

# 'Dutch as an SOV Language'

Jan Koster

## bron

Jan Koster, 'Dutch as an SOV Language.' In: *Linguistic analysis* 1 (1975), p. 111-136.

Zie voor verantwoording: [http://www.dbnl.org/tekst/kost007dutc01\\_01/colofon.php](http://www.dbnl.org/tekst/kost007dutc01_01/colofon.php)

© 2002 dbnl / Jan Koster



# Dutch as an SOV Language\*

Jan Koster

*University of Amsterdam; University of Utrecht*

Received October 29, 1974

1. In Dutch and German, the position of the (finite) verb in main clauses differs from that in subordinate clauses. The unmarked order of the former is Subject Verb Object (SVO), while the latter exhibit an SOV pattern. Therefore, which order is basic is a fundamental problem in Dutch and German grammar. In this paper, I want to show that the underlying order of Dutch is SOV and that the SVO pattern of main clauses is the result of a last cyclical rule of Verb Placement.

1.1 Since Bach [1] and Bierwisch [5], it has been assumed that German is an SOV language. A consequence of this analysis is that the word order in subordinate clauses is considered basic. This conclusion is compatible with the idea that on the last cycle a broader class of transformations applies, namely the class of root transformations [10].

As for the word order, Dutch is similar to German in that the verbs are in final position in subordinate clauses. Also as in German, in declarative main clauses the finite verb is in second position. If the word order of subordinate clauses is basic, we have to postulate a root transformation of Verb Placement which puts the (finite) verb in second position.

Ross [22] arrived at a different conclusion as a consequence of his analysis of Gapping. He claimed that German should be SVO, for reasons which do not all concern us here. If we assume SVO order for German and Dutch, we need a transformation which moves the verb to final position in subordinate clauses. This transformation (Verb Final, see [21]) applies on every cycle except the last one. This is a dubious result, since there are many examples of transformations which apply only on the last cycle, but none which apply on all cycles except the last one.

Another dubious consequence of Ross' analysis is that Gapping should be an 'anywhere rule.' This is also a very exceptional phenomenon, if it can be justified at all.

According to Ross [22], Gapping can apply forward and backward, depending on the input of the rule. In subordinate clauses of German and

\* This is a slightly extended version of a paper read at the third annual meeting of the Algemene Vereniging voor Taalwetenschap (the Dutch Linguistic Society), Amsterdam, 20 January 1973. I would like to thank Charlotte Koster for correcting my English and Henk van Riemsdijk for checking my intuitions about German.

Dutch, we find both forward and backward Gapping, (2b) and (2a), respectively:

(1)

|         |       |         |         |         |       |        |        |
|---------|-------|---------|---------|---------|-------|--------|--------|
| Weil    | ich   | das     | Fleisch | aufass, | und   | meine  | Mutter |
| Because | I     | the     | meat    | up ate  | and   | my     | mother |
|         |       |         |         |         |       |        |        |
| den     | Salat | aufass, | wurden  | wir     | beide | krank. |        |
| the     | salad | up ate  | became  | we      | both  | sick   |        |

Because I ate up the meat, and my mother ate up the salad, we both got sick.

(2)

- a. Weil ich das Fleisch, und meine Mutter den Salat aufass, wurden wir beide krank.
- b. Weil ich das Fleisch aufass, und meine Mutter den Salat, wurden wir beide krank.

The same holds for Dutch. Ross sought to explain these facts by the directionality principle,<sup>1</sup> and by the assumption that Gapping, as an anywhere rule, can apply before or after Verb Final. Thus, we have the following patterns in (2)a and b:

|     |     |     |   |     |
|-----|-----|-----|---|-----|
| (2) | a'. | SO  | + | SOV |
| (2) | b'. | SOV | + | SO  |

Pattern (2)a.' is the result of backward Gapping on the output of Verb Final, while (2)b.' comes from forward Gapping and subsequent application of Verb Final. Under Ross' assumptions these patterns can only be derived if the base order of German (and Dutch) is SVO, because the explanation depends on a rule of Verb Final.

An interesting alternative analysis is given by Maling [17].<sup>2</sup> She argues that forward Gapping occurs in any word order (SVO, SOV or VSO).

1 This principle is stated by Ross as follows: 'The order in which GAPPING operates depends on the order of elements at the time that the rule applies; if the identical elements are on left branches, GAPPING operates forward; if they are on right branches, it operates backward.'

2 Ross has adopted this analysis and now believes that German is SOV [22].

Backward Gapping only occurs when the verb is in absolute final position. She proposes to account for this single case of backward Gapping by the independently motivated rule of Node Raising.<sup>3</sup> One additional assumption is that 'Node Raising and Gapping are ordered after any movement rules which affect the linear position of the verb.' In this way Gapping becomes a superficial process which allows no conclusion about deep structure order.

Maling gives two arguments (due to Ross) to demonstrate that 'backward Gapping' is a case of Node Raising. One of these arguments concerns the condition on so-called 'backward Gapping' that the verb should be in absolute final position. Thus, 'backward Gapping' is blocked after such rules as Extraposition from NP, which have the effect that the verb is no longer in absolute final position. Since a similar condition holds for Node Raising, it is likely that Node Raising and 'backward Gapping' can be collapsed.

Supporting evidence for this argument is found in Dutch. This language has several rules with the effect of making the verb nonfinal in subordinate clauses. For instance, Dutch has a rule which moves PP's to the right of the verb:<sup>4</sup>

(3)

- a.            omdat            Jan            [<sub>PP</sub> aan            Marie]            [<sub>V</sub> denkt]...  
                  because            John            of            Mary            thinks

because John thinks of Mary...

