanalysis}

Reanalyze \(\alpha\)

where \(\alpha\) is a syntactic category

It is conditioned by autonomous principles of grammar (X-theory, case theory, government theory, \(\theta\)-theory, etc.) (see Huybregts (1985)). Specific formulations of reanalysis rules proposed below (in (12)-(14)) are to be taken as particular instantiations of this schema. The output of Reanalysis is a string of formatives that cannot be represented in terms of one tree diagram but must be represented multidimensionally. Such a multi-dimensional representation can be represented graphically by associating a set of trees with the reanalyzed sentence. In the simple case there will be only two dimensions; hence, the structure of the reanalyzed sentence may be associated with two trees. This can be presented pictorially as follows:
(10) illustrates the familiar case of Reanalysis as it applies, for example, in the analysis of pseudopassives of the type *Mary was talked to*. Each such tree in the set-or, as we will call it, each dimension of the syntactic representation-must satisfy a number of conditions. Further details of the analysis of (10) need not concern us here, however.

Given this theory, VR can be represented as a two-step process: first, Reanalysis; second, if applicable, Inversion. An example like (2) would consequently be derived as follows:  

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5 Nodes that are not pertinent to the issue at hand have been omitted from this structure. For example, we will argue below that there is a V', but we omit it here since it does not play a role. Similarly, we have omitted the S' and Comp of the complement clause, but we are not taking a stance here on whether S'-Deletion applies or not, and, if it does, how. This is the practice we will follow throughout the article.

In the lower dimension of (11b) PRO remains unattached as a consequence of θ-theory, as we will show in section 1.2.
(11a) en (11b)
Under this conception the rule of Reanalysis can be stated roughly like this:

(12) *Reanalysis*  
If the representation of a sentence contains the line $X V_q V_r Y$, and if $V_r$ is a VR verb, then add the line $X V_x Y$ to that representation.

Observe that, although (12) (as well as (14) below) mentions the fact that Reanalysis is a lexically conditioned process, we will be largely abstracting away from considerations pertaining to the lexicon here. For a discussion of how lexical representations and Reanalysis interact, see Zubizarreta (1982; 1985) and Haegeman (1985). Nothing appears to hinge on this abstraction in the proposals we are about to develop.

Consider now the analysis of VPR structures. Under Evers’s approach, rule (4) would be changed to (13) in order to account for these structures:

(13)  
$VPR$  
$V_i S \rightarrow V_r [V_r V^i_q]_{V_x} \ldots$ (WF and ZT)

Under the approach we are adopting here, the rule of Reanalysis would be modified as in (14):

(14)  
*Reanalysis (VPR)*  
If the representation of a sentence contains the line $X V^i_q V_r Y$, where $0 \leq i \leq 2$ and $V_r$ is a VR verb, then add the line $X V_x Y$ to that representation.

Although (13) and (14) are obviously closely related formulations, we will show in section 1.5 that there may actually be an empirical reason to adopt (14) and reject (13). In extending the rule of Reanalysis from VR to VPR, we have now broached the issue of variation among verb-raising patterns. To further illustrate the descriptive apparatus introduced here, we will present a rough typology of these patterns in section 1.3.

1.2. Reanalysis and the θ-Criterion

As stated above, both representations in (10) must observe the θ-Criterion. Here we will sketch briefly how this will be possible. (See Haegeman (1985) for more complete discussion of the matters outlined in this section.)

It is assumed that lexical heads like $V$ are associated with one or more thematic roles. The assignment of these roles is regulated by the θ-Criterion:
Given the structure $S$, there is a set $K$ of chains, $K = \{C_i\}$, where $C_i = (\alpha^i_1, \ldots, \alpha^i_n)$, such that:

(i) if $\alpha$ is an argument of $S$, then there is a $C_i \in K$ such that $\alpha = \alpha^i_1$ and a $\theta$-role is assigned to $C_i$ by exactly one position $P$.

(ii) if $P$ is a position of $S$ marked with the $\theta$-role $R$, then there is a $C_i \in K$ to which $P$ assigns $R$, and exactly one $\alpha^i_j$ in $C_i$ is an argument.

Following Williams (1981), two types of thematic roles are distinguished: internal roles are assigned by $X$ inside the projection of $X$, and the external role is assigned by the maximal projection $XP$ to its subject.

We will represent the $\theta$-structure of $V$ by means of a $\theta$-grid? We further assume that $\theta$-roles are associated with the R-index of the arguments involved. Under these assumptions, the $\theta$-grid for the top dimension of (11) would be as follows:

(16)

<table>
<thead>
<tr>
<th>proberen</th>
<th>Agent</th>
<th>Clause</th>
</tr>
</thead>
<tbody>
<tr>
<td>k</td>
<td>l</td>
<td></td>
</tr>
<tr>
<td>begrijpen</td>
<td>Experiencer</td>
<td>Theme</td>
</tr>
<tr>
<td>m</td>
<td>n</td>
<td></td>
</tr>
</tbody>
</table>

(proberen is taken to be a control verb, hence $m = k$)

In the bottom dimension $VP_x$ is a projection of the reanalyzed $V_x$, which dominates $V_1$ and $V_2$. It is assumed here that $V_2$ is the head of the reanalyzed verb cluster (Haegeman (1985)) and that it has the properties of a bound morpheme (Zubizarreta (1982; 1985)). The thematic structure of $V_x$ is determined by the $\theta$-structures of $V_2$ and $V_1$. Following Lieber (1980) and Zubizarreta (1985), we may adopt a percolation convention to the effect that features of $V_1$ and $V_2$ percolate to $V_x$ and that features of the head take precedence over features of the complement. Let us assume furthermore that the internal $\theta$-role of the head proberen is associated with its $V_x$-internal complement $V_1$. The percolation convention alluded to will allow both the external role of proberen and the internal role of begrijpen to percolate up to $V_x$, though not the external role of $V_1$, since it is not the head. Furthermore, the external role of begrijpen cannot be assigned by $VP$ to the empty category (PRO) in the $[NP,VP]$ position in the bottom dimension, since the latter position is an internal rather than an external ($[NP,S]$) position. Even if we were to allow assignment of the external role of begrijpen to such a VP-internal position (after an internalization procedure; see Williams (1981)), this would be equally problematic since the empty category in such an internal position would not be identifiable.

Note that the formulation in (15) does not have the one-to-one implication usually associated with the $\theta$-Criterion, in its informal formulation:

(i) Each argument is assigned one and only one $\theta$-role.

(ii) Each $\theta$-role is assigned to one and only one argument.
These observations thus lead to the conclusion that the empty category identified as PRO in the top dimension is not present in the bottom dimension; hence, PRO is left unattached in the tree representation.

A final issue, then, is what happens to the θ-role associated with PRO in the top dimension. One possibility would be to say that it is allowed to percolate up to \( V_x \), where it merges with the already present external θ-role of proberen, thus forming a complex θ-role associated with the position \([NP,S]\) (see Zubizarreta (1985)). Such a merger of θ-roles will not violate the θ-Criterion as formulated in (15): the argument position with R-index \( k \) is associated with a complex θ-role assigned externally by VP \(_x\).

1.3. A Typology of V(P)R Structures

The variation among the V(P)R structures found in Germanic dialects can be represented in the form of a number of relatively simple parameters. In order to illustrate this, we will present a rough outline of the grammar for V(P)R in four dialects: Standard Dutch, High German, and WF/ZT. For a more detailed discussion of the variation, see Den Besten and Edmondson (1981). As a matter of convenience, we will use the following rough subdivision of verb types:

\[
\begin{align*}
V_A & : \text{auxiliary} \\
V_M & : \text{modal verb} \\
V & : \text{any verb}
\end{align*}
\]

Also, for ease of exposition, we will represent the output of iterated Reanalysis as in (18). Even though this is only one dimension out of several, we single it out because it is the one that Inversion is defined on.

Furthermore, we will refer to \( V_\beta \) as the head of \( V_\alpha \), to \( V_\gamma \) as the head of \( V_\nu \), etc.

Consider first the Reanalysis part. Here there is one parameter: 7

---

7 We take Reanalysis to be optional. Although V(P)R is often obligatory in fact, other devices such as the "VV Filter as discussed in Van Riemsdijk and Williams (1981) are assumed to account for this obligatoriness. Various complications exist but can be adequately dealt with under such a conception. We will not pursue any of these here. Also see Reuland (1982a) and Evers (1981) for discussion.
Reanalysis: Parameter

If \( X V^q_r Y \), where \( V_r \) is a VR verb, then add \( X V_x Y \). (cf. (11) and (13))

\[
\begin{align*}
&\text{a. Standard Dutch} & i &= 0 \\
&\text{High German} & i &= 0 \\
&\text{b. WF/ZT} & i &= \text{unrestricted} \ (i.e. \ 0 \leq i \leq 2)
\end{align*}
\]

Turning now to the Inversion part, we find that matters are more complex. There are four parameters in terms of which Inversion may be defined in a particular language:

Inversion: Main Parameters

a. The nonhead must be (non)branching or need not be branching.
   b. The head of \( V \) must be \( V_A \) or \( V_M \) or is unrestricted.
   c. Inversion is optional or obligatory.
   d. \( V_\alpha \) is maximal or unrestricted.

