Arnold Evers

TWO FUNCTIONAL PRINCIPLES FOR THE RULE 'MOVE V' *

0. The first section of this paper will deal with the Dutch/ German V-second rule. The second section will deal with V-Raising. Both rules will be reduced to 'Move V' by the introduction of two functional principles.

V-second is a movement into the empty Comp-position, as was already argued by Den Besten (1977). The movement serves to absorb a tense index in the complementizer.

V-Raising is a syntactic rule that builds up V-clusters in Dutch and German clause-union structures. I will briefly re-capitulate the main arguments for the rule and reduce it to "Move V" by arguing that this V-movement serves to satisfy the requirement that each verb that does not incorporate a feature <+ tense> or <- tense> has to be aux-governed, i.e. minimally and uniquely C-commanded by an aux-indexed verb.

1. *The two 'move V' functions:*

(i)   aux-index absorption (for V-second)
(ii) aux-government (for V-Raising)
are thought of as parallels to the functions that determine 'Move NP'.

(i)   WH-index absorption (for WH-Movement)
(ii) Nominative-assignment (for NP-Raising/Passive)

Like the WH-index causes WH-movement (v.Riemsdijk/Williams 1980) the tense-index causes V-second.
Like nominative-assignment causes formation of the surface subject (NP-Raising/Passive), aux-government causes formation of the surface-predicate (V-Raising).

1.1. *V-second*

Many arguments corroborate the position that the Dutch/German main sentence is a distributional variant derived from the subordinated constituent order.

(1)   ~~wɇll~~ *wir* _____ *.den Mond·aufgehen* (*sahen*)

V-second.

A good survey of this issue is given by Thiersch (1978, Ch. I). Den Besten (1977) pointed out that obligatory V-movements characterize root-sentences in Swedish, French and English as well. Den Besten (1977) proposes to generalize over these phenomena by analyzing them all as movements into the empty Comp-position. This proposal is part of his research program to eliminate the notion 'root-transformation' by showing that all these rules must refer to the empty complementizer position. Den Besten presents a careful formation of this program. He adds two empirical arguments that the Dutch V-second rule is a movement into the empty Comp-position.

The Dutch complementizer constants 'of' and 'dat' ('whether' and 'that') are mutually exclusive with the finite verb in root sentences and share two other distributional properties with the finite verb:

(i)   they are preceded by the WH-constituent.

(ii) they are immediately followed by the subject.

The correspondence is summarized in (2), exemplified in (3):

(2)   WH-constituent.   Comp-constant   clitic subject
                        Finite verb

Example (3a) is a subordinate clause, (3b) the root clause variant.

(3a)   [Over Wie | 2ND POSITION / of dat | ie] gister gesproken heeft

"I don't know who he spoke about yesterday"

(3b)   [Over Wie | heeft | ie] gister gesproken _____

"Who did he speak about yesterday?"

The crucial point of example (3) is the WH-constituent that procedes the complementizer constants 'of dat' ('whether that'). The WH-constituent and the complementizer constants may be translated as in the semantic jargon of (4).

(4)
$$\begin{bmatrix} \text{wie} & \text{of} & \text{dat} \\ \text{wh}_i & \text{Q} & +\text{tense}_j \end{bmatrix} \text{Comp.}$$

It will be obvious that the doubly filled Comp filter (Chomsky/ Lasnik 1977) does not hold in Dutch as strictly as it does in English.

It may be noted though, that the Dutch complementizer does not allow for two or more WH-constituents and further that both complementizer constants may be deleted if the WH-constituent is present.

If a lexical subject, e.g. "Johannes", is substituted for the subject clitic "ie", it possible to have adverbial material between the finite verb and the subject. The same holds for the Comp constant and the subject.

(5a)

ik weet niet [over wie of dat] gister ${Johannes \atop *ie}$ gesproken heeft.

(5b)

. . . . . [over wie heeft] gister Johannes gesproken.

I have but very little to add to Den Besten's analysis which I consider as excellent.

Recently v.Riemsdijk and Williams (1980) have proposed to consider WH-movement as a post-semantic rule designed to absorb a WH-index within the Comp. They argued that a question does not concern the lexical part of a questioned constituent but only the referential index of that constituent. The WH-index in Comp indicates that only a referential index is questioned and it indicates the scope of the question as well. This suffices for the semantic representation. Since the WH-index in Comp has to be expressed in phonetic structure by the corresponding constituent, WH-movement is obligatory.