- b.            omdat            Jan            [<sub>V</sub> denkt]            [<sub>PP</sub> aan            Marie]...  
                  because            John            thinks            of            Mary

Forward Gapping is applicable to the output (3b) of this rule (4b), but backward Gapping is blocked (5b), as predicted:

(4)

- a.            ~~omdat~~            Jan            ~~aan~~            ~~Marie~~            ~~denkt~~            en            Piet            ~~aan~~            ~~Anna~~.  
                  because            John            of            Mary            thinks            and            Pete            of            Anna

because John thinks of Mary and Pete of Anna...

- b.            omdat Jan denkt aan Marie en Piet aan Anna...

3 This is essentially the rule of Conjunction Reduction, proposed in [20]. Gapping deletes all but one occurrence of identical verbs, whereas Node Raising raises (by Chomsky-adjunction) *any* clause final identical constituent (including verbs), while the identical, lower occurrences of that constituent are deleted.

4 This rule is discussed in [15] and [16].

- (5)
- a. omdat Jan aan Marie en Piet aan Anna denkt...
  - b. \*omdat Jan aan Marie en Piet denkt aan Anna...

I adopt Maling's analysis and conclude that, based on Gapping, there is no evidence against SOV order for Dutch.

**1.2** A second argument against SOV order for German is given by Bach [2]. In an attempt to formulate substantive constraints on transformations, he proposes a universal Question Movement Rule. A property of this rule is the unbounded movement of question words to the left, in the direction of a governing verb. Bach gives examples from German of question word movement in embedded questions, where the governing verb is on the right. Therefore, Bach concludes, German has a rule of Verb Final which moved the verb in the examples from the left to the right. Bach gives examples like the following:

- (6)
- Ich habe, wen Hans geküsst habe, gefragt.

Unfortunately, this sentence is not acceptable in German. The embedded question has to be in extraposed position:

- (7)
- Ich habe gefragt, wen Hans geküsst habe.

Again, the same holds for Dutch. Embedded questions are always extraposed to the right of the 'governing verb.' Therefore, the proper German and Dutch equivalents of Bach's examples do not constitute evidence for a rule of Verb Final. But even if the examples were right the argument would not be conclusive, because question word movement can be explained by Bresnan's Complementizer Substitution Universal.<sup>5</sup> An SOV base order for German and Dutch does not exclude a clause initial COMP-node.

**2.0** All in all, I do not know of any convincing argument *against* an SOV base for German and Dutch. In the following sections I want to present positive evidence; important generalizations are lost if we do not assume that Dutch is an SOV language.

**2.1** Since the earliest transformational studies, it has been assumed that in English there is a rule of Particle Movement. This rule has the effect

5 See Bresnan [6] and Chomsky [9].

of moving the particle of a verb-particle combination around the first NP to the right.<sup>6</sup> This rule relates the (a) and (b) sentences of (8)-(10), and has the structural description given in (11):<sup>7</sup>

(8)

- a. He phoned up the girl.
- b. He phoned the girl up.

(9)

- a. The police brought in the criminal.
- b. The police brought the criminal in.

(10)

- a. \*The police brought in him.
- b. The police brought him in.

(11)

*Particle Movement*

|   |   |   |     |   |     |   |   |                               |
|---|---|---|-----|---|-----|---|---|-------------------------------|
| X | V | - | Prt | - | NP  | - | Y |                               |
| 1 |   |   | 2   |   | 3   |   | 4 | opt.                          |
|   |   |   |     |   |     |   |   | →                             |
| 1 |   |   | ∅   |   | 3+2 |   | 4 | obl. if 3<br>is a<br>pronoun. |

It is important to note that (11) implies there are only two possible positions for Prt: either it immediately follows the verb, or it follows *the first NP after the verb*. Thus, while (12a) is grammatical, (12b) is out, because the Prt (*back*) does not follow the first NP after the verb.<sup>8</sup>

(12)

- a. We brought our children back some gifts.
- b. \*We brought our children some gifts back.

Furthermore, particles cannot be moved over an object NP which starts with a preposition. Thus the particle *away* may not be moved over the PP *with her father* in (13)<sup>9</sup>:

6 See Chomsky [7]. See also Fraser [13] and Ross [20].

7 See Ross [20:28].

8 See Emonds [11:237].

9 Ross [20:152].

- (13)  
 a. She did away with her father.  
 b. \*She did with her father away.

In Dutch, verb-particle constructions are as familiar as in English. Sentence (14), for instance, is an equivalent of (15):

(14)  
 Hij *belde* het meisje *op*.

(15)  
 He *phoned* the girl *up*.

If we limit our attention to examples like (14), we would conclude that Dutch has a rule of Particle Movement like English: the particle *op* of the verb *opbellen*, 'phone up' is moved over the first NP after the verb. But a closer examination shows that the Dutch equivalent of 'Particle Movement' should be entirely different.

First, the Dutch rule can never be optional:

(16)

|      |        |    |     |         |
|------|--------|----|-----|---------|
| *Hij | belde  | op | het | meisje. |
| He   | phoned | up | the | girl    |

Second, the Dutch 'Particle Movement' only applies in main clauses (obligatorily) and *never* in subordinate clauses<sup>10</sup>:

(17)

|    |      |      |      |     |        |     |
|----|------|------|------|-----|--------|-----|
| a. | *Hij | zei  | dat  | hij | gaf    | op. |
|    | He   | said | that | he  | gave   | up. |
| b. | Hij  | zei  | dat  | hij | opgaf. |     |
|    | He   | said | that | he  | upgave |     |

He said that he gave up

(18)

|    |     |      |     |
|----|-----|------|-----|
| a. | Hij | gaf  | op. |
|    | He  | gave | up  |

<sup>10</sup> In the dictionary form of Dutch verb-particle combinations, particles are to the left of the verb part. This is the form we find in subordinate clauses, see (17b). In root sentences, particles are on the right as the result of a movement rule.