We have followed Huybregt's suggestion in assuming that Inversion applies in the phonology. Observe that this is not necessarily so: Inversion could equally well be located somewhere within the syntactic component proper, say at S-Structure. But the fact that the relevant parameters are storable in terms of such notions as head (defined independently from \( X \)-theory) and branchingness is at least consistent with the view that Inversion makes use of a formalism typical of phonology. Consider the actual cases:

Inversion in Standard Dutch

\[
\begin{align*}
V_\alpha & \Rightarrow V_\alpha \\
V_\beta & \Rightarrow V_\beta \\
V_\gamma & \Rightarrow V_\gamma
\end{align*}
\]

a. Optional: \( V_\beta = V_M \) and \( V_\gamma \) is not branching and \( V_\alpha \) is not part of a bigger verb cluster
   b. Obligatory: elsewhere

Example (2) illustrates the case of (21b). (21a) is exemplified in (22):

\[
\begin{align*}
&\text{a. dat ik hem zien wil}_M \\
&\text{that I him see want} \\
&\text{‘that I want to see him’} \\
&\text{b. dat ik hem wil zien} \\
&\text{‘that I want to see him’} \\
&\text{c. *dat ik hem kunnen}_M \text{ wil}_M \\
&\text{‘that I want to be able to see him’}
\end{align*}
\]
In High German the situation is somewhat more complex and most easily stated as two separate rules:

(23) *Inversion in High German*

Examples for (23a) are given in (24), examples for (23b) in (25):

(24)

a. *dass er kommen können_{M} hätte_{A}*
   that he come can would-have
   ‘that he would have been able to come/could have come’

b. dass er hätte_{A} kommen können_{M} (by (23a))

(25)

a. *dass er kommen wollen_{M} können_{M} hätte_{A}*
   that he come want can would-have
   ‘that he could have wanted to come’

b. dass er hätte_{A} kommen wollen_{M} können_{M} (by (23a))

c. dass er hätte_{A} können_{M} kommen wollen_{M} (by (23a-b))

The situation in WF/ZT is much simpler than this. Their Inversion rule can be stated as follows: 8

(26)

8 Complications arise, however, if the relevant verb cluster is embedded under nonmodal and nonauxiliary VR verbs, which do not invert. Furthermore, there are a number of minor word order differences between WF and ZT. These complications are not relevant to our present purposes, and we therefore ignore them.
This was already exemplified in (7) and (8). Note that the conditions to which Inversion is subject in ZT and WF are identical for VR and VPR. If we were to try to handle the VPR cases by means of (a version of) Extraposition, this generalization would be lost. We now turn to more evidence to the effect that VPR should not be associated with Extraposition.

1.4. VPR or Extraposition?

There are several other good reasons not to analyze the VPR phenomena by means of some rule of Extraposition. The first is that the V projection—that is, the verb with some of its complement constituents—often ends up split up within the verb cluster. For example, the underlying structure in (27) has four grammatical outputs, (28a-d), as predicted by the rules: 9

(27) das er [[[en arie singe] chöneM] weleM] hêtA
that he an aria sing can want has
‘that he has wanted to be able to sing an aria’

(28) a. das er en arie hêtA weleM chöneM singe
b. das er hêtA en arie weleM chöneM singe
c. das er hêtA weleM en arie chöneM singe
d. das er hêtA weleM chöneM en arie singe

As stated, Inversion can never have the effect of moving a complement constituent to the right of its governing verb. Consequently, the object in (27) can surface in any position inside the verb cluster, as shown in (28), but never all the way at the end:

(29) *das er hêtA weleM chöneM singe en arie

The various possibilities in (28) arise as a consequence of applying the option of re-analyzing the VP instead of the V at different levels. (28a) is derived by selecting V₀ at every level, and (28d) by picking the VP at the first available opportunity. (28b) and (28c) are derived by picking a VP at some intermediate level, as the reader can verify. We return to such complex derivations in the next subsection.

The point about Extraposition is that it would be consistent with only one of the four grammatical outputs, (28d). This is so because well-established instances of Extraposition always conform to the structure shown in (30):

(30) … [verb cluster] [extraposed clause]

Take a verb like aag ‘pretend’, for example, which is a non-VR verb whose complements must undergo Extraposition. With such a verb the output must satisfy (30):

9 In the following subsections we will limit our illustrations to ZT for reasons of space.

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(31)

(*\varepsilon{er} [\varepsilon{nen} a\varepsilon{rie} sin\varepsilon{ge}] z \varepsilon{ch\varepsilon{öne}M_1} aag\varepsilon{εε} wil_{M_2}]

that he an aria sing to can pretend wants
‘that he wants to pretend to be able to sing an aria’
The Extraposition analysis predicts that *en arie singe z chône* must extrapose all the way to the right, though V(PR) will affect both the verb cluster *aagεε wil_M* and the verb cluster of the extraposed clause (*z chône singe*). This is entirely correct:

(32)
   a. das er wil aagεε, en arie z chône singe (VR)
   b. das er wil aagεε, z chône en arie singe (VPR)

If *aagεε* were a VR verb, it would not trigger Inversion since it is neither a modal nor an auxiliary. But if it were a VR verb (*V_{VR})*, the predicted outputs would be as in (33a) and (33b) (see below). But both outputs are ungrammatical:

(33)
   a. *das er wil z chône en arie singe aagεε*
   b. *das er en arie wil z chône singe aagεε*

We may conclude, then, that Extraposition is not the rule by which VPR patterns can be derived.

A second argument for our analysis of VPR is based on an interesting observation from Lötscher (1978). Lötscher notes that the (exceptionally case-marked) subject of a complement to a causative or perception verb can enter a verb cluster via VPR at some higher cycle but never at the lowest level (that is, the lowest cycle on which Reanalysis could possibly apply). The ensuing prediction is that such a subject may never surface to the right of the causative (or perception) verb. Note that these verbs function as

(33) a. VPR
modals in ZT as far as Inversion is concerned. (35) illustrates why Lötscher's observation follows from our analysis:

(35) a.
In (35b) VPR applies at the lowest level only; the (boxed) subject NP is left outside the verb cluster and hence will remain to the left of that verb cluster. In (35c) VPR applies at both levels; but though the boxed NP will end up inside the verb cluster, it will still remain to the left of $V_{\text{caus}}$. 
The prediction holds, of course, because the subject is not dominated by some projection of V at the lowest level. The following examples, adapted from Lötscher's, show that the prediction is fully borne out:

10 The prediction would not hold if, in the spirit of Taraldsen (1983), S is taken to be a projection of V in ZT, nor would it hold if causatives and other VR complements were analyzed as small clauses. In fact, we take Lötscher's facts to constitute evidence against such analyses. We return to the nature of the verbal projection in section 1.6. Note also that the prediction is the same if the boxed NP is taken to be a controller that is part of the argument structure of the causative or perception verb. This is so because under such an analysis that NP would again not be available for reanalysis at the lowest level.

11 Several of these outputs (namely, (36b,c,e)) arise from the possibility of using other options of VPR at various levels. These options are illustrated here:

(36) b.
The fact that this complex pattern of facts follows directly from the formulation of VPR constitutes further evidence for our analysis. Under some extension of Extraposition, it would remain quite mysterious why the S dominating the boxed NP is not available for Reanalysis.

A third, and final, argument comes from extraction facts. Extrapolated complement clauses do not allow long extraction, but VR complements do. VPR structures pattern...
with VR and not with Extraposition in this respect. We will show this by means of the rule of *Was Für* Extraction, discussed for German in Den Besten (1982). Like High German, ZT has NPs of the form *was für NP*, meaning ‘what kind of NP’. Apart from pied-piping the whole NP under Move *Wh*, it is also possible to move just *was* (in violation of the Left Branch Condition). Consider (37) and (38):

(37)
   a. *Was, hât er aaggε das er e, für buécher list?*
      what has the pretended that he kind of books reads
      ‘What kind of books has he pretended that he reads?’
   b. *Was, hât er aaggε e, für buécher z läse?*
      what has he pretended kind of books to read
      ‘What kind of books has he pretended to read?’
(38) Was hätt er eₘ für büecher wele läse?
what has he kind of books wanted read
‘What kind of books has he wanted to read?’

(37) shows that extraction is marginal from extraposed complements, regardless of whether they are tensed or infinitival. In contrast, (38) demonstrates that extraction is possible from a VR complement. The crucial fact, now, is that (39), the VPR case corresponding to (38), is equally grammatical:

(39) Was hätt er wele eₘ für büecher läse?

On the basis of these arguments, we take the analysis in terms of VPR to be solidly supported and turn to an argument in favor of Reanalysis plus Inversion and against an adjunction analysis such as Evers’s.

1.5. Against Adjunction

A potential argument against an adjunction analysis arises from cases where the lowest verb has two complements—say, an indirect object and a direct object. In the following example we label the constituents as indicated:

(40)

12 Eric Reuland has pointed out to us that there is an alternative analysis that may have a better chance of succeeding. Under this alternative, all infinitival clauses would be extraposed or generated in extraposed position. The VR construction would then be derived by intraposition of all nonverbal constituents of that clause, whereas VPR patterns would involve partial or no intraposition. Such an analysis has been proposed by Reuland at the GLOW colloquium in 1982 (Reuland (1982b)).