This proposal for indices in Comp can easily be generalized. A tense index in Comp is to be absorbed in phonetic structure by a post semantic movement of the corresponding finite verb (or by a complementizer constant).

For a more elaborate exposition of this idea and its application to French and English, see Evers (1981).

(6) Post-semantic rules absorbing sentential indices in Comp.
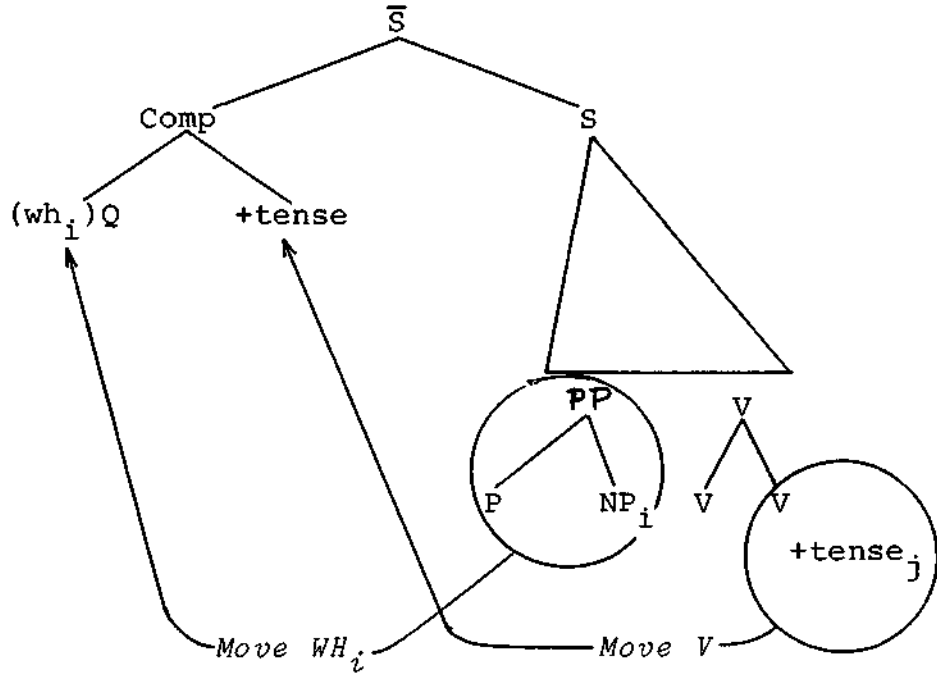
The V-second rule has now been reduced to 'Move V'. If the verb moves before semantic interpretation, semantic well-formedness conditions will be violated. If the finite verb or a Comp-constant does not absorb the index after semantic interpretation, the sentences will be rejected as well, since the Comp-index has to be covered by corresponding phonetic material.

1.2. *V-Raising*

### 1.2.1. *Arguments for V-Raising*

The structure (8) is appropriate for the insertion of the lexical elements of (7), but structure (9) is a better representation for the derived structure of (7). This can be shown by many arguments, e.g. Sentence Negation, Gapping, Emphatic Coordination and Nominalization.

(7) *Weil wir das Lied singen hören zu können hofften.*

(8)

```
                    S̄
              ┌─────┴──────┐
            weil          S
                    ┌──────┴────────┐
                   wir      ┌───┴───┐
                            S       V
                       ┌────┴───┐  hofften
                       S        V
                  ┌────┴───┐  zu können
                 NP    ┌───┴───┐
                  │    S       V
                 Pro  ┌─┴─┐   hören
                     NP   V
                  das Lied  singen
```