(21)

- a. Dutch is an SOV language.
- b. Dutch has no rule of Particle Movement at all.
- c. The obligatory root transformation of Verb Placement leaves the particle behind (in the original position of the V).

These hypotheses imply that the difference in word order between main and subordinate clauses can not be accounted for by a rule of Verb Final (Ross [21]) applying on every cycle except on the last one.

Given the fact that particles and the verbs to which they belong have to be separated somewhere in the derivation, we can summarize the alternatives as follows:

(22)

Dutch is an SVO (or VSO) language. Particles appear at the right of the O (= object); therefore, we need a rule of Particle Movement.

(23)

Dutch is an SOV language. In this case we have the V (= verb) at the right of the O (= object) to begin with. Particles are left behind (at the right of O) after the application of a root transformation of Verb Placement.

Let us call (22) and (23) the Particle Movement Hypothesis (PMH) and the Verb Placement Hypothesis (VPH), respectively. I claim that VPH gives the correct explanation of the facts, which implies that Dutch is an SOV language.

**2.2** One immediate advantage of VPH (23) is that we can do with one transformation less. If we can account for the distribution of particles by a independently needed rule of Verb Placement, then we do not need a rule of Particle Movement. The PMH demands two rules: Particle Movement and Verb Final.

A second advantage of the VPH is that we can explain why the separation of the particle from the verb is always obligatory in Dutch. The obligatoriness of the separation follows from the obligatoriness of the Verb Placement Rule.

A third point in favor of the VPH is related to the fact that a rule of Particle Movement would not apply in subordinate clauses. With the PMH, this is a mere accident. We can state Particle Movement as a root transformation. But that would be completely *ad hoc*, because the class of

root transformations seems to be restricted to rules of a certain type. Particle Movement is no reasonable candidate for the class of root transformations, while Verb Placement is, for reasons to which I will return below.

The main argument in favor of the VPH lies in the distribution of particles. Recall that Particle Movement, a simple rule in the grammar of English, would be a complicated rule for Dutch. It is hard to specify within one rule which positions the particle can be moved to. In the next section, I will show that the full set of environments for Dutch particles is predicted by the VPH. If Dutch is an SOV language, with a root transformation of Verb Placement leaving the particle in the original position of the verb, then *the distribution of particles in root sentences must be similar to the distribution of ordinary verbs (without particles) in subordinate clauses*. As we will see, this prediction is completely confirmed.

Particle Movement, on the other hand, can only be stated with several *ad hoc* additions. This situation decides the issue in favor of the Verb Placement Hypothesis.

**2.3** In this section, I will present eight different distributional facts of ordinary V's in embedded sentences which correspond exactly to the distribution of particles in root sentences.

**2.3.1** The final V in subordinate clauses cannot be followed by an NP:

(24)

- |    |                            |     |              |      |                 |
|----|----------------------------|-----|--------------|------|-----------------|
| a. | omdat                      | hij | het          | boek | <i>kocht</i> .. |
|    | because                    | he  | the          | book | bought          |
|    | because he bought the book |     |              |      |                 |
| b. | *omdat                     | hij | <i>kocht</i> | het  | boek..          |
|    | because                    | he  | bought       | the  | book            |

- b. \*omdat hij *kocht* het boek..  
because he bought the book

A particle in a root sentence can not be followed by an NP either:

(25)

- a. Hij gaf de jongen het boek *terug*.  
He gave the boy the book back  
b. \*Hij gaf de jongen *terug* het boek.  
He gave the boy back the book

### 2.3.2 An S obligatorily follows the verb:

(26)

- a. omdat ze *zegt* dat ze droomt..  
because she says that she dreams
- b. \*omdat ze dat ze droomt *zegt*..  
because she that she dreams says

In a root sentence an S obligatorily follows a particle (*aankondigen* = 'to announce'):

(27)

- a. Hij kondigde *aan* dat hij zou vertrekken.  
He announced that he would leave
- b. \*Hij kondigde dat hij zou vertrekken *aan*.  
He announced that he would leave (prt).

### 2.3.3 Dutch has a rule, PP *over* V, which moves a PP over the final V (optional)<sup>12</sup>:

(28)

- a. omdat hij het boek aan Norval *geeft*..  
because he the book to Norval gives  
because he gives the book to Norval..
- b. omdat hij het boek *geeft* aan Norval..  
because he the book gives to Norval..

If we assume that PP *over* V applies on the last cycle before Verb Placement (i.e., before the separation of verb and particle), we can explain without *ad hoc* apparatus that a particle can be placed at either side of a PP:

(29)

- a. Hij gaf het boek aan Norval *terug*.  
He gave the book to Norval back

12 See footnote 4.

- b. Hij gaf het boek *terug* aan Norval.  
He gave the book back to Norval

**2.3.4.** There is a rule in Dutch which changes P + PRO into PRO<sub>loc</sub> + P.<sup>13</sup> For instance, \**op het* (on it) → *erop* (thereon), \**naar het* (to it) → *ernaar* (thereto). If these 'PRO-PP's replace a prepositional object they cannot be moved over the final V:

- (30)
- a. omdat hij eraan *dacht*.  
because he thereon thought  
because he thought of it
  - b. \*omdat hij *dacht* eraan  
because he thought thereon

In root sentences these phrases cannot be moved over a particle:

- (31)
- a. Hij dacht eraan *terug*.  
He thought thereon back  
He thought back on it
  - b. \*Hij dacht *terug* eraan.  
He thought back thereon