The attractive aspect of this proposal is that the scope facts to be discussed below would be handled in a very natural way. Moreover, the obligatory intraposition of the subject of causative complements as described in (38) would follow straightforwardly from case theory considerations. On the other hand, such an analysis would run into a number of nontrivial problems:

(i) It is unclear how the reordering facts within the verb clusters discussed in section 1.3 would be treated; reordering as inversion at a single node would at any rate be an unavailable option.

(ii) What type of movement would intraposition be under the Government-Binding Theory? In particular, how could it be made to be compatible with θ-theory and case theory? For example, why should not an intraposed direct object NP receive case twice given that intraposed subjects of causative complements receive case after intraposition from the matrix verb?

(iii) How can the constancy of the order of (nonverbal) constituents, which we will discuss in section 1.6, be accounted for? Intraposition would have to apply to the constituents of the complement clause in a left-to-right fashion and then pile them up in the matrix VP in a left-to-right order as well.

(iv) Extraposed sentential complements—and, for that matter, other extraposed elements such as PPs—are islands for movement (modulo successive cyclic Move Wh). How can elements be prevented from escaping from such islands via intraposition? Various solutions to these and other problems can, of course, be imagined, but working these out in some detail would take us too far afield. We therefore defer the examination of this alternative to further research.
To simplify the exposition, we will use the labeled nodes only in the examples below. The structure before Reanalysis is as shown in (41), omitting irrelevant S nodes:
The verbs will, of course, surface in the inverted order, but what about the NPs? It turns out that the following descriptive generalization holds:

(42)

a. NP\_2 and NP\_3 preserve their relative order.

b. They can appear in any position to the left of or inside the verb cluster, though not (as noted before) to the right of the verb cluster.

Thus, an underlying structure like (40) has six possible outputs:

(43)

a. \[ \text{NP}_1 \quad \text{NP}_2 \quad \text{NP}_3 \quad V_c \quad V_b \quad V_a \]

b. \[ \text{NP}_1 \quad \text{NP}_2 \quad V_c \quad \text{NP}_3 \quad V_b \quad V_a \]

c. \[ \text{NP}_1 \quad V_c \quad \text{NP}_2 \quad \text{NP}_3 \quad V_b \quad V_a \]

d. \[ \text{NP}_1 \quad \text{NP}_2 \quad V_c \quad V_b \quad \text{NP}_3 \quad V_a \]

e. \[ \text{NP}_1 \quad V_c \quad \text{NP}_2 \quad V_b \quad \text{NP}_3 \quad V_a \]

f. \[ \text{NP}_1 \quad V_c \quad V_b \quad \text{NP}_2 \quad \text{NP}_3 \quad V_a \]

(43a) is derived by choosing V° for Reanalysis at every level, (43f) by picking VP at the lowest level. We will give the derivations for (43c,d,e) below, but first we concentrate on (43b), which is the crucial case.

Consider how an adjunction analysis as given in (13) would work. In order to get NP\_3 to enter the verb cluster at all, (at least) the V' must be selected for adjunction on the lowest cycle. Taking V' but not VP will guarantee that NP\_2 will remain outside the verb cluster. But once the V' has been adjoined to the right of V\_b, the newly created V node must undergo adjunction again and the incorporated NP\_3 is moved along. Hence, we derive (43d), not (43b). In short, there is no way to derive (43b) under the adjunction analysis, or at least under a simple version of it (see below).

In order to show how (43b) is derived under the Reanalysis plus Inversion analysis, we must be a little more circumspect than we have been. Complex derivations such as those in (35) were presented in a simplified manner because in fact they involve two
instances of Reanalysis and not just one. Hence, given Huybregts's theory of syntactic representations, these cases involve three dimensions, not just two as suggested by the trees in (35). With this in mind, consider the stepwise derivation of (43b).

First, we apply Reanalysis to \( V_a \) on the lowest level:

(44)
In order to represent the second application of Reanalysis graphically, let us substitute the bottom tree of (44) for the corresponding node of \( S_2 \) in the top tree and apply Reanalysis to the \( V'_x \) of the resulting tree:

\[(45)\]

\[(43b)\] can now be straightforwardly derived by applying Inversion to the circled nodes in the bottom tree of (45). We may conclude, then, that the adjunction analysis fails to
fully express the descriptive generalization stated in (42) and illustrated in (43) but that the Reanalysis plus Inversion analysis expresses it correctly.

For the sake of completeness, we give the derivations of all cases of (43) in an abbreviated way in (46):

\[
(46) \\
S_2 \text{ cycle } S_3 \text{ cycle }
\]

The argument we have presented tacitly assumes one specific version of the adjunction theory—that is, one without Pruning. In tightening up the argument, we must briefly address the choice between adjunction with and adjunction without Pruning, although this choice is, of course, quite independent of the issue at hand.

Observe, first, that a version of the Pruning theory can be constructed under which (43b) can be derived, as has been pointed out to us by Riny Huybregts. On this option, the nonverbal constituents of the embedded clause whose S node and remaining V-projection nodes are pruned regroup under the next higher S in a structure-preserving...
fashion: [NP, VP] reattaches under VP, [NP, V'] under V', etc. This device is the equivalent under the Pruning theory of those principles of the Reanalysis theory that guarantee that each new dimension preserves dominance relations unless the Reanalysis rule itself affects them directly. If Evers’s (1975) analysis in terms of adjunction plus Pruning is amended to include such a principle, then (43b) can indeed be derived, as the reader may verify.

But independent considerations argue against Pruning, given the adjunction analysis. First, as Evers himself has pointed out (Evers (1981)), Pruning violates the θ-Criterion and thereby the Projection Principle. (Recall that Reanalysis is compatible with the θ-Criterion; see Haegeman (1985).)

More interestingly, Pruning makes the wrong predictions with respect to transparency phenomena. It is well known that V(P)R complements are transparent for many processes that are otherwise clause-bound. We have briefly alluded to some such processes; more discussion can be found in (among other works) Evers (1975) and Koster (1983). Note, now, that Pruning predicts transparency in all respects: since the embedded S node is gone, there is no clause within which anything could possibly be bound. But this prediction is definitely too strong, as is shown, for example, by the behavior of bound anaphors (see, for example, Koster (forthcoming) for more discussion). Consider the following Dutch example:

(47)

Jan, heeft Marie, zich laten wassen.

Jan has Marie *himself/herself let wash
‘Jan has made Marie wash *himself/herself.’

The same effect is obtained under VPR in ZT and WF. Without going into the details of the analysis of such cases, it should be clear that they can be handled only in a theory in which enough of the embedded clause is preserved to make it possible to identify it as the governing category. Both Reanalysis and adjunction without Pruning satisfy this requirement, but adjunction with Pruning does not.

The logic of the argument, then, is this. Under the adjunction theory, the problem arising from (43b) can only be solved at the expense of adopting Pruning, a device that runs afoul of the θ-Criterion and of the analysis of the opacity effects in VR complements.

1.6. VPR, Word Order, and Nonconfigurationality

In the cases of VPR we have studied so far the arguments of the verb occupy their canonical, structurally defined positions. In other words, the subject is [NP, S], the indirect object is [NP, VP], and the direct object is [NP, V']. On the other hand, however, it is well known that the order of constituents in German, and to a somewhat lesser extent in Dutch, is extremely free. Though some restrictions exist, they are largely due to semantic or pragmatic factors, as Lenerz (1977) shows. 13 The same is true for ZT.

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13 Lenerz notes, for example, that the order DO-IO is significantly less acceptable when the DO is [-definite] and the IO [+definite] than when their definiteness properties are the other way around.
Given the right choice of examples and the right intonation, however, every possible permutation of S, IO, and DO can occur:

(48)

a. das mer em Hans es velo gäand that we (to) Hans a bicycle give (S-IO-DO)
b. das em Hans öpper es velo ggεε hät that (to) Hans someone a bicycle given has (IO-S-DO)
c. das mer s velo em Hans gänd that we the bicycle (to) Hans give (S-DO-IO)
d. das ois das velo öpper kchlaut hät that (from) us that bicycle someone stolen has (IO-DO-S)
e. das das velo em Hans kchän mänsch würdi chlaue that that bicycle (from) Hans no person would steal (DO-IO-S)
f. das sáb velo öpper em Hans ggεε hät that that bicycle someone (to) Hans given has (DO-S-IO)

How should such cases be treated under our analysis of VPR? Before discussing this question, we will consider by way of background the controversy about the (non)configurationality of German (and, by extension, of ZT).

Several researchers have argued that German should be analyzed as a nonconfigurational language. (See, for example, Haider (1983), Sternefeld (1984), and Tappe (1982).) The main opposition to this view has been Den Besten's (1982) work on the rule of Was Für Extraction. This is not the place to review all the pros and cons of these positions. But it should be noted that the correctness of our analysis of VPR, which is entirely consistent with Den Besten's findings, would imply that ZT (and, by extension, German) cannot be nonconfigurational. The least that can be said is that the burden of proof rests on the shoulders of those who support the nonconfigurational analysis. How could surface structure constraints (as proposed in Sternefeld (1984)) or other devices yield a revealing account of the intricate word order patterns found in ZT? How could they explain, for example, that the descriptive generalization (42), which, as we will soon show, extends perfectly to such cases as (48), holds? Though alternative accounts should be thoroughly explored, we may tentatively conclude that the evidence from VPR phenomena seems to support the configurational analysis of German and other Germanic dialects.