(9)

```
                    S̄
              ┌─────┴──────┐
            weil           S
                    ┌───────┼─────────┐
                   NP      NP          V
                  wir   das Lied      │
                              └──┐  ┌─┘
                                 └──┤
                       singen hören zu können hofften
```
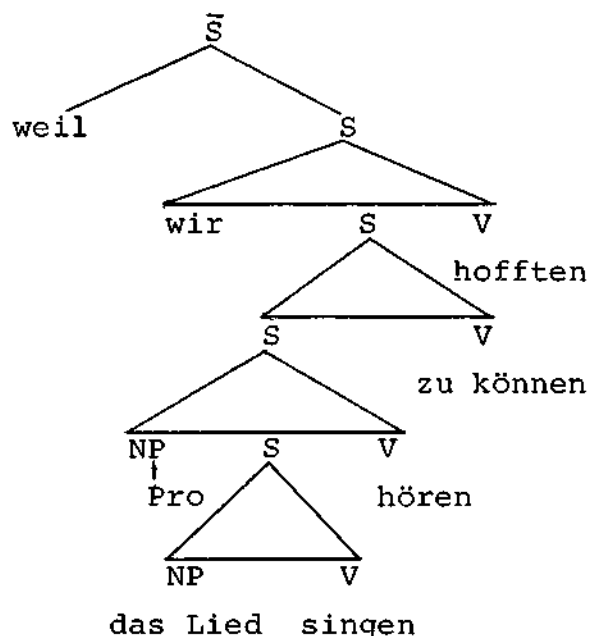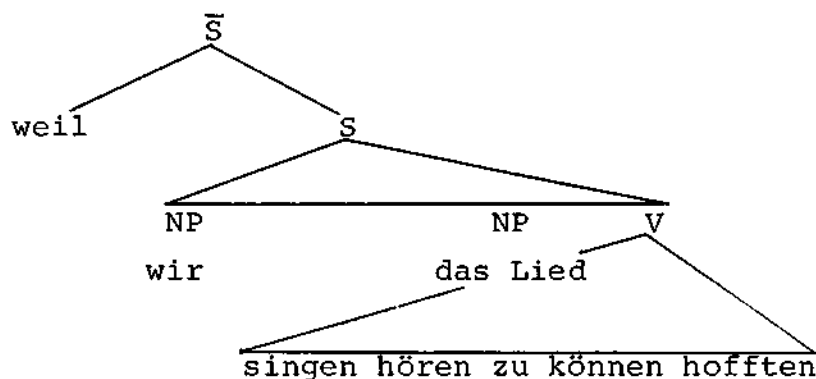
(a) the negation argument:

In simple object-verb sentences, the negation is placed in front of the verb. If this pattern carries over to the complex sentence the structures (8) and (9) make different predictions. Structure (8) predicts a negation element in front of "hoffen", but certainly not in front of "singen".

The verb of the deepest embedded sentence would be a strange place to negate the matrix structure. Structure (9) predicts exactly this place, since it is the position in front of the constituent V according to the analysis (9). The prediction made by (9) is correct, the prediction made by (8) is incorrect.

(10a)   *weil wir das Lied singen hören zu können nicht hofften

(10b)   weil wir das Lied nicht singen hören zu können hofften.

(b) the gapping argument:

Gapping obligatorily erases the V-constituent in the second conjunct. Structure (8) predicts that it will be possible to gap on the matrix verb 'hoffen' alone, whereas it will be impossible or very strained to gap on all the verbs together. Structure (9) makes the opposite prediction. Gapping will affect all verbs as if they were one constituent. This prediction is correct, the prediction made by (8) is incorrect.

Es wäre schön gewesen

Johann ein Gedicht vortragen zu hören

(11a)* *und*

Cecilia eine Arie singen zu hören
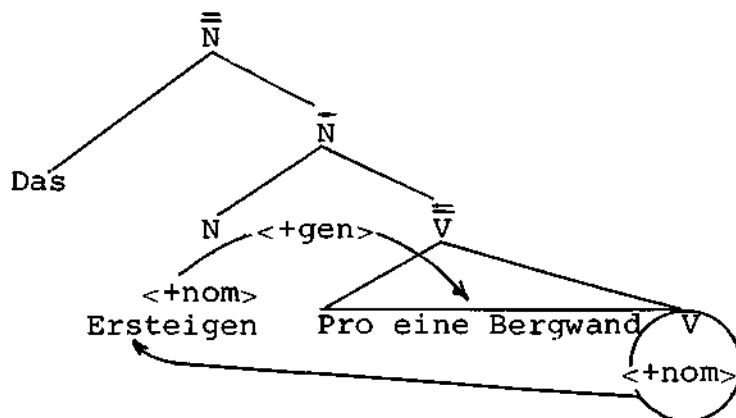
(11b) *Johann ein Lied singen zu hören*

und

Cecilia eine Arie singen zu hören

(c) the sentence nominalization argument:

In Dutch and German there is a fully regular process of sentence nominalization. The outcome of this process is bookish, but not ungrammatical.