**2.3.5.** Predicate adjectives and participles have to precede the final V in embedded sentences:

- (32)
- a. omdat hij de wijnglazen gebroken *ontving*.  
because he the wine glasses broken received  
because he received the wine glasses broken
  - b. \*omdat hij de wijnglazen *ontving* gebroken.  
because he the wine glasses received broken

13 That is, a preposition followed by a pronominal NP becomes a locative pro-form followed by a preposition.

In root sentences predicate adjectives and participles should precede particles as well (*afleveren* = 'to deliver'):

(33)

- a. Jan leverde de wijnglazen gebroken *af*.  
John delivered the wine glasses broken (prt.)
- b. \*Jan leverde de wijnglazen *af* gebroken.  
John delivered the wine glasses (prt.) broken

**2.3.6.** Most adverbs cannot follow the final verb in subordinate clauses:

(34)

- a. omdat hij zijn werk ijverig *deed*.  
because he his work industriously did  
because he did his work industriously
- b. \*omdat hij zijn werk *deed* ijverig.  
because he his work did industriously

Most adverbs cannot follow a particle in a root sentence (*afmaken* = 'to finish'):

(35)

- a. Hij maakte zijn werk ijverig *af*.  
He finished his work industriously (prt.)
- b. \*Hij maakte zijn werk *af* ijverig.  
He finished his work (prt.) industriously

**2.3.7.** Some adverbs like *gisteren*, 'yesterday,' and *daar*, 'there,' can follow the verb in subordinate clauses. In that case, there is often a comma intonation between the verb and the (unstressed) adverb:

(36)

- a. omdat hij zijn werk gisteren *deed*.  
because he his work yesterday did  
because he did his work yesterday

- b. omdat hij zijn werk *deed*, gisteren.  
because he his work did yesterday

Exactly the same adverbs can follow a particle in a root sentence:

(37)

- a. Hij maakte zijn werk gisteren *af*.  
He finished his work yesterday (prt.)  
b. Hij maakte zijn werk *af*, gisteren.  
He finished his work (prt.) yesterday

**2.3.8.** All kinds of adverbial PP's can follow the verb in subordinate clauses:

(38)

- a. omdat hij zijn werk met liefde *deed*.  
because he his work with love did  
because he did his work with love  
b. omdat hij zijn werk *deed* met liefde  
because he his work did with love

In root sentences adverbial PP's can precede or follow the particle:

(39)

- a. Hij maakte zijn werk met liefde *af*.  
He finished his work with love (prt.)  
b. Hij maakte zijn werk *af* met liefde.  
He finished his work (prt.) with love.

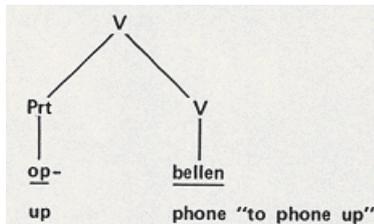
**2.4.** We have shown so far, that there is complete distributional equivalence between ordinary verbs in subordinate clauses and particles in root sentences. Under the Verb Placement Hypothesis, all peculiarities of particle distribution can be reduced to peculiarities of verb distribution because the particle (in root sentences) keeps the original position of the verb.

Under the Particle Movement Hypothesis, on the other hand, all similarities between verb distribution and particle distribution are completely accidental. All idiosyncrasies of verb distribution (in subordinate clauses) have to be repeated in the statement of Particle Movement. Clearly, a generalization would have been missed. I conclude, therefore, that the Verb Placement Hypothesis is correct. Dutch apparently has a root transformation of Verb Placement and no cyclical rule which moves the verb into clause final position (Verb Final). In other words, the final position of the verb is basic; Dutch is an SOV language.

**3.0.** In this section, I want to show that verb-particle combinations are manifestations of a more general phenomenon. As a consequence, the loss of generalization which results from the Particle Movement Hypothesis becomes even more clear.

**3.1.** We can assume that a verb-particle combination is a compound verb, i.e., a particle or preposition Chomsky-adjoined to a verb:

(40)



The analysis of the preceding paragraphs is strengthened by the fact that incorporations like (40) are not limited to particles in Dutch. De Rijk [18] showed that under certain conditions generic NP's may be incorporated in the verb. A criterion for such incorporations is the possibility of NP's to occur in the *aan het*-construction, a Dutch counterpart of the progressive. De Rijk claimed that *aan het* can only be followed by an NP, if it is incorporated in the verb. Thus, (41a), is impossible. The NP is not generic, in which case it cannot be incorporated. Instead, we should have (41b), where the object comes before the *aan het* construction:

(41)

- a. \*Karel is aan het de leraar plagen.  
 Karel is at it the teacher tease  
 Charles is teasing the teacher

- b. Karel is de leraar aan het plagen.  
Karel is the teacher at it tease

But, if the object is incorporated, it follows *aan het*:

(42)

- a. Grace is aan het rijst koken.  
Grace is at it rice cook  
Grace is cooking rice  
b. Carol is aan het kip braden.  
Carol is at it chicken fry  
Carol is frying chicken

If the *aan het*-construction is a criterion, adjectives may be incorporated as well:

(43)

- Hij is het huis aan het schoon maken.  
He is the house at it clean make  
He is cleaning the house

The adjective *schoon* 'clean' is incorporated in the verb *maken* 'to make.' A common feature of these incorporated items is that, in general, they cannot be separated from the verb by other constituents (in subordinate clauses). There are possibly a few exceptions to this generalization. For instance, the verb part of the compounded form may be complex by the application of Predicate Raising<sup>14</sup>:

(44)

- a. omdat hij de kast schoon moest maken.  
because he the closet clean should make  
because he should clean the closet

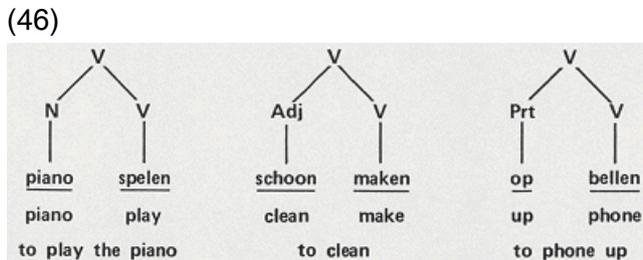
14 This post lexical rule Chomsky-adjoints the V of a sentence to the V of the next higher sentence. The rule is discussed by Evers [12]. (See also Section 4.2 below.)