In view of this conclusion, the question arises how free word order phenomena as exemplified in (48) should be handled. It may be possible to argue, as suggested in Den Besten (1982), that all ordering possibilities of (48) are derivable by means of various applications of Move α. This would be the most interesting theory. But even if such a theory cannot be maintained, it still does not follow that we have to give up the configurational syntactic structure. The minimal assumption would be that the major grammatical functions (S, IO, DO) may be nonconfigurationally defined even when the relevant syntactic configurations are available. We are not excluding, then, the possibility that certain languages (like Warlpiri, perhaps; see Hale (1983)) might be truly noncon-
figurational in the sense that they define grammatical functions nonconfigurationally (that is, without reference to syntactic configurations) and lack hierarchical syntactic configurations.

From this perspective, the examples in (48) would have the structure in (49):

\[(49)\]

Applied to such cases as (49), the descriptive generalization in (42) implies that whatever the word order restrictions with respect to NP₁-NP₂-NP₃, they remain constant under VPR. This implication is entirely correct. For example, Lenerz's restriction noted in footnote 13 holds with equal force when the IO is separated from the DO by VPR. We will not illustrate this in any detail except to show one example based on Den Besten's analysis of Was Für Extraction. Den Besten notes that extraction from subjects in the NP₁ position is blocked, whereas it is possible (by virtue of the ECP, he assumes) from (‘ergative’) subjects in NP₃. We might add to this that extraction from objects in the NP₂ position is also impossible. 14 This is illustrated in (50):

\[(50)\]

a. *Was i hände i, für üüt das buch gläse?*

what have kind of people that book read
‘What kind of people have read that book?’

b. Was i würde dem Hans e₁ für buche gffale?

what would (to) Hans kind of books please
‘What kind of books would please Hans?’

c. *Was, hät e₁ für es buch de Hans gläse?*

what has kind of a book Hans read
‘What kind of book has Hans read?’

---

14 Extraction from the NP₂ position generally yields intermediate results.

Liliane Haegeman & Henk van Riemsdijk, 'Verb Projection Raising, Scope, and the Typology of Rules Affecting Verbs'
These restrictions remain constant in the following cases of VPR:

(51)
   a. *Was, glaubst das e₁ für lüüt wänd das buech läse?
      what believe-you that kind of people want that book read
      ‘What kind of people do you believe want to read that book?’
   b. Was, glaubst das em Hans würded e₁ für buecher gfale?
      what believe-you that (to) Hans would kind of books please
      ‘What kind of books do you believe would please Hans?’
   c. *Was, glaubst das e₁ für es buech wil de Hans läse?
      what believe-you that kind of a book wants Hans read
      ‘What kind of book do you believe Hans wants to read?’

This concludes our discussion of the major syntactic properties of the V(P)R construction. We will now turn to a number of systematic semantic effects associated with the construction.

2. Semantic Effects of Verb (Projection) Raising

VR and VPR not only result in reorderings of the constituents internal to VP. A wide range of facts of both WF and ZT shows that there are also semantic effects, which can be summed up as follows. Incorporated elements have narrow scope with respect to V(P)R verbs; nonincorporated elements have either wide scope or narrow scope. We will survey these semantic effects in the following subsections.

2.1. Negation and Incorporation

Consider the following sentences:

(52)
   a. da Jan geen vlees hee willen eten
      that Jan no meat has wanted eat
   b. da Jan hee willen geen vlees eten

(53)
   a. das de Hans kä fläisch hât wele ässe
      that Hans no meat has wanted eat
   b. das de Hans hât wele kä fläisch ässe

The (a)-examples illustrate the nonincorporated variant, where the negative existentials geen vlees and kä fläisch are outside the reanalyzed verb cluster; the (b)-examples illustrate incorporation. The negative existential in the (a)-examples may have wide scope or narrow scope with respect to the modal willen/wele ‘want’. (52a) thus means either that Jan does not want to eat any meat (wide scope) or that he wants to eat no meat (narrow scope). Similarly for (53a).
However, when *geen vlees/kä fläisch* has been incorporated, as in the (b)-examples, the negative existential must have narrow scope. For (52) and (53) the only interpretation
is that Jan/Hans wants to eat no meat. The negative elements in *geen vlees/kä fläisch* cannot now have scope wider than *wollen/wele*, the modal verb triggering VPR.

The narrow- and wide-scope readings may be informally represented as follows:

(54)

a. *x* wants [∃ ∀ *y* such that *x* eats *y*]

b. ∃ ∀ *y* [∧ *x* wants to eat *y*]

An identical effect is to be observed with respect to the negative operator *niet/nöd* in (55) and (56):

(55)

WF

a. da Jan *nie* heewillen weggooan

that Jan not has wanted go-away

b. da Jan heewillen *nie* weggooan

(56)

ZT

a. das de Hans *nöd* hätwele wgga

that Hans not has wanted go-away

b. das de Hans hät wele *nöd* wgga

The nonincorporated negative element in the (a)-sentences may negate (hence, take scope over) the modal, or it may negate the main verb *weggoan/wëggaa* only and be within the scope of the modal. (55a) and (56a) thus mean either that Jan/Hans does not want (or refuses) to go, or that Jan/Hans wants (or is willing) not to go. But when a negative element is incorporated by VPR, as in the (b)-sentences, only the latter reading is available. As the reader may have noted, the semantic contrasts between the two readings of (52)/(53) and (55)/(56) are not easy to perceive. This is mainly because matrix scope is difficult to distinguish from complement scope with a verb like *wollen/wele* ‘want’. The contrasts are perhaps clearer with a verb like *durven* ‘dare’ in WF. For example:

(57)

a. da Jan geen toelating hee *durven* geven

that Jan no permission had dared give

b. da Jan hee *durven* geen toelating geven

(57a), with the existential negation outside the verb cluster, is ambiguous: either it means that Jan has dared not to give permission (that is, that Jan has dared to refuse permission), in which case the verb *durven* takes scope over the negation, or it means that Jan has not dared to give permission (that is, he lacked the courage to give permission). In the latter case the negative element takes scope over *durven*. The former reading points out Jan’s courage, the latter his weakness. (57b), with the incorporated negation, has only the reading with wide scope for *durven*.

The effect for scope-bearing elements with respect to VR and VPR is quite sharp for all speakers of the dialects concerned. In WF it can be perceived even more clearly in cases of double negation. In this dialect multiple negatives in a single clause need not cancel each other, but may have a reinforcing effect. In (58), for example, *nooit* ‘never’
and *geen vlees* ‘no meat’ reinforce each other:

(58)
Jan eet *noot* geen vlees.
‘Jan never eats any meat.’

(59)
   a. da Jan *noot* geen vlees wilt eten
      that Jan never no meat wants eat
   b. da Jan *noot* wilt geen vlees eten
   c. da Jan wilt *noot* geen vlees eten

In (59a) both negative elements are outside the verb cluster and they behave as they do in (58): they reinforce rather than cancel each other. The most likely reading for (59a) is that in which the negation has wide scope: that Jan never wants to eat any meat. Of course, the narrow-scope reading is also available, as it is in (52a). In (59c) both negative elements have been incorporated. Again they reinforce each other, but now they will have narrower scope than the modal (see the discussion of (52b)).

In (59b), however, only one of the two negative elements has been incorporated (*geen vlees*); the other is outside the verb cluster. The negation outside the cluster and the negation inside the cluster cannot now be construed as reinforcing each other and achieving a single negation; rather, the nonincorporated negative *noot* ‘never’ must take scope over the incorporated *geen vlees* ‘no meat’, thus yielding the meaning ‘NEVER wants to eat NO meat’.

2.2. Quantifier Scope

The effect of V(P)R is sharpest with respect to negators. However, other quantifiers also tend to produce effects of the same sort, though sometimes weaker:

(60)
WF
   a. da Jan vee boeken hee willen lezen
      that Jan many books has wanted read
   b. da Jan hee willen vee boeken lezen

(61)
ZT
   a. das de Hans vili büecher hät wele läse
      that Hans many books has wanted read
   b. das de Hans hät wele vili büecher läse

In (60) and (61) the quantified phrase *vee boeken/vili büecher* is not incorporated. These examples each have two readings: either the quantified phrase takes scope over the modal verb, thus specifying the frequency of wanting (‘for many books, John has wanted to read them’), or the modal verb takes scope over the quantifier (‘what John has wanted is to read many books’). However, when *vee boeken/vili büecher* is incorporated, as in the (b)-examples, only one reading is available: that in which the modal verb takes scope over the quantifier.
The same effect is illustrated quite clearly in (62) and (63) with the universal quantifier (al de boeken/alli büecher ‘all the books’).