(12a)

Objects of the nominalized verb are on the right hand side of the construction and take the genitive case like in the NP constituents.

(12b) *das Ersteigen einer Bergwand.*

If a complex infinitive structure is nominalized, structure (8) predicts that the matrix verb will nominalize and swivel around

the clauselike complement. Structure (9) predicts that all verbs
will swivel like a block around the deepest embedded object. This is
a prediction that would be absurd in the perspective of analysis
(8). Nominalization confirms structure (9) and falsifies struc-
ture (8).

(13a)* *Das Sehen eine Bergwand Ersteigen ist ihm wichtig.*

(13b) *Das Ersteigen-sehen einer Bergwand ist ihm wichtig.*

Major constituents allow emphatic coordination (Neyt, 1979).

(14) *weil wir die Kinder entweder hören oder sehen.*

(d) the emphatic conjunction argument:

Structure (8) predicts that emphatic conjunction will be possible
on the matrix verb alone, structure (9) makes the opposite claim
that emphatic conjunction will not be possible on the matrix verb
alone, but very well possible on the string of verbs, which is
the real V constituent.

The prediction made by structure (8) is wrong, the one made
by (9) is correct.

(15a)* *weil wir die Kinder tanzen entweder sehen oder hören.*

(15b) *weil wir die Kinder entweder tanzen sehen oder singen hören.*

(e) the infinitival cluster argument:

There are still many other arguments. Den Besten (1981) pointed
out that order variations in the German verb string are difficult
to describe in a structure like (2) where *wird* or *hat* makes a
strange dive over a string of unconnected verbs into the most em-
bedded sentence. If the verbs are in a cluster the variations can
be described as swiveling movements.

(16) *weil er die Kinder* $\left\{ \begin{matrix} hat \\ wird \end{matrix} \right\}$ *singen hören können.*
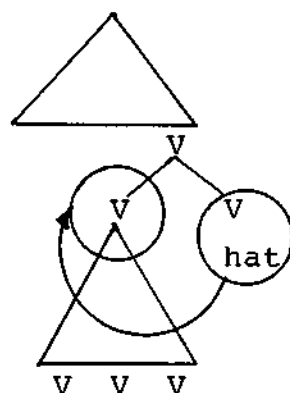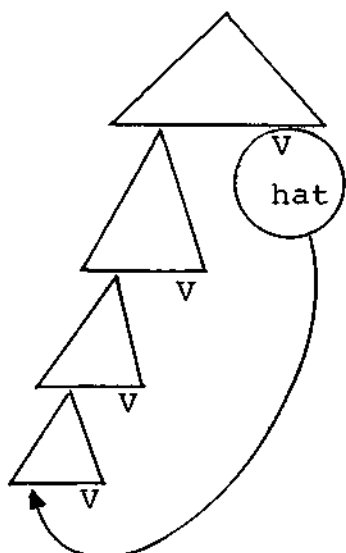
(f) the clitic shift argument:

A deeply embedded non-animated clitic may shift to the left.

(17) *weil es nur d i e Leute_Cecilia ins Arabische übersetzen lehren könnten/konnten.*

The grammaticality of this type of sentences is denied by Thiersch (1970, 104). It is important, however, to make the subject *die Leute* sufficient by heavy, e.g. by an extraposed relative clause, stress, or expressive words like *nur* or *eben*. My informants had no difficulties with an unadorned version like (18) either.

(18) *weil es die Leute ins Arabische (zu) übersetzen lernen.*

The clitic movement is easy to understand if the structure is like (9), but hard to understand within structure (8) where the movement is not bound within one governing category. (For more elaborate expositions of these arguments see Evers 1975, Neyt 1979, Den Besten 1981.) Each of these arguments is based upon specific assumptions about Gapping, Negation, Clitic Movement etc.. Therefore it is possible to waive some of them and suggest other auxiliary assumptions. But it will be difficult to waive all arguments (if even most of them), since they are of quite varied sorts. I would especially want to point out that the arguments based on Gapping, Negation and Nominalization show that structure (9) is semantically relevant.