- b. omdat hij piano kon spelen.  
 because he piano could play  
 because he could play the piano

The incorporated adjective *schoon* 'clean' and the generic NP *piano* are separated from their respective verbs by (modal) auxiliaries. Note, that the same holds for verb particle combinations:

- (45)  
 omdat Carol hem op kon bellen.  
 because Carol him up could phone  
 because Carol could phone him up

Thus, we have at least the following types of compound verbs:



In subordinate clauses the incorporated forms are in general not separated from the verb. But in root sentences, separation is obligatory:

- (47)  
 a. \*Marie piano speelt.  
 Mary piano plays  
 b. \*Marie schoonmaakt.  
 Mary clean makes  
 c. \*Marie opbelt.  
 Mary up phones

Therefore, if we assume that Dutch is an SVO (or VSO) language, we need, in addition to a rule of Particle Movement, a rule of Noun Movement, a rule of Adjective Movement, etc. For each category which can be incorporated in the verb we need a new rule. Again, the idiosyncrasies of verb distribution (in subordinate clauses) have to be repeated in the statement of these rules, because the ultimate positions of the moved categories are similar to the positions of particles.

With the Verb Placement Hypothesis, we have only one category to

move (the V). At the same time we can capture all generalizations of distributional similarity, because the incorporated elements are all left in the same position after Verb Placement. The VPH explains immediately why incorporated categories of different types are separated from the associated verbs in root sentences, and why this separation is obligatory.

**4.0.** In German and Dutch, the finite form of the verb is always the second constituent in declarative root sentences. Since we are assuming an SOV base order for Dutch, we have to formulate a transformation which moves the (finite) verb from final to second position in root sentences. The form of this rule will be discussed in the following paragraphs.

**4.1.** It is not immediately clear, what the rule of Verb Placement will look like. In his discussion of German word order, Roeper [19] refers to this rule as the ‘Verb-Second Transformation.’ This rule ‘transfers an element from final position to second position in the creation of declarative sentences’<sup>15</sup> Roeper claims that this rule is ordered after Topicalization, because the reverse order would give the wrong result<sup>16</sup>:

(48)

- a. Ich den Mann mag → Verb Second  
I the man like
- b. Ich mag den Mann → Topicalization  
I like the man
- c. \*Den Mann ich mag  
The man I like

The same might be said about Dutch. But I do not believe that the ungrammaticality of (48c) can be explained by rule ordering. In (48c) the verb is preceded by more than one NP, which has to be excluded on independent grounds. Especially in root sentences, there are several transformations with the effect of placing an element in clause initial position. These are transformations like Topicalization, Adverb Preposing, and WH-movement. The impossibility of getting more than one category before the V in declarative root sentences rests on the fact that application of one of the rules just mentioned excludes application of the others. Thus, we can never apply both Adverb Preposing and WH-movement on the same cycle:

(49)

- a. \*Wanneer met een mes sneed hij de salami?  
When with a knife sliced he the salami?
- b. \*Met een mes wanneer sneed hij de salami?  
With a knife when sliced he the salami?

15 15 Roeper [19:40].

16 Roeper [19:63-64].

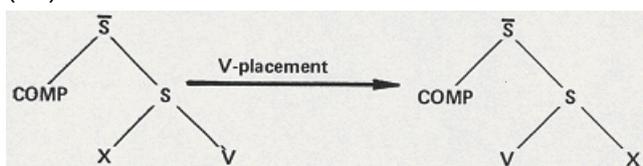
The impossibility of having more than one category before the verb has nothing to do with the ordering of Verb Placement. Application of Verb-Second on (49a) and (b) gives:

(50)

- a. \*Wanneer sneed met een mes hij de salami?  
When sliced with a knife he the salami?
- b. \*Met een mes sneed wanneer hij de salami?  
With a knife sliced when he the salami?

These sentences are still ungrammatical, which shows that the ordering of Verb-Second is not crucial here. Probably transformations like WH-movement, Adverb Preposing, and Topicalization can be considered Complementizer Substitution Transformations in the sense of Bresnan [6], and Chomsky [9]. If we assume that German and Dutch have an additional Comp. Subst. Transformation of Subject Formation, we can state the effect of Verb Placement as follows:

(51)



The V is placed in initial position in the lower S. We can now explain the ungrammaticality of (48c) by the constraint that only one Comp. Subst. Transformation can apply on each cycle. This constraint is needed on independent grounds.<sup>17</sup>

An additional advantage of this analysis is that we do not need a special inversion rule for the formation of yes/no-questions. All we need to add to the grammar is the condition that in root sentences COMP substitution is optional if the COMP is specified as [*of*, + WH].<sup>18</sup> In this way, we can account for different types of questions:

(52)

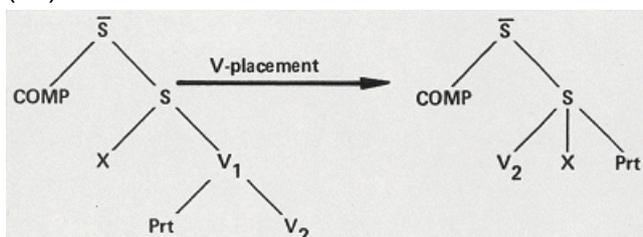
- a. Koopt Marie een boek?  
Buys Mary a book  
Does Mary buy a book?
- b. Een bóek koopt Marie?  
A book buys Mary
- c. Marie koopt een boek?  
Mary buys a book?