(62) WF
   a. da Jan al de boeken van Conscience hee willen lezen
      that Jan all the books of Conscience has wanted read
   b. da Jan in zijn leven hee willen al de boeken van Conscience lezen in his life

(63) ZT
   a. das de Hans alli büecher vom Gotthelf hät wele läse
   b. das de Hans hät wele alli büecher vom Gotthelf läse

The (a)-sentences with nonincorporated quantifier mean either that there was one wish to read all the books by some author or that, whenever a book of the type described was involved, Jan/Hans wanted to read it, in which case multiple wishes are involved. When the universal quantifier is incorporated, as in the (b)-sentences, the implication is that there was one wish to read all the books, and not repeated wishes to read one or more books by some author.

The effect of incorporation by VPR is also to be observed in the case of floated quantifiers. Consider the following examples:

(64) WF
   a. K peinzen dan al de studenten goan moeten een boek van
      I think that all the students go must a book of
      Conscience lezen.
      Conscience read
      ‘I think that all students will have to read a book by Conscience.’
   b. K peinzen dan de studenten al goan moeten een boek van Conscience lezen.
   c. K peinzen dan de studenten goan moeten al een boek van Conscience lezen.

(65) ZT
   a. das alli studänte werded müese es buech vom Gotthelf läse
   b. das d studänte alli werded müese es buech vom Gotthelf läse
   c. das d studänte werded müese alli es buech vom Gotthelf läse

In (64) and (65) we see that al/alli, the quantifier, can float off the subject NP. The (c)-examples show that such a floated quantifier may be incorporated by VPR.

In the nonincorporated variants (64a,b) and (65a,b) al/alli take wide or narrow scope with respect to moeten/müese, the modal verb. Thus, there may be a single obligation imposed on all the students or, alternatively, for each student there is an obligation to read a certain book. In the incorporated variant (64c) and (65c), however, only the narrow-scope reading of ‘all’ is possible: in these cases there will be one obligation for all the students to read a certain book.
2.3. Adverbials

Adverbial scope is similarly affected by V(P)R:

(66)
WF
a. dase *morgen* wil kommen
that-she tomorrow wants to come
b. dase wil *morgen* kommen

(67)
ZT
a. dassi *moorn* wil choo
b. dassi wil *moorn* choo

Nonincorporated adverbials (*morgen* in (66a) and *moorn* in (67a)) have either wide or narrow scope with respect to the modal verb *wil* ‘wants’. Thus, in the (a)-examples *morgen*/*moorn* specifies either the time of the wanting or the time of the coming. In the incorporated variant (66b) and (67b) the time adverb must have narrow scope with respect to the modal verb: *morgen*/*moorn* now only specifies *kommen*/*choo*.

These observations also apply to *zo* ... *dat*/*so* ... *das* sequences:

(68)
WF
a. dase morgen *zo vroeg* wil weggoan dat-er
that-she tomorrow so early wants-to go-away that-there
niemand antyden ken zijn
nobody on-time can be
‘that she wants to leave so early tomorrow that nobody can be there on time’
b. dase morgen wil *zo vroeg* weggoan dat-er niemand antyden ken zijn

(69)
ZT
a. dassi moorn *so vrüe* wil abräise das niemert rächziitig cha choo
b. dassi moorn wil *so vrüe* abräise das niemert rächziitig cha choo

In the (a)-examples zo *vroeg*/so *vrüe* has not been incorporated. It may thus have wider scope than wil ‘want’ and the *dat*/*das* clause dependent on zo/so may have a result reading: she wants to leave so early that no one will manage to come on time. Of course, the narrow-scope reading is also available, in which case the zo ... *dat*/so ... *das* clause has a purpose reading: she wants to leave so early in order that no one be able to come on time. In the incorporated (b)-variant, though, only the latter (purpose) reading is available, since *wil* must take scope over zo *vroeg*/so *vrüe*.

Exactly parallel observations can be made for comparative clauses:

(70)
WF
a. dase *meer mensen* wil vroagen dan dat-er stoelen zyn
that-she more people wants ask than that-there chairs are
‘that she wants to invite more people than there are chairs’
b. dase wil *meer mensen* vroagen dan dat-er stoelen zyn
In the (a)-sentences the comparative *meer mensen/mee lüüt* has wide or narrow scope with respect to *wil*. Thus, that there are more people than chairs may be nonintentional or intentional. In the (b)-sentences, however, *wil* has wide scope with respect to the comparative. Only the intentional reading is available.

2.4. Er Insertion and Modal Scope

WF sentences with existentially quantified subjects necessarily have *Er* Insertion:

(72)

a. dan-der *vee mensen* komen
that-there many people come
b. *dan *vee mensen* komen
that many people come

The result of *Er*-Insertion is that an indefinite subject ends up inside VP. Hence, such a moved subject may be affected by V(PR):

(73)

a. dan-der *vee mensen* goan kommen
that-there many people go come
b. dan-der goan *vee mensen* kommen

An interesting effect can now be observed whenever the verb triggering V(PR) is a modal. Consider the following examples:

(74)

a. dan-der *vee mensen* keunen kommen
that-there many people can come
b. dan-der keunen *vee mensen* kommen

In (74a) *vee mensen*, the indefinite subject, is not incorporated. Thus, it has wide or narrow scope with respect to the modal *keunen*. (74a) has two readings. Either the modal has its epistemic reading (‘it is possible that many people come’), or it has its root reading (‘many people are able to come’). In (74b), on the other hand, *vee mensen* is incorporated by VPR. Thus, it has narrow scope with respect to *keunen*. In (74b) *keunen* has only its epistemic reading (‘it is possible that many people come’).

We may therefore argue that the ambiguity of modals is in fact a scope ambiguity: in the case of epistemic readings the modal has scope over the subject NP; in the case of root readings the subject NP is outside the scope of the modal.
2.5. The Clause Union Paradox

The observations in the preceding sections lead to an apparently paradoxical situation. On the one hand, VPR constructions constitute an extreme case of clause union. Clause union is traditionally viewed as a complete merger of the embedded clause with the
matrix clause. In the ‘standard’ treatment of quantification (see May (1977)) narrow scope is expressed by adjoining the quantifier to the embedded S by means of Quantifier Raising (QR). Note now that when there is no embedded S, narrow scope cannot be expressed. Yet we have just seen that VPR structures impose narrow-scope readings on incorporated elements: a paradox. In section 3 we will examine ways to avoid this paradox.

3. A Theory of Relative Scope

3.1. The Inadequacy of Quantifier Raising

In the attempt to solve the clause union paradox, Huybregt's analysis offers one main ingredient: the biclausal and the monoclausal structures are simultaneously represented. We might think, then, that QR can refer to the embedded S node in the relevant dimension in order to express narrow scope. This is not so, however. Under Huybregt's theory, the effects of movement must be compatible with the structural constraints in all dimensions, not just in one.

Consider what the effect would be of adjoining the Q in a structure like (75) to the embedded S:

(75)
As (76) shows, the raised quantifier has no S node in the other dimension to attach to:

(76)

The reason $Q_i$ cannot be adjoined to $S_2$ under QR is that $S_2$ is unanalyzable because it is absent in the bottom dimension. Although both $S_1$ and $VP_1$ are analyzable, adjunction of $Q_i$ to either of these nodes offers no solution since such a derivation would result in a representation for the wide-scope reading.

We must conclude, then, that QR cannot be the second ingredient in our solution of the clause union paradox. Before turning to an alternative analysis of scope, however, we must discuss several other facts.

3.2. Quantifier Scope vs. Wh-Scope

A first consideration is that the relative scope of modal verbs and quantifiers as discussed in section 2 is distinct from scope effects with respect to Move Wh and wh-in-situ.

3.2.1. Extraction. It is not possible to argue that both wh-extraction and relative quantifier scope are regulated by exactly the same mechanisms as they would be under a QR.
analysis of scope. *Wh*-extraction is possible from inside verb clusters created by VPR, whereas incorporated quantifiers cannot take scope outside the verb cluster:

(77)
WF
a. dan-ze willen een besprekinge *doavan* moaken
   that-they want a review thereof make
   ‘that they want to write a review of it’
b. dan-ze *doa* willen een besprekinge *t van* moaken
   c. *woa* dan-ze willen een besprekinge *t van* moaken

(78)
ZT
Was häsch wele em Rägeli t für büecher chaufe?
what have-you wanted Rägeli t for books buy
‘What kind of books did you want to buy for Rägeli?’

(77b,c) and (78) illustrate *wh*-extraction from inside verb clusters. In (78) we see that *was für* split (see section 1.6) may extract material from inside the cluster; in (77) we see how prepositions (*van*) may be stranded inside the cluster. 15

At this point it may be useful to dwell a moment on preposition stranding in (77b,c). It is well known that, in standard Belgian Dutch, stranded prepositions may in general occur inside the verb cluster, although in this variant of the language further incorporation of nonverbal elements through VPR is not possible. In order to account for this, it is generally assumed that the preposition first reanalyzes with the verb and then is moved with V after Reanalysis for VR:

(79)

It might of course be argued that this approach is also to be advocated whenever prepositions are incorporated by VPR, as in (77b,c). Thus, one might still argue that the

15 Note, incidentally, that for reasons presumably not germane to the present discussion, WF lacks *was für* split and ZT preposition stranding.
trace itself is outside the verb cluster. However, such a view is unattractive for two reasons:

a. In general, we have demonstrated that nonverbal elements can be incorporated by VPR in WF and ZT. Hence, the reanalysis of P and V as in (79b) is redundant; the full PP (that is, the trace of Move Wh and P) could be incorporated by VPR anyway.

b. More important, such an approach for PP- and P-stranding should predict that no further material to the left of the trace (in PP) can be incorporated. However, in both (77b,c) and (78) further material to the left of the trace is incorporated: in (77b,c) the NP *een besprekinge*, in (78) the NP *em Rägeli*. Even if one were to argue for a reanalysis along the lines of (79b), then, the trace would still be contained in the verb cluster. This means that in cases like (77b,c) and (78) proposal (79) is untenable.