All this is highly suggestive of the existence of structure (9). The assumption that structure (8) underlies (9) is trivially true, if one is not willing to complicate the conditions on lexical insertion.

Let us further assume that the major distinction in the study of language is between those phenomena that can be stated in categorial terms and those that can only be stated by refering to idiosyncratic properties of lexical items. The first group of phenomena belongs to syntax the second group belongs to the lexicon. The rules of syntax are without exception, and what remains to be shown is that V-Raising is such a rule.

1.2.2. *Aux-government.*

Whatever the empirical arguments in favor of V-Raising, the rule offends common sense, especially in German. The underlying structure (8) presents the correct distribution of the surface string as well as the relevant syntactic and semantic relations. Nevertheless, assuming the rule of V-Raising, a radical and complete restructuring of the sentence is still to follow. Why should that be? What coaches a toddler learning German into the assumption of a V-cluster, if he learns and understands the string as indicated by (8)? It would be strange if the five or six quite specific phenomena that were presented as arguments for V-Raising could take that much effect in the language learning environment.

The present theory of grammar is oriented towards grammatical functions. This allows us to bring the common sense wariness about V-Raising into a constructive form: What general requirement of natural language, what grammatical function, is V-Raising designed to meet? It is a remarkable fact that V-Raising is always obligatory if the embedded verb is not characterized by <+tense> or <-tense/zu>. To account for that the following rule suggests itself: V-Raising is obligatory if the embedded verb is not aux-indexed.

This suggest that a verb needs to be aux-indexed and that the V-Raising movement of the non-indexed verb is designed to meet

the requirement of 'being aux-indexed'.

I propose then the following:

(19) A verb is aux-indexed if it incorporates
(i)   <+tense> or <-tense> or if it is minimally
      and uniquely C-commanded by an aux-indexed
      verb

(ii) Each V must be aux-indexed.

This will account for all cases of obligatory V-Raising for infinitives without 'zu'. The infinitive in the sentential complement of 'sehen, hören, lassen, helfen, lernen, lehren' and a few others are subject to obligatory V-Raising as a consequence of (19).

(20)

Move - V
(in search
of aux-government)
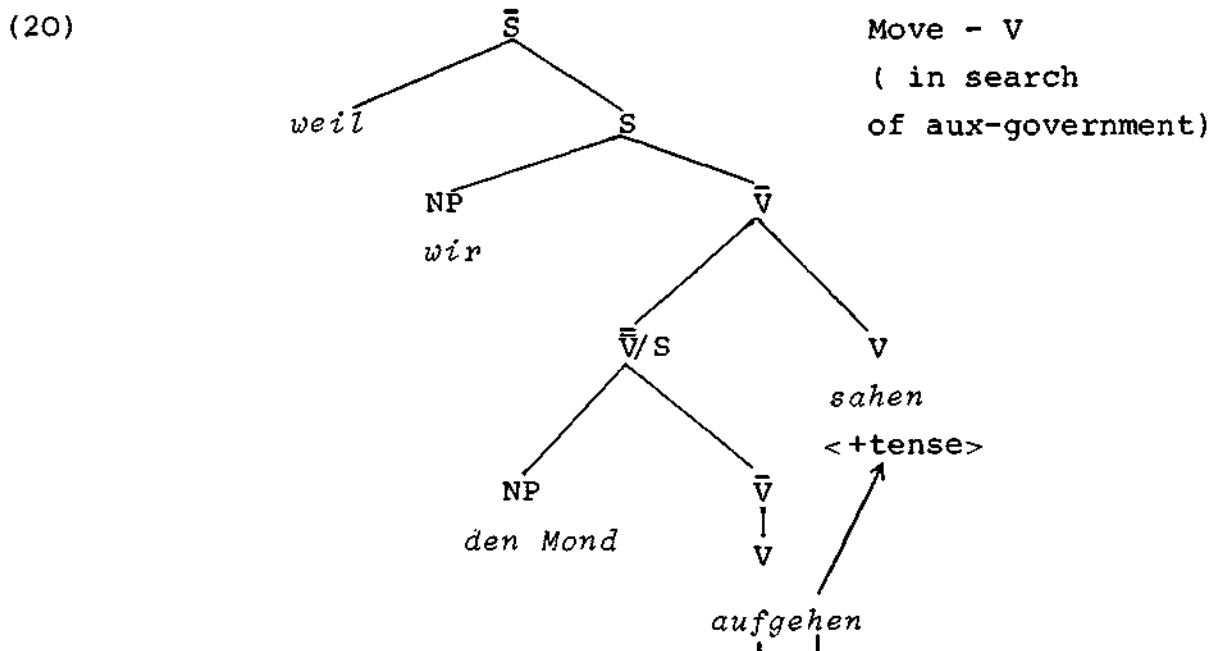
For most infinitives the prefix 'zu' is obligatory and V-Raising is optional. This may be incorporated into the aux-index proposal. It is necessary anyway to express restrictions between the matrix verb and the embedded verb. Suppose that the matrix verb may impose the following grammatical specifications on the complement verb:

(21) the complement verb has to be

either $\begin{cases} \text{<+tense>} \\ \text{<zu/-tense>} \end{cases}$ $\longrightarrow$ not V-Raising, since Aux-function is satisfied

or $\begin{cases} \text{<zu>} \\ \text{--- (no speci-} \\ \quad \text{fication)} \end{cases}$ $\longrightarrow$ V-Raising since the Aux-function is not satisfied

The optionality of V-Raising for most *zu*-infinitives is re-interpreted by (21) as the optionality of <-tense>, the semantic counterpart of the prefix <zu>. The infinitive without <zu> is interpreted as unmarked with respect to <+tense> or <-tense>. A verb can only be <-tense> if it is marked by <zu>. According to (21) <zu> is a necessary but not a sufficient condition on <-tense> marking.

It has been shown that an independently needed mechanism, that qualifies the embedded verb, will determine whether the function of aux-government is satisfied. If this function is not satisfied V-Raising will follow.
The important points are that

(22) - V-Raising needs no more specification than 'move V'
      - the V-Raising constructions require no complication of
        lexical insertion rules whatsoever.

The question why there is a rule of V-Raising, has been answered in a formal way only. In (19) and (21), a new mechanism has been proposed. The important fact however, is that the mechanism helps to understand what is going on. The underlying structure (8) is designed to state which predicates and which arguments belong together. The invariant semantic and syntactic relations between them can be described on this level by structure (8).

Structure (9) states which predicates and arguments are under the same 'sentential scope'. Being under the same sentential scope implies:

(i)   being under the same tense index,
(ii)   having the same surface subject,
(iii) being under the same negation/affirmation index.

It is not particular clear in the present theory of grammar
why these three attributes of sentencehood should come together.
May be it is possible to generalize over them as semantic surface
functions that are based on S-indexing.
The present theory, however, does relate tense and the surface
subject. Tense is declared to be a governor. If it is in the
form <+tense> it triggers a nominative assignment which causes
the need for a lexicalized subject. In the form <-tense> it
does not trigger a nominative assignment and this causes the need
for a non-lexicalized subject (other things being equal). To a
certain extent, case theory may be seen as a theory about the
formation of surface subjects. It must be objected, though, that
tense is a governor of sorts. It is a quasi-constituent that
disappears into verb morphology. Moreover the status of <-tense>
is anomalous. The variation between a transitive verb (case
governing) and an intranstitive verb (no case governing) corres-
ponds with the presence or absence of an NP object position. The
variation between <+tense> and <-tense> does not determine the
presence or absence of the subject position.
The subject position is realized anyway, and it is filled with
the unique element PRO if it is minimally C-commanded by <-tense/to>.
The surface subject and the tense factor may be seen within the
same perspective of the dependent clause if <-tense> is interpreted
as Pro-tense. Pro-subject and Pro-tense suggest a theory in which
the one is not stipulated as an arbitrary consequence of the
other, but where both result from a common Pro-determinator.