17 Already in Chomsky [8], it was observed that WH-movement can only be applied once to a constituent of the form S. See also Chomsky [9].

18 The Dutch complementizer for yes/no questions is *of* (whether). *Of* has to be deleted in root sentences.

4.2. A last problem in formulating the rule of Verb Placement has to do with the A-over-A principle. Recall that the rule applies to complex verbs in which particles or other categories are incorporated. These incorporated categories are left behind when the rule is applied. Thus we have:

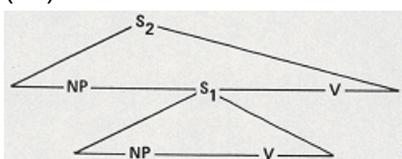
(53)



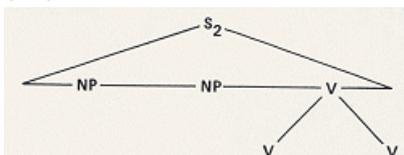
Note that the rule applies to  $V_2$ , and not to  $V_1$ . Moreover,  $V_1$  can be pruned. If the A-over-A principle was an absolute condition on rules, the operation shown in (53) would be impossible. But Chomsky [9] has argued that the A-over-A principle 'does not establish an absolute prohibition against transformations that extract a phrase of type A from a more inclusive phrase of type A.' It should be possible to formulate a more complex rule which effects a nonmaximal phrase of type A. This is what we have in the case of Verb Placement. This rule only applies to the tensed part of a complex verb. The finite V has to be marked by a rule of Subject-Verb Agreement. Only  $V_2$  in (53) is marked by this rule.

The limitation of Verb Placement to the tensed part of the complex V is not *ad hoc*. Evers [12] convincingly shows that the grammar of Dutch and German needs a (post lexical) rule of Predicate Raising, which maps structure of type (54a) onto (54b):

(54) a.



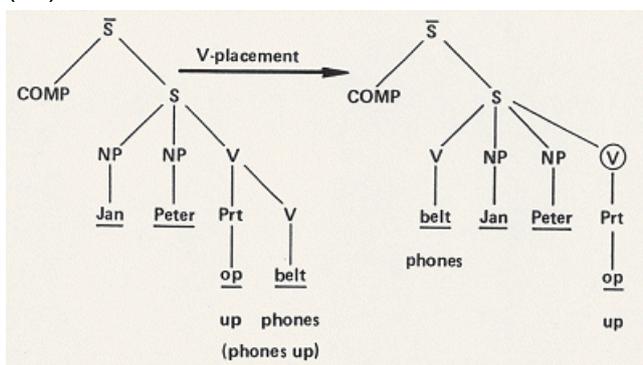
(54) b.



If Verb Placement applies to a structure like (54b), it is impossible to move the topmost V. Instead, we have to move one of the lower V's. This has to be the tensed V, which is the leftmost V in Dutch and the rightmost V in German.<sup>19</sup>

Approximately the same happens in verb-particle constructions. The leftmost finite form of the lexical verbs is moved and the V which immediately dominates this form is pruned:

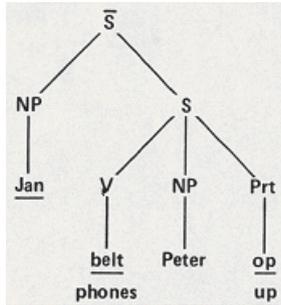
(55)



After Pruning and Subject Formation (a Complementizer Substitution) we get:

19 Evers' rule of Predicate Raising (V-Raising) is postlexical and is totally unrelated to the Predicate Raising of generative semantics. In (54b)  $S_1$  is pruned. I think this pruning is unnecessary in a proper formulation of the rule. Such an account might even have a VP instead of  $S_1$ . In fact, I believe now [16] that all trees (54-56) must have a VP-node. This does not affect the analysis as given in the text.

(56)



We can formulate Verb Placement now as (57):

|      | X | - | COMP | - | Y   | - | V             | - | Z |      |
|------|---|---|------|---|-----|---|---------------|---|---|------|
| S.D. | 1 |   | 2    |   | 3   |   | 4             |   | 5 | obl. |
|      |   |   |      |   |     |   |               |   |   | →    |
| S.C. | 1 |   | 2    |   | 4+3 |   | $\varnothing$ |   | 5 |      |

This is a root transformation (3 and 4 belong to a root S). The V of term 4 has to be tensed.

**5.0.** The analysis of the preceding paragraphs supports the view that the word order of subordinate clauses is more basic than the order of main clauses. This is due to the existence of root transformations (See Emonds [10]). Verb Placement in Dutch is a root transformation; the existence of a rule like Verb Final (Ross [21]) is refuted and we can probably exclude such rules on general grounds.

The existence of a rule like Verb Final would force us to assume that besides a class of root transformations, there is also a class of nonroot transformations.

The next paragraph provides some speculations about the general properties of root transformations.