Another observation is relevant here. That extraction from a VPR cluster is at all possible is perhaps quite unexpected. VPR constructions are dominated by a Vx-that is, a node that has the status of a lexical head in its VP. It is a general property of lexical items that they do not allow extraction of their constituent parts. On the other hand, it is quite clear that clusters created by V(P)R are not lexical in that sense. For example, Verb Second, which places the finite verb in second position in main clauses, extracts the finite verb from the verb cluster.

3.2.2. Absolute vs. Relative Scope. The data also support the view that the scope of wh-in-situ is not to be equated with the other types of quantifier scope (see Aoun, Hornstein, and Sportiche (1980)). Consider the following multiple wh-questions:

(80)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WF</strong></td>
<td><strong>ZT</strong></td>
</tr>
<tr>
<td>I know not whom that-they go want for which course appoint</td>
<td>I know not whom that-they want to which course assign</td>
</tr>
<tr>
<td>‘I wonder whom they will want to assign to which course.’</td>
<td></td>
</tr>
</tbody>
</table>

In both (80a) and (80b) the incorporated element may apparently have wider scope than the modal verb *wollen/welten* since the multiple question reading is possible.

These data show that wh-extraction and wh-scope constitute a different type of scope, one that is not subject to the constraints determining the relative scope of such quantifiers as those discussed in section 2. We will refer to the former as absolute scope and to the latter as relative scope. The conclusion that we must distinguish these two types of scope clearly casts doubt on the possibility of equating the treatment of scope phenomena of quantifiers with that of wh-in-situ and on the assumption that all scope phenomena should be handled by the single rule of QR. It is clear that QR would have to be severely restricted by output constraints as far as the scope determination of relative

Liliane Haegeman & Henk van Riemsdijk, 'Verb Projection Raising, Scope, and the Typology of Rules Affecting Verbs'
quantifiers is concerned and that no such constraints are operative for wh-elements. In this article we are crucially concerned with relative scope-bearing elements such as modal verbs and the quantifiers discussed above. Scope effects for wh-elements should be treated differently—that is, by QR or by some other scope-assigning process.

This conclusion is not new. It has already been pointed out in the literature, for example, that the scope of modal operators is clause-bound (Williams (1984)). In (81a), for example, must cannot take scope wider than the clause in which it occurs; more specifically, it cannot have scope over someone, the subject of the higher clause:

(81)

a. Someone thinks that John must leave.

b. someone, [x, thinks [must [John leave]]]

c. *[must [someone, [x, thinks [John leave]]]]

Under standard assumptions, both (81b) and (81c) would be derived by QR.

3.2.3. Scope Indexing. In order to represent scope relations for relative scope, we will adopt an alternative notation using indexing mechanisms proposed by Hellan (to appear). In Hellan’s notation every NP has a token index, indicated by a left subscript; right subscripts, called binder indices, are used to express dependencies among NPs. In terms of this notation, we can express scopal dependencies as follows:

(82)

If \( i \) NP is in the scope of \( j \) NP, then append \( j \) as a binder index to \( i \) NP; that is, \( i \) NP\(^j\) is read ‘\( i \) NP is in the scope of \( j \) NP.’

In other words, whenever a scope-bearing NP takes scope over another NP, its token index is appended as a binder index to the NP in its scope.

Using this notation, let us now try to formulate a rule for scope indexing. As our starting point we will use the rule for Scope Indexing introduced by Haïk (1984):

(83)

Scope Indexing

Scope Indexing applies freely when NPs belong to the same minimal S. Otherwise, \( i \) NP must be c-commanded by \( j \) NP in order to be indexed as being in the scope of \( j \) NP.

The great advantage of such a formulation is that it expresses relative scope directly as a relation between two scope-bearing elements, without reference to some scope domain (S). This avoids the difficulties that arise under the QR approach discussed in section 3.1.

Unfortunately, however, the rule as it stands fails to express what we want it to express. First, it is restricted to NP scope, whereas we wish to consider all types of scope-bearing elements, such as negators and modal verbs. Furthermore, it fails to predict the limitations on the scope of incorporated elements. Quantifier elements inside verb clusters do not take free scope.

In the following sections we will examine how we could reformulate Hai‘ik’s rule, in order to accommodate our observations.
3.3. Reformulating Scope Indexing

3.3.1. C-Command for Relative Scope. Our reformulation of Scope Indexing makes use of (a) Reinhart’s (1979) idea that scope relations should be expressed by means of c-command and (b) Huybregt’s analysis of V(P)R phenomena.

Let us consider again the crucial configurations corresponding to VR and VPR:

The intuitive idea is this. If we look at the bottom trees in (84), we could say that in (84a) XP c-commands $V_M$, whereas in (84b) $V_M$ c-commands XP. Suppose, then, that we try to capitalize on this distinction. Observe that in the top trees the c-command relations are identical.
In order to make this intuitive idea work, we must reformulate the notion of c-command in such a way that it takes into account the properties of nodes created in Reanalysis—that is, $V_x$ in (84). In doing so, we will make use of Muysken’s (1982) notation for $X'$ projections. In this notation the bars are replaced by the two features $\{\pm{\text{projection}}\}$ and $\{\pm{\text{maximal}}\}$. Thus, $\{-\text{proj}, -\text{max}\}$ stands for $X^x$ and $\{+\text{proj}, +\text{max}\}$ stands for $X^{\text{max}}$. The intermediate bar levels, regardless of how many there are, are represented as $\{+\text{proj}, -\text{max}\}$. The remaining feature combination, $\{-\text{proj}, +\text{max}\}$, is used for such categories as particles, which are like heads (P in this case) but lack a projection.

Note, now, that a $V$ node created by Reanalysis must be $\{-\text{proj}, -\text{max}\}$ since it heads a new $V$ projection in its dimension. Let us first consider the $VR$ case (84a)—more specifically, the relations between $XP$, the scope-bearing element, and $V_M$, the modal verb triggering Reanalysis.

On the basis of Muysken’s proposal, we now reformulate the definition of c-command as follows:

\[(85)\]

$\alpha$ c-commands $\beta$ iff the first node $\gamma$ dominating $\alpha$, for $\gamma = [\delta{\text{proj}}][\delta{\text{max}}]$, also dominates $\beta$, and $\alpha$ does not dominate $\beta$.

The condition that $\gamma = [\delta{\text{proj}}, \delta{\text{max}}]$ ensures that the upward bound for c-command in the relevant case is $VP$ ($\{+\text{proj}, +\text{max}\}$) or $V_x$ ($\{-\text{proj}, -\text{max}\}$). Under such a definition of c-command, it is clear that $V_M$ in (84a) fails to c-command $XP$ in the bottom tree, the relevant $\gamma$ being the $V$ created by Reanalysis. The double analysis of (84a) can thus be directly linked to the ambiguity of VR constructions: in one dimension the modal verb c-commands the quantifier, in another the quantifier c-commands the modal. Accordingly, we will formulate our revised scope rule, which we will call the Unmarked Scope Rule (USR) for reasons to which we return below, as follows:

\[(86)\]

Unmarked Scope Rule (USR) for relative scope

$\alpha \ldots \beta \ldots \rightarrow \ldots \alpha \ldots \beta$\ldots

iff there is a $D$, $D$ a dimension, such that $\alpha$ c-commands $\beta$; where $\alpha$ and $\beta$ are scope-bearing elements.

(86) yields the desired result that cases of $VR$ such as (84a) have two readings.

Let us now return to the analysis of the VPR pattern (84b). We have seen in section 2 that incorporated elements cannot have wide scope. When we inspect c-command relations in (84b), it becomes clear that Reanalysis does not have any effects with respect to the relative c-command properties of $XP$ and $V_M$. In both the top and the bottom dimension $V_M$ c-commands $XP$.

On the basis of the USR (86) we predict that incorporated elements have only one scope reading. In fact, they retain the reading they had in the underlying biclausal structure. The USR is minimally different from Haïk’s proposal. It generalizes the c-command
constraint to all types of scope-bearing elements, extends from NP to any scope-bearing element, and makes crucial use of the analysis proposed by Huybregts for VR and VPR patterns.