Williams (1977) has shown the semantic relevance of the
surface subject. In a subsequent study, Williams (1980)
proposed to formalize the relation surface subject-predicate by
attributing to the predicate constituent the index of the subject.
Some of these predicates where presented as propositions turned
into a predicate by an empty position. Surface subjects may be
presented as S-indexing functions.
The drawback of this approach is that Williams (1980)
simply listed a series of subject-predicate relations on an
intuitive basis and did not particularly worry whether the notion

predication preserved its identity: So, for example, he did
not apply additional criteria such as negation and <±tense>.
Nevertheless, it is to be expected that a coherent theory
will emerge about the semantic functions of syntactic surface
structure.
I hope that in this theory the notion surface sentence/sentential
scope will be sufficiently clarified to understand what contribution
is made by the function of subject formation/nominative assignment
and by the function of 'V-Raising/aux-indexing'. For the time
being it seems to me a reasonable position to assume that these
grammatical functions exist and justify structure (9).

2. *Conclusion*

In the foregoing I have argued for two functional principles
aux-index absorption and aux-government.

(i) aux-index absorption
     This function requires the absorption of the aux-index
within Comp. It should explain V-movement phenomena in root
clauses, or V-movement phenomena in clauses without a Comp-
constant. Dutch, German and Swedish will yield straightforward
examples of this function. French and English present more hidden
examples (Evers 1981).

(ii) aux-government
     This function requires that each verb needs to be aux-
     indexed. It should explain syntactic configurations that are
     specific to clause union structures. In Dutch and German
     the function can easily be formulated in such a way that
     'move V' will build up verb clusters without any further
     complication of lexical insertion.

Further observations are in order at this instance:
- The construction of a Comp constituent that included the
  first major constituent, the finite verb and the clitic
  subject, brings generative grammar much closer to old
  structuralist ideas about the Dutch-German surface order. The

Dutch syntactician P.C. Paardekooper has argued ever since 1955 for a sentence model with the basic distinction: initial group, middle group, final group. A similar but less detailed picture is given for German by the Duden grammar (1973: 623). The initial group corresponds with the Comp-constituent, and the V-cluster is the major part of the final group.

- The repeated use of the words 'function' and 'functional' may remind of Dik's *Functional Grammar* (1978). I would like to clarify my position in two ways. Dik (1978: 4 and 5) defines an opposition between 'the formal paradigm' and 'the functional paradigm'. I feel that my proposal above as well as Dik's own work fall within the formal paradigm.

Dik's functional paradigm is to my mind a philosophical misrepresentation of what goes on in the study of grammar. The functional paradigm may serve very well to characterize text linguistics and certain forms of psycholinguistic research. This, however, is a philosophical issue. The basic linguistic contention of Dik (1978) seems to me that the formal nature of grammar includes more primitives than constituent categories and constituent manipulating rules. It has finally dawned upon me that Dik has been right on this issue all along, whereas standard transformational theory was wrong all the time. The present theories of generative grammar require that constituent configurations satisfy certain predicates (case function, theta functions, binding principles, empty category principle, etc.) These predicates are in part new primitives, and they work as grammatical functions. The question doesn't seem to be whether grammar is determined by grammatical functions, but only by which functions it is determined.

References:

d. Besten, H.   (1977) On the introduction of roottransformations and lexical deletive rules (Paper University Amsterdam)

_____   (1980) The verbal complex in continental West Germanic (Paper Third Groninger Grammatik Gespräche)
(with Edmondson)

Chomsky, N.   (1977) "Filters and Control". *Linguistic Inquiry*, pp. 425-505
(with Lasnik)

Dik, S.   (1978) *Functional Grammar*. (North Holland, Amsterdam

Edmondson, J.   (1980) The verbal complex in continental West Germanic (Paper Third Groninger Grammatik Gespräche)
(with d. Besten)

Evers, A.   (1975) The transformational cycle in Dutch and German. Diss. Utrecht.

Evers, A.   (1981) Verb Second Rules (Paper University of Vienna)

Lasnik,   (1977) "Filters and Control". *Linguistic Inquiry*, pp. 425-505
(with Chomsky)

Neyt, A.   (1979) *Gapping, a Contribution to sentence grammar*. Diss. Utrecht

v. Riemsdyk, H.   (1980) NP - structure (Paper University of Amsterdam)
(with Williams)

Thiersch, C.   (1978) *Topics in German Syntax*. Diss. M.I.T.

Williams, E.   (1977) "Discourse and Logical Form." *Linguistic Inquiry*, pp. 101-141

_____   (1980) "Predication". *Linguistic Inquiry*, pp.203-247

Williams, E.   (1980) NP - structure (Paper Amsterdam)
(with v. Riemsdyk)