**5.1.** Most transformations apply on every cycle (if their structural description is met) with probably only one exception, namely the class of root transformations. As a consequence, main clauses exhibit the marked word order, while subordinate clauses have the unmarked order. How can we explain this difference? I expect that an explanation must begin with the recognition of some of the remarkable characteristics of the root transformations. Most of them are preposings of some sort, i.e., rules which move some phrase node to the position of the initial COMP. Although there are several preposing-rules, application of one of these excludes application of the others. There is no other class of transformations with this property. There is only one single rule that shares some

features with root transformations. This rule is WH-movement. If Question Word Movement is not governed by some verb, then the WH-word ends up in clause initial position. WH-movement excludes other preposing-rules. We know from indirect questions that the movement is in the direction of a governing verb. Several linguists have proposed an abstract question morpheme which governs the movement of WH-words to clause initial position.<sup>20</sup> Along these lines we might propose an abstract topicalization morpheme which governs preposing-rules. This morpheme would be a prerogative of root sentences, somehow related with the performative. If we make this morpheme part of the clause initial Complementizer, the impossibility of having more than one preposing can be explained in exactly the same way as the impossibility of moving more than one question word in indirect questions. Most root transformations are characterized in this way.

In several languages, preposings trigger a movement of the finite verb to second position. Subject Verb Inversion in English is an instance of this phenomenon. I have no explanation for these verb movements, but the rule of Verb Placement in Dutch fits quite naturally in the general pattern. Recall that Particle Movement would be a root transformation in Dutch. This is an absurdity if we consider the general properties of root transformations. So, also on more general grounds we have to reject the Particle Movement Hypothesis, and therefore the assumption that Dutch is an SVO or VSO language.

**6.0.** In this final section, a recent, different kind of explanation is discussed, according to which German (and Dutch, by the same token) is not an SOV language. It is argued that the new theory of Bartsch and Vennemann [4] offers no explanation for the word order of German (and Dutch) and is in fact a return to taxonomic grammar.

**6.1.** Recently, Bartsch and Vennemann [4] have proposed a new theory of grammar, differing both from Chomsky's model of transformational grammar and from generative semantics. The base structures in this new theory are unordered and conceived as an extension of familiar logical notations. Surface structures are derived by serialization-rules, which are to account for the linear order of surface structures. Bartsch and Vennemann declare that Chomsky's theory of transformational grammar is 'incorrect' and 'mainly of historical interest' (*op. cit.* p. 10). Such statements are not particularly important, when the proponents of the new theory forget to show that their theory explains everything the old theory explained plus some new facts. Bartsch and Vennemann hardly take any pains to demonstrate the excess empirical content of their theory.

20 See Baker [3].

Therefore, nothing binds us to accept their framework as a new theory of grammar.

There are, nevertheless, some reasons to pay attention to this new theory. It is not without influence, and is representative of the popular view that the syntax of predicate logic can offer an adequate underlying structure ('semantic representation') for a natural language. In such a theory, there is no need for an underlying syntactic structure (deep structure in Chomsky's sense) to explain surface phenomena. Furthermore, Bartsch and Vennemann make specific claims about the order of German. These claims appear to be an excellent illustration of the essentially structuralist (pre-transformational) nature of programs like this.

**6.2.** I have argued that the word order of subordinate clauses (SOV) is more basic for Dutch and that the order of main clauses is the result of a root transformation (Verb Placement). How does one account for the word order difference between the two clause types with unordered underlying structure and serialization-rules? The obvious answer is: there are two serialization-rules. One is responsible for the final position of the (finite) Verb in subordinate clauses; the other brings this Verb in second position in main clauses. This is the answer given by Bartsch and Vennemann (*op. cit.* p. 137). Note, that such an account only tells us what we already knew: that there is a difference in word order between the two clause types. In fact, it is a hypothesis with less empirical content, in spite of the 'sophisticated' logical base. The whole account is essentially a presentation of the data, and therefore taxonomic.

The return to structuralism is revealed in a highly peculiar way by the 'explanation' of some further word order phenomena in German. Bartsch and Vennemann need some help from Greenberg [14], who made his generalizations about *surface* word order. In Greenberg's taxonomist framework 'SOV' or 'SVO' has nothing to do with deep structure. Bartsch and Vennemann use Greenberg's data to characterize German as a language with a 'very bad syntactic system due to its incomplete shift from SOV to SVO' (*op. cit.* p. 135). They criticize transformational grammar for analyzing German as an SOV language. They say that '[T]his is the simplest analysis, but it characterizes German as a syntactically simple language, which it is not' (*op. cit.* 135). Note, that the alleged complexity of German is completely blamed on the unfinished shift from SOV to SVO (with these labels taken in the most superficial structuralist sense). Simplicity of rules does not count. That this return to pretransformational grammar is ill-advised, becomes immediately clear when we consider the data that Bartsch and Vennemann give to illustrate the 'complexity' of German. The kind of 'complexity' they mean has to

do with the order of PP's and Adverbs. It can be demonstrated in Dutch as well. Compare the following English sentences:

(58)

- a. John thought of his father during the break.
- b. \*John thought during the break of his father.

The (b)-sentence is not acceptable; the prepositional object *of his father* has to come immediately after the Verb. In Dutch we have exactly the opposite order in subordinate clauses:

(59)

- a. (dat) Jan tijdens de pauze aan zijn vader dacht..  
(that) John during the break of his father thought..
- b. \*(dat) Jan aan zijn vader tijdens de pauze dacht..

It is reasonable to assume that (58b) and (59b) are unacceptable by the same principle: the prepositional object has to be closer to the Verb than the other PP. The Dutch order is different from the English, because Dutch is SOV. Now look what happens in Dutch main clauses:

(60)

- a. Jan dacht tijdens de pauze aan zijn vader.
- b. Jan dacht aan zijn vader tijdens de pauze.

Both orders are possible! In (60a), the PP's have the original SOV order (see (59a)). In (60b), the order is as in SVO languages like English. The explanation of the two orders in (60) is rather straightforward (see below). But Bartsch and Vennemann cannot explain such facts. They blame everything on the 'complexity' of German 'due to its incomplete shift from SOV to SVO.' It is a beautiful example of an *ad hoc* explanation. The relevant passage deserves to be quoted in full (*op. cit.* p. 137):

'To give just one example illustrating the nature of this change [from SOV to SVO-JK], consider the following sentences.