3.3.2. Some Consequences of the USR. First, the USR is meant to capture relative scope only. Wh-scope, being absolute scope, is a separate issue altogether. Let us consider how wh-phrases behave with respect to scope relations:

\[(87)\]
\[a. \text{Which men} \bar{i} \text{ did someone say Mary likes t}_i?\]
\[b. \text{Which man} \bar{i} \text{ did you say Mary is trying to meet t}_i?\]

The wh-phrases in \((87)\) in fact have dual status. On the one hand, the wh-element has sentential scope: it turns the sentence into a constituent question. On the other hand, the phrase also acts like a quantified NP with limited scope. In \((87a)\), for example, the plural which men does not take scope over the scope-bearing someone. The wh-phrase in Comp is not relevant to the USR. Rather, what is relevant is the premovement argument position: trace, in a traditional T-model, or the unmoved phrase in the NP-Structure approach of Van Riemsdijk and Williams (1981). Again, in \((87b)\) the NP which man need not have wider scope than the modal element in try; both transparent and opaque interpretations are available. In the transparent reading which man is specific; the answer to \((87b)\) will then be, for example, ‘Bill Rodgers.’ In the opaque reading which man does not ask for one specific referent; the answer to the question could be that Mary is trying to meet any man with a certain property (for example, a man who knows all about racing cars), without there necessarily being one specific referent.

Second, according to the USR, English modal auxiliaries that are assumed to be in Infl will always have wide scope within their S. Specifically, such modals will fail to be within the scope of VP-internal scope-bearing elements. This seems to be confirmed in examples like the following:

\[(88)\]
\[a. \text{The patient in ward four may eat nothing.}\]
\[b. \text{The patient in ward four may not eat anything.}\]

In \((88a)\) the preferred, unmarked reading is that the patient is allowed to eat nothing. A wide-scope reading for the negator may be possible, but this is definitely the marked case, requiring special emphasis on the negative existential. In \((88b)\), on the other hand, the latter reading (‘is not allowed to eat anything’) is preferred. \(^{16}\)

In languages such as Dutch and German where modals are lexical verbs in the VP,

\(^{16}\) A wide-scope reading is marginally available for \((88b)\) too. However, this is because \((88b)\) has two structural analyses:

(i) [the patient in ward four [may not] Infl [eat anything] VP] S
(ii) [the patient in ward four [may] Infl [not eat anything] VP] S

In (i) not is dominated by Infl and has wide scope; in (ii) not is inside VP and will have narrow scope. In the latter reading there may be a slight pause before not.
we expect a contrasting pattern:

(89)

dat de patiënt in zaal vier niks mag eten
that the patient in ward four nothing may eat

The negative element *niks* may have wide scope with respect to the modal: (89) can be synonymous with (88b). This is, of course, expected under a VR analysis with the USR. On the other hand, things may not be quite as clear-cut with other quantifiers, but we will not pursue the issue here.

Third, on the basis of the USR we predict that in the unmarked case a subject quantifier will have scope over an object or VP-internal quantifier. It is clear that the prediction as it stands is too strong in that there are well-known instances of subjects having narrower scope than objects. The USR, however, does not exclude such cases. They must be treated as the marked case.

4. The Typology of Rules Affecting Verbs

In recent years more attention has been paid to the syntactic behavior of verbs than ever before. In particular, the integration of rules affecting verbs into the Move α schema and the Government-Binding Theory has become an important undertaking. The most general theory so far has been proposed by Koopman (1984). But it turns out that her theory of verb movement rules is not fully compatible with the results we have reached here. It is therefore necessary to reformulate Koopman's theory in order to integrate our analysis of VPR and scope.

We will present a brief sketch of Koopman's theory, show how it is incompatible with the scope facts discussed in sections 2 and 3, and finally propose an alternative classification of rules affecting verbs that avoids those problems.

4.1. Koopman's Theory

Koopman's work is primarily designed to account for systematic differences between two types of verb movement rules, Verb Second (V2) type rules and a rule that is referred to as the Predicate Cleft rule. These two types of rules exhibit a number of systematic differences in syntactic behavior. In (90) the most salient of these properties are given as they present themselves in Vata, the Kru language that Koopman has studied. Though the predicate cleft construction does not occur in Germanic, V2 does, and it has a few properties that are slightly different from those in Vata. Koopman (1984) discusses these variations in detail. We will follow the main lines of the theory; for details, we refer the reader to Koopman's study.

(90)

<table>
<thead>
<tr>
<th>V2</th>
<th>Predicate Cleft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement is to Infl (to Comp in Germanic)</td>
<td>Movement is to Comp</td>
</tr>
<tr>
<td>Leaves a gap</td>
<td>Leaves a segmental copy (a ‘resumptive verb’)</td>
</tr>
</tbody>
</table>
In order to account for these sets of properties, Koopman invokes various modules of the Government-Binding Theory. (90b), for example, is derived from the difference in (90a) by means of the ECP, given that S is convincingly (and independently) argued to be a barrier to (proper) government. This analysis, then, presupposes that verb movements leave traces that are subject to the ECP.

It is the difference shown in (90c) that gives rise to the idea that verb movements, like Move NP and Move Wh, should be subclassified into two major types of dependencies. Move NP describes relationships between two A-positions, and Move Wh describes those between an A-position and an A-position. Similarly, Koopman suggests, the various positions in which verbs occur could be subdivided into two types. In particular, the head position of the VP would be like an A-position, whereas a V in Comp would be, as it were, in an A-position, where the notion of A/A (argument/nonargument) is of course considerably extended. Koopman assumes that the position of Infl can be equated with an A-position since it is the head of S in Vata. She thus concludes that V2 is part of the system of A-dependencies, whereas predicate clefts are in the A-system.

Further consequences arise from this conclusion. For example, the clause-bound nature of both rules (90d) is attributed to two different factors. The clause-bound nature of the Predicate Cleft rule is attributed to the bounding theory, taking both S and S’ to be bounding nodes for Subjacency in the case of this construction. (For Move Wh, which is not clause-bound, only S’ is assumed to be a bounding node.) On the other hand, the clause-bound nature of V2 is attributed to the binding theory. Pursuing the parallelism with the A-system, Koopman suggests that an A-bound (that is, Infl-bound) trace of V behaves like an anaphor for the binding theory. From this assumption it immediately follows that V2 must be clause-bound.

In fact, the most convincing evidence that Koopman adduces for her assumption that V2 is in the A-system comes from a further symmetry between V2 and Move NP: namely, their interaction with case theory. The argument is that movement in both cases is forced by the Case Filter. For Move NP, this is well known. For the rule of V2, the argument is new. 17 The main idea is that the nominative case assigner (Infl) must be lexically realized. It can be so realized in two ways: either by the spelling out of the lexical complementizer, in which case the verb stays in its original position, or by moving the verb into that position. Accordingly, Koopman’s rule for Nominative Case Assignment is formulated as in (91).

(91)

\textit{Nominative Case Assignment}

NP is assigned nominative case iff it is governed by and adjacent to a lexically realized Infl.

17 The argument is reached independently in Taraldsen (1983).
A final symmetry that Koopman notes involves θ-theory. Move NP is movement from a θ-position to a θ-position. Similarly, V2 is movement from a θ-assigning position to a θ-assigning position, a position from which no θ-role is assigned.

The main symmetries in the system can accordingly be summarized as follows (Koopman (1984, 141, (7))):

\[(92)\]

\[
\begin{array}{ll}
\text{Move NP} & \text{V2} \\
\text{Movement forced by Case Filter} & \text{Movement forced by Case Filter} \\
\text{Movement from an A-position to an A-position} & \text{Movement from an A-(like-) position to an A-(like-) position} \\
\text{Movement from a θ-position to a θ-position} & \text{Movement from a θ-assigning position to a θ-assigning position} \\
\end{array}
\]

4.2. The Scope Asymmetry between V2 and Move NP

Returning now to VPR and the theory of scope developed in section 3, we are led to examine the interaction of V2 with the Unmarked Scope Rule (USR). Consider, for example, the following case from WF:

\[(93)\]

Morgen wil Jan geen hus kopen.

tomorrow wants Jan no house buy

‘Tomorrow Jan does not want to buy a house.’

(93) has the structure shown in (94). \(^{18}\) Observe, now, that (93) is just as ambiguous with respect to scope as the corresponding embedded clause in which \(\text{wil} \) has not been moved. But if we look at the derived position of \(\text{wil} \) in (94), we note that there is no dimension in which the NP \(\text{geen hus} \) c-commands \(\text{wil} \). Thus, if the USR refers to the derived position of \(\text{wil} \), we incorrectly predict that in (93) \(\text{geen hus} \) can have only narrow scope. It appears, then, that the trace of V after V2 always determines the scope of that verb.

This property of V2 sharply distinguishes it from Move NP, since it is generally the derived position of a modal NP that determines its scope, as is amply documented by the passive construction. \(^{19}\) Now the question arises whether this asymmetry should lead to a classification of rules affecting verbs that is different from Koopman’s. We take up this question in the next subsection.

4.3. A Revised Typology of Rules Affecting Verbs

The observed asymmetry between V2 and Move NP leads us to examine the alternative hypothesis that V2 is part of the A-system. In examining this hypothesis, we will first address its overall plausibility.

\(^{18}\) As far as we can determine, it is immaterial whether traces of V participate in inversion or not.

\(^{19}\) With raising constructions there are some exceptions, as noted by May (1977), but their analysis remains controversial.
One of the cornerstones of the systematic distinction between the A-system and the A-system is the difference in behavior between Move NP and Move Wh with respect to the binding theory. Essentially, it is the derived position of Move NP but the source position of Move Wh that counts for the binding theory. To the extent that V2 does not interact in any obvious way with the binding theory, no predictions arise from the observation. But one might go further and assume that by and large A-dependencies do not affect the core rules of semantics. This position, though obviously too strong if taken absolutely, is the one perhaps defended most radically in Van Riemsdijk and Williams (1981). If we adopt this assumption as a heuristic, we will be led to analyze V2 as an
A-dependency, since V2 appears to have absolutely no effect on the semantics of a sentence.

Among the more vexing problems with the assumption that A-dependencies are independent of semantics is precisely their effect on scope. On the face of it, the core instance of an A-dependency, Move Wh, serves to derive a structure in which the scope of the wh-operator is directly marked. In other words, it appears to be the derived position of a wh-phrase that determines its scope. Arguments against this position have been formulated in Van Riemsdijk and Williams (1981) and Van Riemsdijk (1983). Regardless of the force of those counterarguments, however, observe that the scope considerations relevant to that issue are those that we have earlier termed absolute scope. For the grammar of relative scope, we believe it is possible to maintain the assumption in toto- that is, relative scope is determined on the basis of the input structure of A-dependencies.

The question of the relative status of V2 and the Predicate Cleft rule gains some perspective when a third type of rule affecting verbs is taken into consideration: V(P)R. In sections 2 and 3 we have discussed a variety of semantic effects brought about by VPR. More generally, though, V(P)R, or at least its Reanalysis part, can be shown to affect the rules of Logical Form very thoroughly. To give just one example, it creates environments in which the embedded clause becomes partially transparent for binding: bound anaphors sometimes must be bound inside the complement (see (47)) but often can or even must be bound by a matrix NP (see, for example, Hellan (to appear) and references cited there).

Koopman (1984) was concerned neither with the semantic effects of verb movements nor with the classification of V(P)R. This may explain why she drew the conclusions she did. If these factors are taken into account, however, it does seem to be most plausible to assume that (the Reanalysis part of) V(P)R belongs to the A-system, whereas V2 and the Predicate Cleft rule belong to the A-system. The contrasting typologies can be summarized as follows:

\[
\begin{array}{ccc}
\text{Rule} & \text{Koopman} & \text{Haegeman & Van Riemsdijk} \\
\text{V(P)R} & - & \text{A-system} \\
\text{V2} & \text{A-system} & \text{A-system} \\
\text{Predicate Cleft} & \text{A-system} & \text{A-system}
\end{array}
\]

In the final section we will consider how this revised typology can be made compatible with the facts that led Koopman to establish hers.

4.4. Reinterpretation of the Move NP/V2 Symmetry and the V2/Predicate Cleft Asymmetry

The analysis outlined above apparently faces two problems. First, how can we account for the symmetry between Move NP and V2 that Koopman observes, given that in our view Move NP is in the A-system and V2 is in the A-system? Second, how do we account
for the asymmetry between V2 and the Predicate Cleft rule, given that in our view both constructions are part of the A-system?

We will not dwell on the latter question, since we have omitted detailed discussion of the predicate cleft construction and since the answer is straightforward. Consider the four crucial properties of (90) again. (90d) is a symmetry, not an asymmetry. Furthermore, it is a property that must be stipulated in any account. Take Koopman's solution: although (90d) follows from the binding theory for V2, the same property must be made to follow from a rule-specific stipulation to the effect that both S and S' are bounding nodes for Subjacency for the Predicate Cleft rule only (whereas only S' is a bounding node for Move Wh, as Koopman argues). If, however, we must content ourselves for the time being with construction-specific stipulations, there is no reason why we should not have the even somewhat more general stipulation that S and S' are bounding nodes for all verb movement rules. Hence, clause-boundedness offers no evidence for placing V2 in the A-system.

In order to account for the differences (90a-c), we can rely on Koopman's own analysis. Given (90a), which we may take to be two completely free options of the Move V case of Move α, the difference in (90b) follows from the ECP, as noted above and as argued convincingly in Koopman's work. Since the ECP affects both the A- and the A-system, this analysis is compatible with our revised typology.

Let us now turn to the first question: the supposed symmetry between Move NP and V2. Here we are dealing with three potential similarities, though the second, (92b), really begs the question. There does not appear to be any a priori way of deciding whether the Infl position (whether under S or under S') is A-like or A-like. The same is even true, in fact, for the source position of V2: is [V,VP] an A-position or an A-position? Surely, this is typically a question to be answered by the theory.

Much the same reasoning applies to (92c), in principle. To the extent that θ-assigning and θ-receiving are, in an intuitive sense, each other's opposites, we might just as easily conclude that this property is asymmetrical rather than symmetrical. Furthermore, who is to say whether Infl is or is not involved in the θ-marking of the subject? This is a special type of θ-marking to start with, a compositional one. But no coherent theory appears to exist with regard to which constituents of S partake in this compositional process. For example, in passive constructions there is a clear cooccurrence relation between some element of Infl and the passive participle. Moreover, passive morphology absorbs θ-assignment to the subject. Now, is Infl involved in θ-marking or not? On the basis of these considerations, we conclude that (92b,c) do not provide any clear evidence one way or another.

Let us now turn to the symmetrical property (92a), the fact that both Move NP and V2 appear to be forced by the Case Filter. This is firmly established for Move NP, and we regard the arguments by Koopman (1984) and Taraldsen (1983) for V2 as convincing. How, then, can this result be preserved under our theory, in which Move NP is in the A-system but V2 is in the A-system? We will discuss the answer to this question in the
derivational framework of Van Riemsdijk and Williams (1981) for reasons of transparency and affinity. Probably there is in principle no bar to constructing an analogous account in some representational framework; however, we leave that exercise to the proponents of such frameworks.

In the L-model of Van Riemsdijk and Williams (1981) the A-system corresponds (roughly) to the pre-NP-Structure derivation and NP-Structure itself; the A-system corresponds to the post-NP-Structure derivation resulting in S-Structure. Graphically:

(96) L-Model

In terms of this model, the solution is simple. The crucial observation is that case theory consists of two main components: Case Assignment and the Case Filter. Originally, Case Assignment was thought to apply at S-Structure and the Case Filter at PF. But one of the first arguments for assuming NP-Structure has been that if Case Assignment takes place there, then it can be stated as a purely local process on lexically realized material and no artifacts such as case inheritance are required. But, of course, the Case Filter may still be assumed to take effect at S-Structure (or later). This is what we will capitalize on.

With this in mind, consider again Koopman’s Nominative Case Assignment rule (91), repeated here as (97):

(97) Nominative Case Assignment

NP is assigned nominative case iff it is governed by and adjacent to a lexically realized Infl.

This formulation can be interpreted as an amalgam of Case Marking and the Case Filter. Suppose that we use the following two features:

(98)

a. Case receiver (NP): [+ CR]
   Case assigner (V, P, Infl): [- CR]
b. Bearing case features: [+ case]
   Having no case features: [- case]
   (where [± case] is an abbreviation for a more fully specified case feature system)

In terms of these features, we can reformulate Nominative Case Assignment as follows:
Nominative Case Assignment (Reformulated)

a. \([NP][- \text{case}] - [\text{Infl}] [+ \text{case}] \rightarrow [NP][+ \text{case}] - [\text{Infl}][- \text{case}]\)
   (where case\(_i\) = nominative)
   Applies at NP-Structure

b. \(*[\text{Infl}][- \text{case}][- \text{lexical}]\)
   Applies at S-Structure

In terms of this reformulation, the Koopman/Taraldsen result can be preserved under our typology: Infl assigns case freely, but when it has done so it must be lexically filled by V2 after NP-Structure and checked at S-Structure by (99b).

At this point it may be useful to ask whether the system assumed for the nominative in (99) can be generalized. For Case Marking (99a), this is fairly straightforward: the general scheme can be stated as follows:

\[
\text{(100) \quad \text{Case-Assignment Scheme (NP-Structure)}}
\]
\[
\{[- \text{CR}][+ \text{case}] - [+ \text{CR}][- \text{case}]\} \rightarrow \{[- \text{CR}][- \text{case}] - [+ \text{CR}][+ \text{case}]\}
\]

(99b) can be seen as a counterpart of the Case Filter, and the suggested generalization can easily be expressed in terms of the features we have introduced:

\[
\text{(101) \quad \text{Generalized Case Filter (S-Structure)}}
\]
\[
*[\alpha \text{CR}][- \text{case}][\alpha \text{lexical}]\]

Thus, it appears that an interesting generalization of case theory is made possible by the assumptions we have had to make in order for our typology to be compatible with the Koopman/Taraldsen analysis of V2 as being triggered by Nominative Case Assignment.

4.5. Concluding Remarks

By way of conclusion, let us fill in the L-model (96) with the ingredients we have developed and argued for here: 21

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20 This formulation presupposes that the \([\pm \text{case}]\) feature is carried along under V2. That is, the trace of V after V2 has no [-case] feature left (which it has acquired after assigning accusative case at NP-Structure); otherwise, it would be ruled out by the generalized Case Filter.

21 In (102) we leave open the question of whether absolute scope interpretation (Wh-Interpretation, etc.) and ‘marked’ scope rules apply at NP-Structure or at S-Structure. See Williams (1986) for discussion.
References


Evers, A. (1975) *The Transformational Cycle in Dutch and German*, Doctoral dissertation, Utrecht University. [Distributed by the Indiana University Linguistics Club, Bloomington.]


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