(179)

- (a) (dass) Hans wegen des Tadels sorgfältig schreibt  
'(literally:) (that) John because of the reprimand carefully writes'.
- (b) \*(dass) Hans sorgfältig wegen des Tadels schreibt  
'(literally:) (that) John carefully because of the reprimand writes'.

(180)

- (a) Hans schreibt wegen des Tadels sorgfältig  
'(literally:) John writes because of the reprimand carefully'.
- (b) Hans schreibt sorgfältig wegen des Tadels  
'John writes carefully because of the reprimand'.

Sentence (179a) shows the construction of a consistent OV [= SOV-JK] language. Since German is still OV in dependent clauses, (179b) is ungrammatical. Sentence (180a) shows the inconsistent situation after the verb shift in main clauses. It is the regular construction of contemporary Standard German (which makes this language so abominably difficult for speakers of English to learn). (180b) is the construction of the future which can be heard quite frequently in colloquial German and is ge[n]erally accepted'.

We have seen that the same can be said about Dutch. Ironically, Bartsch and Vennemann give a highly interesting set of data which is completely predicted by the SOV analysis given above. Recall, that we have a rule for Dutch ('PP over V') that adjoins PP's to the right of a V in the underlying SOV structure. German has a similar rule, because the following sentence is quite acceptable:

(61)  
(dass) Hans sorgfältig *schreibt* wegen des Tadels.

This sentence is derived by applying 'PP over V' to Bartsch and Vennemann's (179 a). If we move the verb *schreibt* to the left by 'Verb Placement' we derive (180 b) (after 'Subject-formation'):

(62)  
Hans *schreibt* sorgfältig wegen des Tadels.

Therefore, the acceptability of this sentence [and of (60b)] is explained by independently motivated rules. The complexity of German is only apparent; (62) [Bartsch and Vennemann's (180b)] is no futurist specimen of this language.

**6.3.** Theories like Bartsch and Vennemann's are taxonomic and inadequate for at least three reasons:

- (63)
- a. they give us nothing but the data (two serialization rules: one for SOV in subordinate clauses, one for SVO in main clauses)
  - b. they make essential use of surface structure-generalizations (Greenberg [14]) in criticizing claims about *underlying* order
  - c. they fail to give an adequate account for several data

We cannot explain the surface phenomena of Dutch (and German) without postulating an underlying SOV structure. This was predicted by a highly specific hypothesis of *universal* grammar, formulated by Emonds [10].

## References

1. Bach, E., (1962) The order of elements in a transformational grammar of German. *Language* 38, 263-269.
2. Bach, E., (1971) Questions. *Linguistic Inquiry* 2, 153-156.
3. Baker, C.L., (1970) Notes on the description of English questions: the role of an abstract question morpheme. *Foundations of Language* 6, 197-219.
4. Bartsch, R. and Vennemann, T. (1972), *Semantic Structures*. Frankfurt/M.
5. Bierwisch, M., (1963) *Grammatik des Deutschen Verbs*, Berlin: *Studia Grammatica* II.
6. Bresnan, J.W., (1970) On complementizers: toward a syntactic theory of complement types. *Foundations of Language* 6, 297-321.
7. Chomsky, N., (1957) *Syntactic Structures*. The Hague: Mouton.
8. Chomsky, N., (1964) *Current Issues in Linguistic Theory*. The Hague: Mouton.
9. Chomsky, N., (1973) Conditions on transformations. In: S. Anderson and P. Kiparsky (eds.), *A Festschrift for Morris Halle*. New York: Holt, Rinehart, and Winston.
10. Emonds, J., (1970) *Root and structure-preserving transformations*, unpublished doctoral dissertation, M.I.T.
11. Emonds, J., (1972) Evidence that indirect object movement is a structure-preserving rule, *Foundations of Language* 8, 546-561.
12. Evers, A., (1973) The syntactic motivation of predicate raising, *Spektator* 3, 69-94.
13. Fraser, J.B., (1965) *An examination of the verb-particle construction in English*, unpublished doctoral dissertation, M.I.T.
14. Greenberg, J.H., (1966) Some universals of grammar with particular reference to the order of meaningful elements. In: J.H. Greenberg (ed.), *Universals of Language*. Cambridge: M.I.T. Press.
15. Koster, J., (1973) PP over V en de theorie van J. Emonds. *Spektator* 2, 294-309.
16. Koster, J., (1974) Het Werkwoord als Spiegelcentrum. *Spektator* 3, 601-618.
17. Maling, J., (1972) On gapping and the order of constituents. *Linguistic Inquiry* 3, 101-108.
18. Rijk, R.P.G. de, (1967) *Object incorporation in Tongan and Dutch*. unpublished, M.I.T.
19. Roeper, T.W., (1972) *Approaches to a theory of language acquisition with examples from German children*, unpublished doctoral dissertation, Harvard.
20. Ross, J.R., (1967) *Constraints on variables in syntax*, unpublished doctoral dissertation, M.I.T. (Reproduced by the Indiana University Linguistics Club, 1968.)
21. Ross, J.R., (1974) Auxiliaries as main verbs, In: W. Todd (ed.), *Studies in Philosophical Linguistics*, 1969.
22. Ross, J.R., (1970) Gapping and the order of constituents. In: Bierwisch & Heidolph (eds.), *Progress in Linguistics*. The Hague: Mouton.
23. Ross, J.R., (1973) The penthouse principle and the order of constituents. In: *You take the high node and I'll take the low node*. Chicago: 397-422 (CLS).